



# Indrayani Mahavidyalaya

Talegaon Dabhade-410507

A.Y.2021-2022

## CRITERION I - CURRICULAR ASPECTS

### (1.2 - Academic Flexibility)

1.2.1 - Number of Programmes in which Choice Based Credit System (CBCS)/ elective course system has been implemented

1.2.1.1 - Number of Programmes in which CBCS/ Elective course system implemented

### INDEX

| Sr. No | Name of the Programmes (CBCS) | Total Number of Programmes (CBCS) |
|--------|-------------------------------|-----------------------------------|
| 1      | B.A                           | 48                                |
| 2      | B.Com                         |                                   |
| 3      | B.B.A                         |                                   |
| 4      | B.C.A                         |                                   |
| 5      | B.sc                          |                                   |
| 6      | M.A                           |                                   |
| 7      | M.Com                         |                                   |



  
Off. Principal  
Indrayani Mahavidyalaya  
Talegaon Dabhade, Tal.Maval,  
Dist.Pune-410507.

**Savitribai Phule Pune University, Pune**

**Bachelor of Business Administration (Computer Application)**

**BBA(CA)**

**(Under faculty of Commerce & Management)**

**(To be implemented from Academic year 2019-20)**

**1. Name of Programme:** Bachelor of Business Administration (Computer Application)

**2. Introduction:**

The degree shall be titled as Bachelor of Business Administration (B.B.A.)( Computer Application) under the Faculty of Commerce and Management. First Year B.B.A.(CA) choice based credit system is implemented w.e.f. the academic year 2019-2020 , Second Year B.B.A.(CA) II will be implement w.e.f. 2020-2021 and Third Year B.B.A.(CA) III w.e.f. 2021-2022

**3. Programme Objectives:**

- To produce skill oriented human resource.
- To impart practical skills among students.
- To make industry ready resource.
- To bring the spirit of entrepreneurship.

**4. Programme Structure:**

- The Programme is of a Three Year (Six semesters) Full Time Degree Programme.
- The programme shall be based on credit system comprising 132 credits.

## **5. Eligibility for Admission**

- A candidate is eligible for admission to the Degree in Bachelor of Business Administration – Computer Application after passing 12th Std. examination (H.S.C. 10 +2) from any stream with English as passing subject and has secured 40% marks at 12<sup>th</sup> std.
- Three Years Diploma after S.S.C. i.e. 10<sup>th</sup> Standard of Board of Technical Education conducted by Government of Maharashtra or its equivalent.
- Two Years Diploma in Pharmacy after H.S.C., of Board of Technical Education conducted by Government of Maharashtra or its equivalent.
- MCVC

## **6. Medium of Instruction: English**

## **7. Award of Credits:**

- Each course having 3 credits shall be evaluated out of 100 marks and student should secure at least 40 marks to earn full credits of that course.
- Each course with 2 credits for Sem-I & Sem-II, Sem-V & Sem-VI is divided in theory (50%) & practical (50%) and for Sem-III, IV there will be project work for students. For all practical and project there will be university evaluation. For Sem-I, II, V & VI (30% Internal & 70% External) is the pattern of evaluation.
- GPA shall be calculated based on the marks obtained in the respective subject provided that student should have obtained credits for that course.

## **8. Evaluation Pattern:**

- Each course carrying 100 marks shall be evaluated with Continuous Assessment (CA) and University Evaluation (UE) mechanism. Continuous assessment shall be of 30 marks while University Evaluation shall be of 70 marks. To pass in the course, a student has to secure minimum 40 marks provided that he should secure minimum 28 marks in University Evaluation (UE).
- CA shall be based on internal tests (minimum 2 for 20 marks). In addition, for remaining 10 marks a teacher may assign various activities such as home assignments,

tutorials, seminars, presentations, group discussion etc, to the students and evaluate accordingly.

**9. Method of Evaluation and Evaluation Criteria:** - 1. Internal Assessment 30 marks for all theory related subjects 2. Practical and Project will be evaluated separately 3.SPPU - Examination will be 70 marks

- **1. Instructions for teachers for internal evaluation for 30 Marks** - The purpose of internal evaluation is to assess the depth of knowledge, understanding and awareness. For this purpose a teacher is expected to use different evaluation methods in order to have rational and objective assessment of the learners and available resources.
- The class work will carry 30 marks in each course. Internal Evaluation includes continuous evaluation of a student by adopting variety of techniques such as Assignments, Presentation, Internal examination, Group Discussions , Projects etc.
- There shall be Four small projects /Tutorials for internal evaluation as compulsory part of assessment (Semester I ,II ,III and IV).

## **2. Project Examination**

For course on Practical and Project work as per the regular practice there will be Written Report and viva presentation of 100 marks at SPPU level.

**3. External Examination:** - There will be written Examination of 70 marks and 3 hrs duration for every course at the end of each Semester.

### **Setting of Question Papers (Applicable to theory subjects)**

1. A candidate shall have to answer the questions in all the subjects in English only.
2. Question papers shall be framed so as to ensure that no part of the syllabus is left out of study by a candidate.
3. question paper shall be balanced in respect of various topics outlined in the syllabus.
4. The question papers shall have a combination of long, short answer and MCQ type questions.



#### 10. Restructuring of courses –Equivalence and Transitory Provision

The University will conduct examination of old course for next three academic years from the date of implementation of new course.

The candidate of old course will be given three chances to clear his subjects as per the old course and thereafter he will have to appear for the subjects under new course as per the equivalence given to old course.

#### 11. Completion of Degree Programme:

A student who earns 132 credits, shall be considered to have completed the requirements of the B.B.A.(CA) degree program and CGPA will be calculated for such student.

#### 12. Credit Allocation

**CC-Core Course, EC-Elective Course, PR-Practical, PJ-Project, AECC-Ability Enhancement Compulsory Courses, SEC-Skill Enhancement Courses.**

**Total - 132 Credits for Three years Programme**

| Sr. No. | Sem ester | CC – Credit | EC Credit | PR Credit | PJ Credit | AEC C-credit | SEC – Credit | Lectures + Project +add on courses= Total Credits |
|---------|-----------|-------------|-----------|-----------|-----------|--------------|--------------|---------------------------------------------------|
| 1       | I         | 15          |           | 4         |           |              | 2            | 15+4+2 =21                                        |
| 2       | II        | 15          |           | 4         |           |              | 2            | 15 +4 +2=21                                       |
| 3       | III       | 9           | 6         | 6         |           | 2            |              | 9+6+6+2=23                                        |
| 4       | IV        | 9           | 3         | 4         | 4         |              | 2            | 9+3+4+4+2=22                                      |
| 5       | V         | 9           | 3         | 4         | 4         |              | 2            | 9+3+4+4+2=22                                      |
| 6       | VI        | 10          | 3         | 4         | 4         |              | 2            | 10+3+4+4+2=23                                     |
| Total   |           | 67          | 15        | 26        | 12        | 2            | 10           | 67+15+26+12+2+10=132                              |

**13. Titles of Papers and Scheme of Study for B.B.A. (C.A.) Programme****CC-Core Course, EC-Elective Course, PR-Practical, PJ-Project,****AECC-Ability Enhancement Compulsory Courses, SEC-Skill****Enhancement Courses.****SEMESTER- I**

| <b>Subject Code</b> | <b>Subject Name</b>                                       | <b>Course</b> | <b>Credits</b> |           |
|---------------------|-----------------------------------------------------------|---------------|----------------|-----------|
|                     |                                                           |               | <b>Th</b>      | <b>Pr</b> |
| CA-101              | Business Communication                                    | CC            | 3              |           |
| CA-102              | Principles of Management                                  | CC            | 3              |           |
| CA-103              | C Language                                                | CC            | 3              |           |
| CA-104              | Database Management System                                | CC            | 3              |           |
| CA-105              | Statistics                                                | CC            | 3              |           |
| CA-106              | Computer Laboratory Based on 103 &104<br>(2 credits each) | PR            |                | 4         |
| 107                 | Add-On (PPA) (30 Hours)                                   | SEC           | 2              |           |

**SEMESTER- II**

| <b>Subject Code</b> | <b>Subject Name</b>                                    | <b>Course</b> | <b>Credits</b> |           |
|---------------------|--------------------------------------------------------|---------------|----------------|-----------|
|                     |                                                        |               | <b>Th</b>      | <b>Pr</b> |
| CA-201              | Organization Behavior & Human Resource Management      | CC            | 3              |           |
| CA-202              | Financial Accounting                                   | CC            | 3              |           |
| CA-203              | Business Mathematics                                   | CC            | 3              |           |
| CA-204              | Relational database                                    | CC            | 3              |           |
| CA-205              | Web Technology HTML-JS-CSS                             | CC            | 3              |           |
| CA-206              | Computer Laboratory Based on 204 & 205(2 credits each) | PR            |                | 4         |
| 207                 | Add-On (Advance C) (30 Hours)                          | SEC           | 2              |           |

**SEMESTER- III**

| Subject Code | Subject Name                                                    | Course | Credits |              |
|--------------|-----------------------------------------------------------------|--------|---------|--------------|
|              |                                                                 |        | Th      | Pr           |
| CA-301       | Digital Marketing                                               | CC     | 3       |              |
| CA-302       | Data Structure                                                  | CC     | 3       |              |
| CA-303       | Software Engineering                                            | CC     | 3       |              |
| CA-304       | Angular JS                                                      | EC     | 3       |              |
| OR           |                                                                 |        |         |              |
| CA-304       | PHP                                                             | EC     | 3       |              |
| CA-305       | Big data                                                        | EC     | 3       |              |
| OR           |                                                                 |        |         |              |
| CA-305       | Block chain                                                     | EC     | 3       |              |
| CA-306       | Computer Laboratory Based on 302 , 304 and 305 (2 credits each) | PR     |         | 2+2+2<br>= 6 |
| 307<br>AECC  | Environment Awareness                                           | AECC   | 2       |              |

#### **SEMESTER- IV**

| Subject Code  | Subject Name                                          | Course    | Credits  |    |
|---------------|-------------------------------------------------------|-----------|----------|----|
|               |                                                       |           | Th       | Pr |
| CA-401        | Networking                                            | CC        | 3        |    |
| CA-402        | Object Oriented Concepts Through CPP                  | CC        | 3        |    |
| CA-403        | Operating System                                      | CC        | 3        |    |
| <b>CA-404</b> | <b>NODE JS</b>                                        | <b>EC</b> | <b>3</b> |    |
| OR            |                                                       |           |          |    |
| <b>CA-404</b> | <b>Advance PHP</b>                                    | <b>EC</b> | <b>3</b> |    |
| CA-405        | Project                                               | EC        |          | 4  |
| CA-406        | Computer Laboratory Based on 402,404 (2 credits each) | PR        |          | 4  |
| 4             | ADD-On (30 Hours)                                     | SEC       | 2        |    |

#### **SEMESTER- V**

| Subject Code | Subject Name                                             | Course | Credits |    |
|--------------|----------------------------------------------------------|--------|---------|----|
|              |                                                          |        | Th      | Pr |
| CA-501       | Cyber Security                                           | CC     | 3       |    |
| CA-502       | OOSE                                                     | CC     | 3       |    |
| CA-503       | Core Java                                                | CC     | 3       |    |
| CA-504       | Mongo DB                                                 | EC     | 3       |    |
| OR           |                                                          |        |         |    |
| CA-504       | Python                                                   | EC     | 3       |    |
| CA-505       | Project                                                  | PJ     |         | 4  |
| CA-506       | Computer Laboratory Based on 503 and 504(2 credits each) | PR     |         | 4  |
| 5            | Add on Course-IOT(30 Hours)                              |        | 2       |    |

#### **SEMESTER- VI**

| Subject Code | Subject Name                                                 | Course | Credits |    |
|--------------|--------------------------------------------------------------|--------|---------|----|
|              |                                                              |        | Th      | Pr |
| CA-601       | Recent Trends in Information Technology(Tutorial/Assignment) | CCT    | 3+1     |    |
| CA-602       | Software Testing                                             | CC     | 3       |    |
| CA-603       | Advanced Java                                                | CC     | 3       |    |
| CA-604       | Android Programming                                          | EC     | 3       |    |
| OR           |                                                              |        |         |    |
| CA-604       | Dot Net framework                                            | EC     | 3       |    |
| CA-605       | Project                                                      | PJ     |         | 4  |
| CA-606       | Computer Laboratory Based on 603 and 604(2 credits each)     | PR     |         | 4  |
| 6            | Add on Course-Soft Skills Training                           |        | 2       |    |

**14. Acknowledgement:** The focus of BBA CA Programme (CBCS-2019 Pattern) has always been raising the academic standards, excellence and holistic development of students. Hon. Prof.

Dr. Nitin Karmalkar, Vice Chancellor, Hon. Dr. N. S. Umarani, Pro-Vice Chancellor, Hon. Dr. Parag Kalkar, Dean, and Associate Dean, Dr. Yashodhan Mithare, Faculty of Commerce and Management have given insights in designing the BBA CA Programme.

Dr. Sanjay Kaptan ,Head ,Savkar Chair has shared his immense knowledge and expertise for designing the structure. Also, the Industry experts panel has added insights in course titles of the BBA CA Programme. Dr. Tanuja Devi co-ordinated the BBA CA Restructuring Committee Dr. Ranjit Patil , Shakila Sishawantan , Prashant Mule Shivendu Bhushan have contributed greatly. This synergy of contributors is very crucial in fine tuning of the BBA CA Programme in its present form.

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# Savitribai Phule Pune University, Pune

## B.B.A. (Computer Application)

(Under faculty of Commerce & Management)

(To be implemented from Academic year 2019-20)

### Business Communication Skills

Course Code: -- 101

Credit 3

Depth of the syllabus - Reasonable knowledge of the communication

#### Program objectives

- 1 To understand what is the role of communication in personal and business world
2. To understand system and communication and their utility
3. To develop proficiency in how to write business letters and other communications in required b

| Unit No. | Contents                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Lectures |
|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| 1        | <b>1. Concept of Communication and Introduction to Communication</b><br><br>1.1 Role of Communication in social and economic system<br>1.2 Need for effective communication<br>1.3 Meaning and definition<br>1.4 Principles of effective communication<br>1.5 Barriers to communication and over comings                                                                                                                                                                                                       | 12       |
| 2        | <b>Methods and types of Communication</b><br><br>2.1 Written communication,<br>2.2 Forms of written communication.<br>2.3 Qualities ,difficulties in written communication ,<br>2.4 Constraints in developing effective written communication<br>2.5 Merits and Limitations of written communication<br>2.6 Listening Written communication,<br>2.7 Forms of written communication.<br>2.8 Qualities, difficulties in written communication ,<br>2.9 Constraints in developing effective written communication | 12       |
| 3.       | <b>Business Correspondence</b><br><br>3.1 Concept ,<br>3.2 Need and functions of Business .Correspondence ,<br>3.3 Types of Business letters ,<br>3.4 Layout Drafting of business ,<br>3.5 Sales Letter ,<br>3.6 Orders sales circulars and business promotion letters<br>3.7 written methods& types of communication                                                                                                                                                                                          | 12       |
| 4.       | <b>Analysis of different Media of Communication</b><br><br>4.1 Fax communication ,                                                                                                                                                                                                                                                                                                                                                                                                                             | 12       |

|  |                                                                                                        |  |
|--|--------------------------------------------------------------------------------------------------------|--|
|  | 4.2 Voice mail ,<br>4.3 e-mails ,<br>4.4 Tele conferencing ,<br>4.5 Communication through social media |  |
|--|--------------------------------------------------------------------------------------------------------|--|

## References

| Sr. No. | Title of the Book                                             | Author/s                                               | Publication                  |
|---------|---------------------------------------------------------------|--------------------------------------------------------|------------------------------|
| 1       | Business Communication                                        | Meenakshi Raman ,<br>Prakash Singh                     | Oxford                       |
| 2       | Business Communication                                        | HomaiPradhan , N.S.<br>Pradhan                         | Himalaya Publishing<br>House |
| 3       | Business Communication                                        | R.K. Madhukar                                          | Vikas Publishing<br>House    |
| 4       | Business Communication and<br>personality Development         | BiswajitDas<br>.ipswwtaSatpathy                        | Excel Books                  |
| 5       | Business Communication –<br>Concepts , Cases and applications | P.D Chaturvedi ,<br>MukeshChaturvedi                   | Dorling Kindersley           |
| 6       | Business Communication –<br>Connecting at work                | HorySankarMukerjee                                     | Oxford                       |
| 7       | Business Communication Today                                  | Courtland L. Bovee , John<br>V. Thill , AbhaChatterjee | Pearson                      |
| 8       | Hand Book of internal<br>Communication                        | Eileen Scholes                                         | Infinity Books               |

**Principles of Management**  
**Course Code 102**  
**Credit -3**

**Depth of the course-** Reasonable working knowledge

**Program Objectives**

- To understand basic concept regarding org. Business Administration
- To examining how various management principles
- To develop managerial skills among the students

| Unit No. | Contents                                                                                                                                                                                                                                                                                                                                                                                  | Lectures  |
|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| 1        | <b>Nature of management</b><br><br>Meaning , importance , functions ,types<br>Management as an art ,science and social system<br>Universality of concept of management<br>and organization                                                                                                                                                                                                | <b>12</b> |
| 2        | <b>Evolution of management thoughts</b><br><br>Concept of managerial thoughts<br>Contribution of Taylor, Mayo and Fayol and Drucker and<br>Indian Management Ethos                                                                                                                                                                                                                        | <b>12</b> |
| 3.       | <b>Major managerial Functions</b><br><br>Planning , need types ,methods , advantages ,merits<br>Forecasting. need types ,methods , advantages ,merits<br>Decision making types process and techniques<br>Directions nature and principles and<br>Motivation –nature, principles and theories<br>Organizing –concept delegation of authorities decentralization<br>concepts and importance | <b>12</b> |
| 4.       | <b>Recent trends in Management</b><br><br>Management of change , Mgt of crises ,TQM ,stress<br>management<br>(Principles ,concepts merits )                                                                                                                                                                                                                                               | <b>12</b> |



## References

| Sr. No. | Title of the Book                                   | Author/s                                              | Publication                           |
|---------|-----------------------------------------------------|-------------------------------------------------------|---------------------------------------|
| 1       | Management Concepts and Strategies                  | J.S. Chandan                                          | Vikas Publishing House Pvt. Ltd.      |
| 2       | Principles of Management                            | Harold Koontz , Heinz Weihrich , A. RamachandraArysri | McGraw hill companies                 |
| 3       | Management A Global and Entrepreneurial Perspective | Heinz Weihrich , Mark V. Cannice , Harold Koontz      | McGraw hill companies                 |
| 4       | Management – 2008 Edition                           | Robert Kreitner , MamataMohapatra                     | Biztantra – Management For Flat World |
| 5       | Introduction to Management                          | John R. Schermerhorn                                  | Wiley India Pvt. Ltd.                 |
| 6       | Principles of Management                            | P.C. Tripathi , P.N. reddy                            | McGraw hill companies                 |
| 7       | Management Text and Cases                           | R. SatyaRaju , A. Parthasarthy                        | PHI learning Pvt. Ltd                 |
| 7       | Management (Multi-Dimensional Approach )            | H. R. Appannaiah , G. Dinakar , H.A. Bhaskara         | Himalaya Publishing House             |

**Subject : C-Programming**  
**Course Code-103**  
**Credit-3**

| Unit No. | Topics                                                                                                                                                                                                                                                                                                                                                                                                                                      | No. of Lectures |
|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| 1        | <b>Introduction to C language</b><br>1.1 History<br>1.2 Basic structure of C Programming<br>1.3 Language fundamentals<br>1.3.1 Character set, tokens<br>1.3.2 Keywords and identifiers<br>1.3.3 Variables and data types<br>1.4 Operators<br>1.4.1 Types of operators<br>1.4.2 Precedence and associativity<br>1.4.3 Expression                                                                                                             | 3               |
| 2        | <b>Managing I/O operations</b><br>2.1 Console based I/O and related built-in I/O functions<br>2.1.1 printf(), scanf()<br>2.1.2 getch(), getchar()<br>2.2 Formatted input and formatted output                                                                                                                                                                                                                                               | 2               |
| 3        | <b>Decision Making and looping</b><br>3.1 Introduction<br>3.2 Decision making structure<br>3.2.1 If statement<br>3.2.2 If-else statement<br>3.2.3 Nested if-else statement<br>3.2.4 Conditional operator<br>3.2.5 Switch statement<br>3.3 Loop control structures<br>3.3.1 while loop<br>3.3.2 Do-while loop<br>3.3.3 For loop<br>3.3.4 Nested for loop<br>3.4 Jump statements<br>3.4.1 break<br>3.4.2 continue<br>3.4.3 goto<br>3.4.4 exit | 9               |
| 4        | <b>Programs through conditional and looping statements</b><br>Addition / Multiplication of integers<br>Determining if a number is +ve / -ve / even / odd<br>Maximum of 2 numbers, 3 numbers<br>Sum of first n numbers, given n numbers<br>Integer division, Digit reversing, Table generation for n, ab<br>Factorial, sine series, cosine series, nCr , Pascal Triangle<br>Prime number, Factors of a number                                | 5               |

|   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |    |
|---|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|
|   | Other problems such as Perfect number, GCD of 2 numbers etc (Write algorithms and draw flowcharts)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |    |
| 5 | <b>Arrays and Strings</b><br>5.1 Introduction to one-dimensional Array<br>5.1.1 Definition<br>5.1.2 Declaration<br>5.1.3 Initialization<br>5.2 Accessing and displaying array elements<br>5.3 Finding smallest and largest number from array<br>5.4 Reversing array<br>5.5 Finding odd/even/prime number from array<br>5.4 Introduction to two-dimensional Array<br>5.4.1 Definition<br>5.4.2 Declaration<br>5.4.3 Initialization<br>5.5 Accessing and displaying array elements<br>5.6 Matrices: Addition, Multiplication, Transpose, Symmetry, upper/lower triangular<br>5.7 Introductions to Strings<br>5.7.1 Definition<br>5.7.2 Declaration<br>5.7.3 Initialization<br>5.8 Standard library functions<br>5.9 Implementations without standard library functions. | 12 |
| 6 | <b>Functions</b><br>6.1 Introduction<br>6.1.1 Purpose of function<br>6.1.2 Function definition<br>6.1.3 Function declaration<br>6.1.4 Function call<br>6.2 Types of functions<br>6.3 Call by value and call by reference<br>6.4 Storage classes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 9  |
| 7 | <b>7 Introduction to pointer</b><br>7.1 Definition<br>7.2 Declaration<br>7.3 Initialization<br>7.4 Indirection operator and address of operator<br>7.5 Pointer arithmetic<br>7.6 Dynamic memory allocation<br>7.7 Functions and pointers                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 4  |
| 8 | 8 Structures<br>8.1 Introduction to structure<br>8.2 Definition<br>8.3 Declaration<br>8.4 Accessing members<br>8.5 structure operations<br>8.6 nested structure                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 4  |

Reference Book :-

- 1) Let us C –YashwantKanetkar, BPB publication.
- 2) Ansi C- Balagurusamy
- 3) The complete Reference- HerbertSchildt

**Subject Name :- Database Management Systems**  
**Course Code: 104**  
**Credit-3**

| <b>Sr. No.</b> | <b>Chapter No.</b> | <b>Name of Chapter and Contents</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <b>No. of Lect.</b> |
|----------------|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|
| <b>1</b>       | <b>1</b>           | File Structure and Organization<br>1.1 Introduction<br>1.2 Logical and Physical Files<br>1.2.1 File<br>1.2.2 File Structure<br>1.2.3 Logical and Physical Files Definitions<br>1.3 Basic File Operations<br>1.3.1 Opening Files<br>1.3.2 Closing Files<br>1.3.3 Reading and Writing<br>1.3.4 Seeking<br>1.4 File Organization<br>1.4.1 Field and Record structure in file<br>1.4.2 Record Types<br>1.4.3 Types of file organization<br>1.4.3.1 Sequential<br>1.4.3.2 Indexed<br>1.4.3.3 Hashed<br>1.5 Indexing<br>1.5.1 What is an Index?<br>1.5.2 When to use Indexes?<br>1.5.3 Types of Index<br>1.5.3.1 Dense Index<br>1.5.3.2 Sparse Index | <b>6</b>            |

|   |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |    |
|---|---|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|
| 2 | 2 | Database Management System<br>2.1 Introduction<br>2.2 Basic Concept and Definitions<br>2.2.1 Data and Information<br>2.2.2 Data Vs Information<br>2.2.3 Data Dictionary<br>2.2.4 Data Item or Field<br>2.2.5 Record<br>2.3 Definition of DBMS<br>2.4 Applications of DBMS<br>2.5 File processing system Vs DBMS<br>2.6 Advantages and Disadvantages of DBMS<br>2.7 Users of DBMS<br>2.7.1 Database Designers<br>2.7.2 Application programmer<br>2.7.3 Sophisticated Users<br>2.7.4 End Users<br>2.8 Views of Data<br>2.9 Data Models | 14 |
|   |   | 2.9.1 Object Based Logical Model<br>a. Object Oriented Data Model<br>b. Entity Relationship Data Model<br>2.9.2 Record Base Logical Model<br>a. Relational Model<br>b. Network Model<br>c. Hierarchical Model<br>2.10 Entity Relationship Diagram(ERD)<br>2.11 Extended features of ERD<br>2.12 Overall System structure                                                                                                                                                                                                             |    |

|          |          |                                                                                                                                                                                                                                                                                                                                                                                                                                |           |
|----------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| <b>3</b> | <b>3</b> | <b>Relational Model</b><br>3.1 Introduction<br>3.2 Terms<br>a. Relation<br>b. Tuple<br>c. Attribute<br>d. Cardinality<br>e. Degree of relationship set<br>f. Domain<br>3.3 Keys<br>3.3.1 Super Key<br>3.3.2 Candidate Key<br>3.3.3 Primary Key<br>3.3.4 Foreign Key<br>3.4 Relational Algebra Operations<br>a. Select<br>b. Project<br>c. Union<br>d. Difference<br>e. Intersection<br>f. Cartesian Product<br>g. Natural Join | <b>8</b>  |
| <b>4</b> | <b>4</b> | <b>SQL (Structured Query Language)</b><br>4.1 Introduction<br>4.2 History Of SQL<br>4.3 Basic Structure<br>4.4 DDL Commands<br>4.5 DML Commands<br>4.6 Simple Queries<br>4.7 Nested Queries<br>4.8 Aggregate Functions                                                                                                                                                                                                         | <b>12</b> |
| <b>5</b> | <b>5</b> | <b>Relational Database Design</b><br>5.1 Introduction<br>5.2 Anomalies of un normalized database<br>5.3 Normalization<br>5.4 Normal Form<br>5.4.1 1 NF<br>5.4.2 2 NF<br>5.4.3 3 NF<br>5.4.3.4 BCNF                                                                                                                                                                                                                             | <b>8</b>  |

**References:**

- 1) Database System Concepts By Henry korth and A. Silberschatz
- 2) SQL, PL/SQL The Programming Language Oracle :- Ivan Bayross, BPB Publication.
- 3) Database Systems Concepts, Designs and Application by Shio Kumar Singh, Pearson
- 4) Introduction to SQL by Reck F. van der Lans by Pearson
- 5) Modern Database Management by Jeffery A Hoffer , V.Ramesh, Heikki Topi ,Pearson
- 6) Database Management Systems by Debabrata Sahoo ,Tata MacgrawHill

**Business Statistics****Course code 105****Credit 3**

Depth Reasonable working knowledge

Objective of the program

1. To understand role and importance of statistics in various business situations
2. To develop skills related with basic statistical technique
3. Develop right understanding regarding regression, correlation and data interpretation

| Unit No. | Contents                                                                                                                                                                                                                                                                                                                                                                                        | Lectures |
|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| 1        | <b>Concept of statistics.</b><br><br>Role of statistics. In informatics business science<br>Tabulation, Data condensations and tabulation, Data Condensation and graphical Methods :Raw data , attributes and variables , classification , frequency distribution ,cumulative frequency distributions.<br>Graphs - Histogram, Frequency polygon. Diagrams - Multiple bar , Pie ,Subdivided bar. | 12       |
| 2        | <b>Measures of central tendency and dispersion</b><br><br>Criteria for good measures of central tendency, Arithmetic mean, Median and Mode for grouped and ungrouped data, combined mean.                                                                                                                                                                                                       | 12       |
| 3.       | <b>Measures of Dispersion :</b><br><br>Concept of dispersion , Absolute and relative measure of dispersion, Range, Variance, Standard deviation, Coefficient of variation, Quartile Deviation , Coefficient of Quartile deviation.                                                                                                                                                              | 12       |
| 4        | <b>Correlation and Regression( for ungrouped data )</b><br><br>Concept of correlation, positive & negative correlation, Karl Pearson's Coefficient of correlation, meaning of regression, Two regression equations, Regression coefficients and properties.                                                                                                                                     | 12       |



## References

| Sr. No. | Title of the Book                                    | Author/s                    | Publication                |
|---------|------------------------------------------------------|-----------------------------|----------------------------|
| 1       | Business Statistics                                  | Girish Phatak               | Tech – Max                 |
| 2       | Statistics for Business                              | Dr. S. K. Khandelwal        | International Book House   |
| 3       | Fundamentals of Business Statistics                  | J.K. Sharma                 | Pearson                    |
| 4       | Business Statistics                                  | G.C. Beri                   | The McGraw-Hill companies  |
| 5       | Statistics Theory and Practice                       | R.S. N. Pillai<br>Bagavathi | S. Chand                   |
| 6       | Statistics for Managerial decision Making            | Dr. S. K. Khandelwal        | International Book House   |
| 7       | Business Statistics For Contemporary Decision Making | Ken Black                   | Wiley India Edition        |
| 8       | Fundamentals of statistics                           | S.C. Gupta                  | Himalaya Publication House |

**Savitribai Phule Pune University**  
**FY BBA- CA Semester II (CBCS) Pattern 2019**  
**Organizational Behavior & Human Resource Management**  
**Course code 201**  
**Credit 3**

**Depth of the course-** Basic working knowledge

**Program Objectives:**

- i) To understand basic concept of HRM & OB
- ii) To make aware students about traditional & modern methods of procurement & development in organization.
- iii) To know the major trends in HRM & OB

| Unit No. | Unit Title                                     | Contents                                                                                                                                                                                                                                                                                                                                                                                                              | Purpose and Skills to be developed                                                                                                                                                 |
|----------|------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1        | <b>Introduction to Organizational Behavior</b> | Definition, concept, scope, Models of OB, Major trends in OB:-Total Quality management, Cultural diversity, Organizational change, Stress Management: Sources of Stress, Effects of Stress & Stress Management, Work life Balance and Quality of Work Life                                                                                                                                                            | To understand the basic concept of OB & To develop knowledge about major trends & ability to handle cultural diversity Stress, change and to maintain work life balance.           |
| 2        | <b>Introduction to HRM</b>                     | <b>Introduction to HRM-</b> Definition, Concepts, scope, importance Functions ,Objectives & limitations, , Role of HR Manager , Areas in which Human Resource Manager can be of assistance                                                                                                                                                                                                                            | To understand the basic concept of HRM & developing knowledge & ability of the student about HRM.                                                                                  |
| 3        | <b>Procurement</b>                             | <b>HRP-</b> Concept, Definition, Merits & Demerits, process , influencing factors of HRP<br><b>Recruitment-</b> Concept, Definition, sources of recruitment and their utility in identifying vacancies, methods, E-recruitment,<br><b>Selection-</b> Concepts, definition, process, Types of interviews and frequently asked interview questions from the candidate at each step and how to answer them, E- selection | To understand process & importance of HR procurement and to develop the skills among students regarding awareness of new trends of Recruitment Selection and interview preparation |
| 4        | <b>Training &amp; Development</b>              | <b>Training &amp; Development-</b> Concept, definition, importance, Methods, E- Training, Recent trends in Training                                                                                                                                                                                                                                                                                                   | To know the training & performance appraisal methods & To develop evaluation skill.                                                                                                |

### Teaching Methodology

| Teaching Hours | Innovative methods to be used                                         | Project                 | Expected Outcome                                                      |
|----------------|-----------------------------------------------------------------------|-------------------------|-----------------------------------------------------------------------|
| 10             | Lecture ,Interactive teaching & Ice breaking session                  | Role play on HR Manager | To develop group cohesiveness.                                        |
| 10             | Lab activity of Searching links about E-recruitment and E- selection. | Project report          | Up gradation of knowledge of new trends in Recruitment and Selection. |
| 12             | Guest lecture                                                         | Assignment              | Up gradation of skill.                                                |
| 13             | Case Study , Video clips on Cultural Diversity and Stress management  | Case study report       | To develop decision making skill.                                     |

### Evaluation Method

| Internal Evaluation                                                                                                                                                 | External Evaluation                                                 |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|
| <b>One project Report : 5 Marks</b><br><b>One assignment : 5 marks</b><br><b>One Case Study Solution Report : 5 marks</b><br><b>Internal Examination : 15 marks</b> | <b>25% MCQ</b><br><b>Short notes 35%</b><br><b>Long answers 40%</b> |
| <b>30</b>                                                                                                                                                           | <b>70</b>                                                           |

### Suggested references

| <b>Sr. No.</b> | <b>Title of the Book</b>                      | <b>Author/s</b>  | <b>Publication</b>                             | <b>Place</b>     |
|----------------|-----------------------------------------------|------------------|------------------------------------------------|------------------|
| <b>1</b>       | Human Resources Management.                   | –L.M. Prasad     | <b>Sultan and Chand<br/>Publishing Company</b> | <b>New Delhi</b> |
| <b>2</b>       | Human Resources Management.                   | K. Ashwathappa – | <b>Tata McGraw Hill</b>                        | <b>New Delhi</b> |
| <b>3</b>       | Personnel Management.                         | C. B. Mamoria    |                                                |                  |
| <b>4</b>       | Organizational Behavior Text, Cases and Games | - K. Aswathappa, | <b>Tata McGraw Hill</b>                        | <b>New Delhi</b> |
| <b>5</b>       | Organizational Behavior -                     | L.M. Prasad      | <b>Sultan and Chand<br/>Publishing Company</b> | <b>New Delhi</b> |

**Savitribai Phule Pune University**  
**FY BBA- CA Semester II (CBCS) Pattern 2019**  
**Financial Accounting**  
**Course code 202**  
**Credit 3**

**Depth of the syllabus: Reasonable working knowledge**

**Program objectives**

- i) To develop right understanding regarding role and importance of monetary and financial transactions in business
- ii) To cultivate right approach towards classifications of different transactions and their implications
- iii) To develop proficiency preparation of basic financial as to how to write basis accounting statement - Trading and P&L

| <b>Unit No.</b> | <b>Unit Title</b>                                 | <b>Contents</b>                                                                                                                                                                                            | <b>Purpose and Skills to be developed</b>                                                                                                                                                                                                       |
|-----------------|---------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>1</b>        | <b>Financial Accounting-</b>                      | definition and Scope, objectives, Accounting concepts, principles and conventions                                                                                                                          | To understand role and importance of accounting in Business and how accounting concept can be implemented in business<br>Computation ability in business ability to distinguished between various accounting concepts and practices             |
| <b>2</b>        | <b>Accounting Transactions and Final Accounts</b> | Voucher system; Accounting Process, Journals, Ledger, Cash Book , subsidiary books ,Trial Balance preparation of Final Accounts of Sole Proprietorship(Trading and Profit & Loss Account and Balance Sheet | To understand how to record different financial transactions and their financial implications<br>Ability to write different accounting tractions and prepare basic financial tractions                                                          |
| <b>3.</b>       | <b>Bank Reconciliation Statements</b>             | Meaning, importance and preparation of Bank Reconciliation Statement                                                                                                                                       | To understand the kind of accounting relationship between customer and bank<br>Ability to write necessary set of entries in books of accounts and in cash book and compare them with bank statement to understand their implications and effect |

|  |                                |                                                                           |                                                                                                                                                                                |
|--|--------------------------------|---------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | <b>Computerized Accounting</b> | Role of computers and Financial application, Accounting Software packages | Ability to understand growing importance of software and to know how to use software and to write books of accounts Ability to use software like tally for writing of accounts |
|--|--------------------------------|---------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

### Teaching Methodology

| Teaching Hours | Innovative methods to be used                                                                                                      | AV Applications                                                                                                                            | Project                                                                                                               | Expected Outcome                                                                                              |
|----------------|------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|
| 10             | Appling accounting concepts in real life business<br>Ability to distinguish between accounting tractions and real life business    | Role of accounting in business                                                                                                             | Importance of accounting of business and nonprofit organizations                                                      | To learn about importance of acc. In business                                                                 |
| 15             | Using practical situations for writing Transactions<br>And applying accounting concepts different situations                       | Writing ledger and cash book                                                                                                               | Developing model of Journals and model books of accounts<br>Preparing flow chart of accordance of different tractions | Ability to distinguish between different tractions and its nature                                             |
| 11             | Interpretation of bank passbook and its statement<br>Comparative analysis of bank pass book and statement and their interpretation | Lesson on How to write bank reconciliations. Statement from YouTube                                                                        | Preparing BR. With imaginary data                                                                                     | Ability to prepare and interpret bank reconciliation statement                                                |
| 12             | NIL                                                                                                                                | To Understand how various tractions are recorded while using software and what cautions are need to be taken while recording transactions. | Film on silent features of tally accounting<br>As business software                                                   | Appling software basic financial statement and converting row financial data into well written financial data |

### Evaluation Method

| Unit No | Internal Evaluation                                                                                    | External Evaluation                                    | Suggested Add on Course                    |
|---------|--------------------------------------------------------------------------------------------------------|--------------------------------------------------------|--------------------------------------------|
| I       | MCQ on various aspects of accounting Presentations on accounting and its importance in business        | <b>25%MCQ<br/>Short notes 35%<br/>Long answers 40%</b> | <b>Tally and computer based accounting</b> |
| II      | Practical problems on how to write different accounting tractions and maintaining books of accounts    |                                                        |                                            |
| III     | Practical problems on Bank Reconciliation                                                              |                                                        |                                            |
| IV      | Demonstrations and hands on of experience regarding application of Tally and other accounting software |                                                        |                                            |
|         | <b>30</b>                                                                                              | <b>70</b>                                              |                                            |

### References

| Sr. No. | Title of the Book                 | Author/s                                                   | Publication                               | Place     |
|---------|-----------------------------------|------------------------------------------------------------|-------------------------------------------|-----------|
| 1       | Advance Accounting Vou- I         | S.N. Maheshwari & S.K. Maheshwari                          | Vikas Publication                         | New Delhi |
| 2       | Advance Accounting Vou- I         | M.C. Shukla , T.C. Grewal , S.C Gupta                      | S. Chand                                  | New Delhi |
| 3       | Accountancy (Vol- I )             | S. Kr. Paul                                                | Central Educational Enterprises (P). Ltd. | Kolkata   |
| 4       | Accounting (text and Cases )      | Robert N. Anthony , David F. Hawkins , Kenneth A. Merchant | McGraw Hill Companies                     | New Delhi |
| 5       | Advanced Accountancy( Volume – I) | R.L. Gupta , M. Radhaswamy                                 | Sultan Chand & Sons                       | New Delhi |

**Savitribai Phule Pune University**  
**FY BBA- CA Semester II (CBCS) Pattern 2019**  
**Business Mathematics**  
**Course code 203**  
**Credit 3**

**Course Depth:** Fundamental Knowledge

**Objectives:**

- i) To understand role and importance of Mathematics in various business situations and while developing softwares.
- ii) To develop skills related with basic mathematical technique

| Unit No. | Topic                                                                                                                                                                                                                                                              | No. of Lecture |
|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| 1        | <b>1. Ratio, Proportion and Percentage:</b><br>Ratio – Definition, Continued Ratio, Inverse Ration, Proportion, Continued Proportion, Direct Proportion, Inverse Proportion, Variation, Inverse Variation, Joint Variation, Percentage, computation of Percentage. | 8              |
| 2        | <b>2. Profit and Loss: -</b><br>Terms and Formulae, Trade discount, Cash discount, Problems involving cost price, selling price, Trade discount and cash discount. Introduction to Commission and brokerage, Problems on commission and brokerage                  | 6              |



|              |                                                                                                                                                                                                                                                                                                 |           |
|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| 3            | <b>3. Interest and Annuity: -</b> Simple interest, Compound interest, Equated monthly Installments (EMI) by interest of reducing balance and flat interest methods and problems.<br><br>Ordinary annuity, sinker fund, annuity due, present value and future value of annuity.                  | 7         |
|              | <b>Shares and Mutual Funds:-</b> Concepts of Shares, face value, market value, dividend, brokerage, equity shares, preferential shares, bonus shares, examples and problems, Concept of Mutual Funds, Change in Net Asset Value (NAV), Systematic Investment Plan (SIP), Examples and Problems. | 7         |
| 4            | <b>4. Matrices and Determinant: -</b> Definition of Matrices, Types of Matrices, Algebra of Matrices, Determinant, Adjoint of Matrix, Inverse of Matrix, System of Linear equations, Solution of System of Linear Equation by adjoint method (upto 3 variables only).                           | 10        |
| 5            | <b>5. Linear Programming Problem (LPP)</b> Concept of LPP, Formulation of LPP and solution of LPP by graphical method.                                                                                                                                                                          | 5         |
|              | <b>Transportation Problem (T.P.): -</b><br><br>Concept of Transportation Problem, Initial Basic Feasible Solution, North-West Corner Method (NWCM), Least Cost Method (LCM), Vogel's Approximation Method (VAM).                                                                                | 5         |
| <b>Total</b> |                                                                                                                                                                                                                                                                                                 | <b>48</b> |

**Reference Books:**

- 1) Business Mathematics by Dr. AmarnathDikshit and Dr. Jinendrakumar Jain.
- 2) Business Mathematics by V. K. Kapoor – Sultan, Chand and sons. Delhi.
- 3) Business Mathematics by Bari – New Literature publishing company, Mumbai.
- 4) Operation Research by S. D. Sharma - Sultan, Chand and sons.
- 5) Operation Research by J. K. Sharma - Sultan, Chand and sons.

**Savitribai Phule Pune University**  
**FY BBA- CA Semester II (CBCS) Pattern 2019**  
**Relational Data Base**  
**Course code 204**  
**Credit 3**

**Course Depth:** Fundamental Knowledge

**Objectives:**

- i) Enables students to understand relational database concepts and transaction management concepts in database system.
- ii) Enables student to write PL/SQL programs that use: procedure, function, package, cursor and trigger.

| Unit No. | Unit Title                   | Contents                                                 | Purpose                                                                                   | Expected Outcome                                |
|----------|------------------------------|----------------------------------------------------------|-------------------------------------------------------------------------------------------|-------------------------------------------------|
| 1.       | <b>Introduction To RDBMS</b> | Introduction to popular RDBMS product and their features | To understand concept of RDBMS & use in business                                          | Understanding of various RDBMS products()       |
|          |                              | Difference Between DBMS and RDBMS                        | To understand advantages of RDBMS over DBMS                                               | Use of relational database                      |
|          |                              | Relationship among application programs and RDBMS        | To understand interface between application programs and data                             | To get knowledge of Front End and Backend       |
| 2.       | <b>PL-SQL</b>                | Overview of PLSQL Data Types ,PLSQL Block                | To understand various data types , operators , functions and control statements           | Understanding of various programming aspects    |
|          |                              | Exception Handling                                       | To understand predefined and user defined exceptions                                      | Learning of different exceptions                |
|          |                              | Functions, Procedures                                    | To understand concept of compact program writing by making use of functions and procedure | Writing of compact code (Small program writing) |
|          |                              | Cursor                                                   | To understand types of cursors and selective data retrieval                               | Understanding of exact data retrieval           |
|          |                              | Trigger Package                                          | To understand concept of stored                                                           | Writing of triggers and                         |

|    |                                                  |                                      |                                                                                               |                                                                                                              |
|----|--------------------------------------------------|--------------------------------------|-----------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
|    |                                                  |                                      | procedure and compiled data                                                                   | packages(Shell application using all contents)                                                               |
| 3. | <b>Transaction Management</b>                    | Transaction Concept                  | To understand effect of transaction process on database                                       | Understanding use of transaction and effect on database                                                      |
|    |                                                  | Transaction Properties               | To understand properties like atomicity, consistency, isolation and durability                | Application of properties (Case solving)                                                                     |
|    |                                                  | Transaction States                   | To understand various states such as active, partially committed, Failed , aborted, committed | Understanding of various states                                                                              |
|    |                                                  | Concurrent Execution                 | To understand concept of reduction in waiting time                                            |                                                                                                              |
|    |                                                  | Serializability                      | To understand Conflict Serializability and View Serializability                               |                                                                                                              |
| 4  | <b>Concurrency Control &amp; Recovery System</b> | Lock Based Protocol                  | To understand meaning Locks, Granting of Locks ,Two Phase Locking Protocol                    | To understand concept of shared and exclusive lock                                                           |
|    |                                                  | Timestamp Based Protocol             | To understand Timestamp and timestamp ordering protocol                                       | To learn how to prevent deadlock situation                                                                   |
|    |                                                  | Deadlock Handling                    | To understand dead lock detection, prevention and recovery                                    | Understand what deadlock is and how it can occur when giving mutually exclusive access to multiple resources |
|    |                                                  | Failure Classification               | To understand transaction failure and system crash                                            | To learn concepts related to hardware failures                                                               |
|    |                                                  | Recovery & Atomicity                 | To understand log based recovery and checkpoint                                               | Data recovery with different techniques                                                                      |
|    |                                                  | Recovery with concurrent transaction | To understand concept of transaction rollback                                                 | Restoring of data which is changed by mistake                                                                |

**Suggested References:**

| <b>Sr. No.</b> | <b>Title of the Book</b>                           | <b>Author/s</b>                    | <b>Publication</b>    | <b>Place</b>  |
|----------------|----------------------------------------------------|------------------------------------|-----------------------|---------------|
| <b>1</b>       | Database Management System                         | Bipin Desai                        | Galgotia Publications | New Delhi     |
| <b>2</b>       | SQL/PLSQL the programming language of oracle       | Ivan Bayross                       | BPB Publications      | New Delhi     |
| <b>3</b>       | An Introduction to Database Systems Eighth Edition | C. J.Date, A.Kannan, S.Swamynathan | Pearson Publications  | North America |
| <b>4</b>       | Database System Concepts 5th Edition               | Silberschatz, Korth, Sudershan     | McGraw-Hill           | New York      |

**Savitribai Phule Pune University**  
**FY BBA- CA Semester II (CBCS) Pattern 2019**  
**Web Technology (HTML-JSS-CSS)**  
**Course code 205**  
**Credit 3**

**Course Depth:** Fundamental Knowledge

**Objectives:**

- i) To know & understand concepts of internet programming.
- ii) To understand how to develop web based applications using JavaScript.

| Unit No | Topic                                                                                                                                                                                                                                                                                                                                           | No. of Lecture |
|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| 1       | <b>1. Introduction</b><br><br>1.1 Clients- Servers and Communication<br>1.2 Internet-Basic, Internet Protocols (HTTP, FTP, IP)<br>1.3 World Wide Web(WWW)<br>1.4 HTTP request message, HTTP response message                                                                                                                                    | <b>5</b>       |
| 2       | <b>2. Web Design</b><br>2.1 Concepts of effective web design<br>2.2 Web design issues including Browser Bandwidth and Cache<br>2.3 Display resolution<br>2.4 Look and Feel of the Website<br>2.5 Page Layout and linking<br>2.6 User centric design<br>2.7 Sitemap<br>2.8 Planning and publishing website<br>2.9 Designing effective navigation | <b>9</b>       |

|              |                                                                                                                                                                                                                                                                                                                                        |           |
|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| <b>3</b>     | <b>3. HTML</b><br>3.1 Introduction to HTML<br>3.2 Basic HTML Structure<br>3.3 Common HTML Tags<br>3.4 Physical and Logical HTML<br>3.5 Types of Images, client side and server-side Image mapping<br>3.6 List, Table, Frames<br>3.7 Embedding Audio, Video<br>3.8 HTML form and form elements<br>3.9 Introduction to HTML Front Page   | <b>12</b> |
| <b>4</b>     | <b>4. Style sheets</b><br>4.1 Need for CSS<br>4.2 Introduction to CSS<br>4.3 Basic syntax and structure<br>4.4 Using CSS-<br>4.4.1 background images, colors and properties,<br>4.4.2 manipulating texts, using fonts, borders and boxes, margins, padding lists, positioning using CSS<br>4.5 Overview and features of CSS2 and CSS3  | <b>10</b> |
| <b>5</b>     | <b>5. JavaScript</b><br>5.1 Introduction to Java Script<br>5.2 Identifier & operator, control structure, functions<br>5.3 Document object model(DOM),<br>5.4 DOM Objects (window, navigator, history, location)<br>5.5 Predefined functions, math & string functions<br>5.6 Array in Java scripts<br>5.7 Event handling in Java script | <b>12</b> |
| <b>Total</b> |                                                                                                                                                                                                                                                                                                                                        | <b>48</b> |

**Reference Books:**

1. Complete HTML- Thomas Powell
2. HTML and JavaScript – Ivan Bayross
3. HTML & CSS: The Complete Reference, Fifth Edition
4. Mastering HTML, CSS & Javascript Web Publishing

**Reference websites:**

1. [www.w3schools.com](http://www.w3schools.com)
2. [www.tutorialspoint.com](http://www.tutorialspoint.com)



SPPU/BBA(CA) SYLLABUS SEMESTER-II CBCS/2019 PATTERN

**SAVITRIBAI PHULE PUNE UNIVERSITY**  
**REVISED BBA PROGRAMME STRUCTURE CBCS 2019 PATTERN**  
**BACHELOR OF BUSINESS ADMINISTRATION (BBA)**  
**THREE YEAR FULL TIME COURSE**

**BBA I YEAR CURRICULUM APPLICABLE W.E.F. AY 2019-20**

**BBA II YEAR CURRICULUM APPLICABLE W.E.F. AY 2020-21**

**BBA III YEAR CURRICULUM APPLICABLE W.E.F. AY 2021-22**

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**BBA PROGRAMME CONTENT**

1. PREAMBLE
2. Objectives Of The Programme
3. Introduction To The Programme
4. Eligibility
5. Duration Of The Programme
6. Highlights Of The New Curriculum
7. Choice Based Credit System (CBCS)
8. Additional Credits
9. Guidelines For Successful Implementation Of CBCS
10. Teaching Instructions
11. Equivalence, Transitory Provision, Transcript And Standard Of Passing
12. Details On Course Content
13. List Of The Courses
14. Annexure (I) Course Content
15. Annexure (II) Contents Of Skill-Based Courses
16. Acknowledgement

SAVITRIBAI PHULE PUNE UNIVERSITY  
FACULTY OF COMMERCE AND MANAGEMENT

**Structure for Three Years Bachelor of Business Administration- BBA Degree Programme  
(Choice Based Credit System - CBCS) with effect from June 2019.**

**1. Preamble:**

The programme structure of BBA is designed to create detailed understanding and awareness of various business systems. This course will cultivate desired business acumen amongst the students. This programme is designed with specific objectives of developing various skills, aptitude and awareness amongst the students in tune with the prevailing business systems that govern different types of business organizations. The course structure is divided into three parts that are interlinked in a systematic manner. This is to maintain consistency and a continuous flow in the teaching-learning process and method of evaluation for each topic.

The present programme will enable the students to foster entrepreneurial attitude, ability to think independently and take rational decisions at various levels of management. It aims to develop a professional and managerial acumen and leadership qualities amongst the youth. Moreover, it incorporates various skills like time management skills, presentation skills, geo-political awareness and business awareness that are required for managerial effectiveness. This programme predominantly endeavours for holistic development of students by providing training in soft skills, computer skills, various Add on Courses and interdisciplinary subjects which are included under the Choice Based Credit System (CBCS).

**2. Programme Objectives:**

BBA is a professional programme aimed at inculcating managerial and entrepreneurial attitude and skills amongst the learners. This programme is designed to provide basic understanding about Management Education and prepare the students to avail the opportunities available in the Management Profession. It also helps them to become successful business leaders by creating self-employment opportunities. It is basically a development programme for enhancing leadership qualities and encouraging the students to build the required business acumen.

**Following are the objectives:**

1. To develop precise understanding about business environment and organizations.
2. To develop leadership aptitude among the students in order to work independently and in organized groups.
3. To inculcate among the students the qualities of a dynamic manager, capable of taking various decisions and communicating effectively to different groups of people.
4. To understand and gain knowledge of various financial institutions and agencies.

### 3. Introduction to the Programme:

The degree shall be titled as Bachelor of Business Administration (B.B.A.) under the Faculty of Commerce and Management. The implementation of Choice Based Credit System for First Year B.B.A. is w.e.f. the academic year 2019-2020, Second Year B.B.A. w.e.f. 2020-2021 and Third Year B.B.A. w.e.f. 2021-2022.

### 4. Eligibility:

- A candidate from any stream, should have passed 12<sup>th</sup> Std. Examination (H.S.C.10+2) with minimum 40% of marks and English as a passing subject.

OR

- Three Years Diploma Course from Board of Technical Education, conducted by Government of Maharashtra or its equivalent, after S.S.C. i.e. 10<sup>th</sup> Standard.

OR

- Two Years Diploma Course in Pharmacy from Board of Technical Education, conducted by Government of Maharashtra or its equivalent, after H.S.C. i.e. 12<sup>th</sup> Standard.

OR

- Completed MCVC program

### 5. Duration of the Programme:

**The Bachelor of Business Administration (BBA) is a full time three (3) years programme and it is divided in six (6) Semesters.**

### 6. Highlights of the New Curriculum:

The New Curriculum intends to add immense value to all stakeholders. These requirements will be addressed effectively in numerous ways by:

- Enhancing the brand value of the Commerce and Management Programme of Savitribai Phule Pune University.
- Providing much needed flexibility to individual Institutes to carve a niche for themselves. A thorough revamp of course through essential computer skills which are necessary for developing proficiency in the selected special subject.
- Emphasizing student-centric teaching and learning process.
- Focusing on 'Concurrent Evaluation' i.e. continuous evaluation throughout the programme.

- Stressing on ‘Experiential Learning’ aspect through Concurrent Evaluation pattern with focus on group activity, field work, self-study, projects, Industry Exposure Programmes, etc.
- Incorporating specializations in the syllabus from Second Year in order to provide in-depth knowledge of the electives chosen by the students.
- Providing opportunity to students to choose courses from other electives to explore cross functionality.
- Emphasizing on Research, Inter-personal skills, Analytical skills, Entrepreneurial skills, and Global aspects of Managerial careers throughout the curriculum.

### **7. Choice Based Credit System (CBCS):**

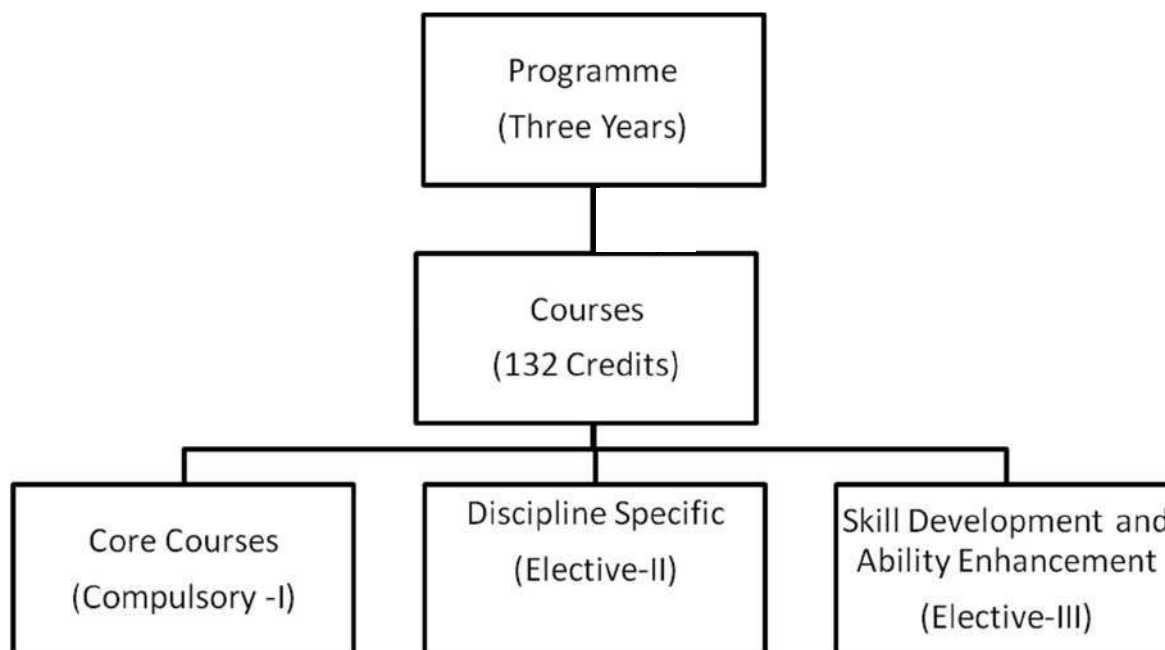
The CBCS provides an opportunity for the students to choose courses from prescribed curriculum comprising of core, elective/minor or skill based courses. The courses can be evaluated by a Grading System, which is considered to be better than the conventional marking system. Thus a uniform Grading System has become a necessity in the entire Higher Education field in India. This will benefit the students to move across institutions within India and across countries. This uniform grading system will also enable the potential employers to assess the performance of the candidates. The UGC has formulated some guidelines in order to bring uniformity in the evaluation system and computation of the Cumulative Grade Point Average (CGPA) based on students performance in examinations which are mentioned below:

**7.1 Course:** A “Course” is a component of programme, i.e. in the new system, papers will be referred to as courses. Each course is identified by a unique course code. While designing curriculum, courses can have defined weightages. These weightages are called as credits. Each course, in addition to having a syllabus, has learning objectives and outcomes. A course may be designed to comprise lectures/ tutorials/ laboratory work/ field work/ project work/vocational training /viva-voce etc. or a combination of some /any of these.

**7.2 Credit:** The definition of “Credits” can be based on various parameters. These may be the learning hours put in, learning outcomes and contact hours, the quantum of content/syllabus prescribed for the course. The credit system requires that a student progresses in the academic programmes not in terms of time (years or semesters), but in terms of courses.

### 7.3 Outline of the CBCS: Bachelor of Business Administration- BBA Degree Programme 2019 pattern.

#### Outline of the Choice Based Credit System (2019 Pattern)



**7.3 I. Core Course:** Core courses are the foundation courses of management education. They are compulsory for all the students. Core courses are of two types: Generic Core and Subject Core.

**1. Generic Core (GC):** This is the course which is mandatory and has to be studied by the student as a core part to fulfill the requirements of a degree in the said discipline of study. Therefore, Generic Core courses are mandatory and fundamental in nature. These courses cannot be substituted by any other courses. Such courses are also known as Hard Core Courses. Generic Core courses in Semester I and II provide foundations of Management and Administration. Generic Core courses in Semester III and IV focus on Functional Areas whereas, Generic Core courses in the Semester V and VI are integrative and provide insights about different fields of business.

**2. Subject Core (SC):** These are also known as Soft Core Courses. These may be subject-specific/specialized/advanced/supportive to the discipline subject of study, which provides an extended scope and enable exposure to some other disciplines that help in nurturing the candidate's proficiency, domain knowledge, skills, etc. Practical /Tutorial work is considered as a special course involving application of knowledge in solving / analyzing /exploring a real life situation, which will help the students to understand core subject in better manner.

#### **7.4 II. Elective Courses :**

**1. Discipline Specific Elective (DSE) Course:** Elective course is a course which can be chosen from a pool of courses. Elective Courses which may be offered by the main discipline/subject of study is referred as **Discipline Specific Elective**. DSE Courses develop generic proficiencies amongst the students.

The Institute has the flexibility to offer courses based on Targeted Industry Linkages – sectoral requirements and networking at the college level. A student can select any one specialization from the five areas which are mentioned below. The student will study eight (8) courses in second and third year. DSE courses help to develop discipline/domain knowledge and nurture candidate's proficiency/skill.

**Bachelor of Business Administration Degree offers the following Electives :**

- A) Marketing Management (MM)
- B) Financial Management (FM)
- C) Human Resources Management (HRM)
- D) Services Management (SM)
- E) Agri Business Management (ABM)

**Dissertation/Project for DSE courses:** An elective course designed to acquire special/advanced knowledge, as a supplement study/support study to a project work, with an advisory support of a teacher/faculty member is called dissertation/project.

**7.5 III.A. Skill Enhancement Courses (SEC):** These courses may be chosen from a pool of courses designed to provide value-based and/or skill-based instructions. Open Course contents are mentioned in Annexure II.

Duration of each course will be of 30 hours for 2Credits. Institutes can select various courses as per the interest of their students and the availability of various facilities.

**A. List of Skill Enhancement Courses:**

- A] Basic Managerial Skills
- B] Communication Skills for Managers
- C] Tally and Computer Based Accounting
- D] Certificate Course in Analysis and Presentation of Data
- E] Introductory Course in Disaster Management
- F] Personality and Soft Skills Development
- G] International Etiquettes and Mannerism
- H] Foreign Language
- H1] Advance Foreign Language
- I] Yoga and Meditation
- J] Ground and Sports Management
- K] Value Education and Gender Equality
- L] UGC / SPPU Approved online courses
- O] College Course Under Specific Scheme

**III.B. Ability Enhancement Compulsory Courses (AECC) i.e. Environmental Science.**

Duration: 30 hours and Credits: 2

**Types of courses :**

M. Basic Course in Environmental Awareness OR N. Advanced Course in Environmental Awareness

**8. Note: Additional Credits.**

The students are also eligible to earn additional Credits for NCC, NSS, Sports, P.T etc. apart from the Courses mentioned in the programme which will be considered separately as per the guidelines and notifications displayed by the respective authorities of the SPPU. The credits will be offered to the students as per Credit calculations of the respective units.

**9. Guidelines for successful implementation of CBCS:**

**9.1. Credit Point may be considered under two parts –**



a) One part consisting of the hours actually spent in the class room / practical / field work instructions and the other part consisting of notional hours spent by the Learner for self-study in the library, peer interactions, case study, writing of journals and assignments, projects etc. for the completion of that course.

Every course offered shall have three components associated with the teaching-learning process viz.

- a) Lecture –L : Classroom sessions delivered by faculty in an interactive mode.
- b) Tutorial and Practical (T & P) - : Sessions consisting of participatory discussions/ self-study/ desk work/ brief seminar-presentations by students and such other novel methods that help the students absorb and assimilate the contents delivered in the Lecture sessions in an effective manner.
- c) Practical sessions /Project Work consisting of Hands-on experience / Field Studies / Case-studies that equip students to acquire the much required skill component.

**9.2.** The success of the CBCS requires certain commitments from both; the students and the teachers.

9.2.1. The student should be regular and punctual to his/her classes, sincere in carrying out the assignments/classroom activities etc. and should maintain consistency in his/her tempo of learning. He/She should make maximum use of the library, internet and other available facilities.

9.2.2. The teachers are expected to be alert and punctual. They should strictly adhere to the schedules of teaching, conducting tests, seminars, evaluation and notification of results. All teachers should notify the tentative schedule of teaching and tests of the entire semester, including the dates of tests, dates of score notification and all other schedules, which can be planned in advance.

9.2.3. The teachers are expected to adhere to an unbiased and objective evaluation and marking of concurrent evaluation scores (internal examinations). This practice will not only boost the confidence of the students, but it will also ensure that merit is given due credit. Transparency, objectivity and quality are the key factors required for a good CBCS to sustain.

**The course content is to be looked upon as the bare minimum requirement to be fulfilled. Emphasis shall be laid on the contemporary aspects and going beyond the content. The teaching / learning as well as evaluation are to be interpreted in a broader perspective.**

## **10. Teaching instructions:**

**10.1 Medium of instructions** - Medium of instruction shall be English only.

**10.2 Teaching Workload:**As per prescribed guidelines under the Commerce and Management faculty.

### **10.3 Method of Evaluation:**

**1) Internal Assessment (2) Projects Examination (3)University Examination (SPPU)**

#### **10.3.1. Instructions for teachers for Internal Assessment:**

The purpose of internal evaluation is to assess the depth of knowledge, understanding and awareness about a particular subject. In order to have a rational and objective assessment of the learners, a teacher is expected to use different evaluation methods.

**Continuous Assessment (CA):** The concerned subject teacher is responsible for conduction and evaluation aspects with respect to Continuous Assessment. As soon as the course begins, the course teacher is expected to announce the mechanisms under which CA would take place. Journals/Lectures/Library-notes/Seminar-presentations/Assignments/Extension Work/An Open-Book Test (book to be decided by the concerned teacher)/Internal examinations/Classroom instructions through audio visual aids/Case-studies/Role-plays/Industrial Visits/Seminars/Presentations/Guest Lectures/Shared teaching/Flip classes/Simulation/Experiential Learning/Social Outreach/Internships/Certificate Courses /Online Certifications/Group Discussion/Business Fest/Webinars etc. may be used as the tools/mechanism for CA.

A subject teacher has the autonomy to devise a mechanism for evaluating the students as per the guidelines.

The class work will carry 30 marks in each course. Internal Evaluation includes continuous evaluation of a student by adopting variety of techniques.

**Tutorials / Practicals for Core Credit :** Tutorials Courses will carry 20 marks as a part of evaluation in addition to the Internal Assessment. A small project work consisting of Hands-on

experience / Field Studies / Mini-Research Project (by an individual student or a group of students)/ Assignments/Case-studies etc. that equip the students to acquire the much required skills can be assigned.

It is obligatory for a teacher to announce the performance of the students. It is also mandatory to declare the CA score gained by all the students on the noticeboard duly signed by the concerned teacher of the course and the HOD/Principal/Director well before the commencement of the SPPU examination.

**10.3.2 Business Exposure and Project (Semester III&IV)-** There will be viva voce examination of 50 marks and a written Examination carrying 50 marks for the students. The students are expected to visit the industry and collect the relevant and required data pertaining to the subject and prepare a report likewise. These Industry Visits and interviews shall be arranged under the supervision of the subject teacher.

A student shall complete a computer course relevant to specialization subject, the fees / Expenses towards computer course will be borne by the students. **The evaluation will be conducted at SPPU level through Viva Voce.**

**Projects:** For course on Project work in Semester V & VI, there will be Written Report of 50 marks. Appropriate allocation of project work (Internship / Hands on experience) should be arranged by the students under the guidance of the teacher and all the expenses will be borne by the students. Course wise guidelines are mentioned in the course content. **The evaluation will be conducted at SPPU level through Viva Voce.**

**Online Course Credit-** If a student completes relevant online course approved by SPPU /UGC or other competent authority, within the particular academic period, then he/she is entitled to earn 2 Credits for the same, provided the duration of the course should be more than 4 weeks or it should be of 30 hours. These 2 (two) Credits can be given only after he/she submits the Passing Certificate of the said course undertaken.

**10.3.3 External Examination:** - SPPU will schedule the written Examination for the course at the end of each Semester.

**Guidelines for Setting External Examination Question Papers:**

- 1) English will be the only Medium of Answer for students to appear the examinations of SPPU.
- 2) The question papers shall be set by the respective members of the Paper-Setting Committee duly appointed by the University in a manner where due weightage is given to the course syllabus-wise.
- 3) The question paper shall be balanced in respect of various topics outlined in the syllabus.
- 4) The question papers shall have a combination of long, short answers and MCQ type questions.
- 5) The University papers will mostly be divided in three parts. 25% weightage will be given to Objective type questions, 30% weightage will be given to short answers and remaining 45% weightage will be given to long answers type questions. For better understanding of the Course-wise Paper Pattern please refer to the Annexure-II.

**11. Equivalence, Transitory Provision, Transcript and Standard of Passing:**

The University will conduct examinations for the students of the old course for next three academic years from the date of implementation of the new course. The candidates of old course will be given three chances to clear their subjects as per the old course pattern, and there-after they will have to appear for the subjects under new course pattern as per the equivalence given to the old course.

(For Details Refer: Separate notifications issued by the Board of Examinations.)

**Standard of Passing** – The programme will be a full-time course and the duration of the programme will be of three years divided into six semesters. A candidate is required to obtain 40% marks in Internal Assessment, Projects and semester-end SPPU examination. There will be separate passing for evaluation of Internal, practical, projects and external SPPU examination.

**(University terms (Backlog) and Standard of Passing- For details Refer, Separate notifications issued by the Board of Examinations).**

**12. Details on Course structure –The courses are divided in three parts:**

**1. List of Core Courses    2. List of Specialization Courses    3. List of Skill Courses.**

**1. Core Courses** – It is mandatory for the students to complete the courses mentioned in the list.

**2. Specialisation Courses** – Five electives / options are offered to the students. They will have to select any one course in Semester III as an Elective Subject. The chosen elective will be continued till the end of the course. In all, 8 courses/subjects will be studied by the student by the end of his/her BBA programme. The list of Specialisation courses is separately mentioned.

**3. Skill Courses** –The list of 16 Skill Enhancement Courses is provided. The college can select courses as mentioned in the structure to suit the requirements of the students. Each course will carry 2 credits having duration of 30 hours. The courses mentioned in the list will be updated as per the requirements of the business environment. The Board Of Studies will make the necessary changes in the list. These courses can also be replaced by approved online courses. It is mandatory for every Institute to conduct the Compulsory Ability Enhancement Course in Semester III. The Institute can select basic or advanced courses.

## 12. List of Courses offered

### BBA -Bachelor of Business Administration Updated Programme Structure CBCS - Pattern 2019

#### FYBBA Semester I

| Group I     | Course Details<br>Generic Core (GC) and Subject Core (SC)<br>(Compulsory ) |         |             | Internal Evaluation   |                     | External Evaluation |
|-------------|----------------------------------------------------------------------------|---------|-------------|-----------------------|---------------------|---------------------|
| Course Code | Course Title                                                               | Credits | Core Course | Concurrent Evaluation | Tutorial /Practical | SPPU Evaluation     |
|             | <b>First Year Semester I</b>                                               |         |             |                       |                     |                     |
| 101         | Principles of Management                                                   | 3       | GC          | 30                    | -                   | 70                  |
| 102         | Business Communication Skills                                              | 4       | SC          | 30                    | 20                  | 50                  |
| 103         | Business Accounting                                                        | 3       | GC          | 30                    | -                   | 70                  |

|     |                                               |    |    |    |    |    |
|-----|-----------------------------------------------|----|----|----|----|----|
| 104 | Business Economics – Micro                    | 3  | GC | 30 | -  | 70 |
| 105 | Business Mathematics                          | 3  | GC | 30 | -  | 70 |
| 106 | Business Demography                           | 4  | SC | 30 | 20 | 50 |
|     |                                               |    |    |    |    |    |
|     | Total Credits for the Semester I              | 20 |    |    |    |    |
|     | GC (12)+SC(8)=20                              |    |    |    |    |    |
|     | <b>First Year Semester II</b>                 |    |    |    |    |    |
| 201 | Business Organization and System              | 4  | SC | 30 | 20 | 50 |
| 202 | Principles of Marketing                       | 3  | GC | 30 | -  | 70 |
| 203 | Principles of Finance                         | 3  | GC | 30 | -  | 70 |
| 204 | Basics of Cost Accounting                     | 3  | GC | 30 | -  | 70 |
| 205 | Business Statistics                           | 3  | GC | 30 | -  | 70 |
| 206 | Fundamentals of Computers                     | 4  | SC | 30 | 20 | 50 |
|     | Credits for the semester II                   | 20 |    |    |    |    |
|     | GC (12)+SC(8) =20                             |    |    |    |    |    |
|     | <b>Second Year Semester III</b>               |    |    |    |    |    |
| 301 | Principles of Human Resource Management       | 3  | GC | 30 | -  | 70 |
| 302 | Supply Chain Management                       | 3  | GC | 30 | -  | 70 |
| 303 | Global Competencies & Personality Development | 3  | GC | 30 | -  | 70 |
| 304 | Fundamentals of Rural Development             | 3  | GC | 30 | -  | 70 |
|     | Credits For Semester III- CC 12               | 12 |    |    |    |    |

|     |                                                |    |    |    |   |    |
|-----|------------------------------------------------|----|----|----|---|----|
|     | <b>Second Year Semester IV</b>                 |    |    |    |   |    |
| 401 | Entrepreneurship and Small Business Management | 3  | GC | 30 | - | 70 |
| 402 | Productions and Operations Management          | 3  | GC | 30 | - | 70 |
| 403 | Decision Making and Risk Management            | 3  | GC | 30 | - | 70 |
| 404 | International Business Management              | 3  | GC | 30 | - | 70 |
|     | Total credits CC12                             | 12 |    |    |   |    |
|     | <b>Third Year Semester V</b>                   |    |    |    |   |    |
| 501 | Research Methodology                           | 3  | GC | 30 | - | 70 |
| 502 | Database Administration and Data Mining        | 3  | GC | 30 | - | 70 |
| 503 | Business Ethics                                | 3  | GC | 30 | - | 70 |
| 504 | Management of Corporate Social Responsibility  | 3  | GC | 30 | - | 70 |
|     | Total credits CC – 12                          | 12 |    |    |   |    |
|     | <b>Third Year Semester VI</b>                  |    |    |    |   |    |
| 601 | Essentials of E - Commerce                     | 3  | GC | 30 | - | 70 |
| 602 | Management Information System                  | 3  | GC | 30 | - | 70 |
| 603 | Business Project Management                    | 3  | GC | 30 | - | 70 |
| 604 | Management Of Innovations & Sustainability     | 3  | GC | 30 | - | 70 |
|     | Total credits CC – 12                          |    |    |    |   |    |
|     | Total Credits From GC and SC                   |    |    |    |   |    |

|                   |                                                                                                                              |         |          |                       |                     |                 |
|-------------------|------------------------------------------------------------------------------------------------------------------------------|---------|----------|-----------------------|---------------------|-----------------|
|                   | (Sem) I 20 + (Sem) II 20 (Sem) III12 +(Sem) IV12 (Sem) V12 and (Sem) IV12 =88                                                |         |          |                       |                     |                 |
| <b>Group II</b>   | <b><u>List of Discipline Specific Elective (DSE) Courses</u></b><br><b>(Select any One group of Electives from the Five)</b> |         |          |                       |                     |                 |
| <b>(A)<br/>OR</b> | <b>Marketing Management (MM)</b>                                                                                             |         |          |                       |                     |                 |
|                   | Course Titles                                                                                                                | Credits | Semester | Concurrent Evaluation | Tutorial /Practical | SPPU Evaluation |
| A305              | Consumer Behaviour & Sales Management                                                                                        | 4       | III      | 30                    | 20                  | 50              |
| A306              | Retail Management + Business Exposure                                                                                        | 4       | III      |                       | 50                  | 50              |
| A405              | Advertising & Promotion Management                                                                                           | 4       | IV       | 30                    | 20                  | 50              |
| A406              | Digital Marketing + (prescribed computer course or online course )                                                           | 4       | IV       |                       | 50                  | 50              |
| A505              | Marketing Environment Analysis and Strategies                                                                                | 4       | V        | 30                    | 20                  | 50              |
| A506              | Legal Aspects in Marketing Management + Project & Viva (50 marks )                                                           | 6       | V        |                       | 50                  | 50              |
| A605              | International Brand Management                                                                                               | 4       | VI       | 30                    | 20                  | 50              |
| A606              | Cases in Marketing + Project 50 marks theory + Project& Viva 50 marks (Internship )                                          | 6       | VI       |                       | 50                  | 50              |
|                   | Total Credits                                                                                                                | 36      |          |                       |                     |                 |



|                   |                                                                                         |         |          |                          |                        |                    |
|-------------------|-----------------------------------------------------------------------------------------|---------|----------|--------------------------|------------------------|--------------------|
| <b>(B)<br/>OR</b> | <b>(B) Financial Management (FM)</b>                                                    |         |          |                          |                        |                    |
|                   | Course Titles                                                                           | Credits | Semester | Concurrent<br>Evaluation | Tutorial<br>/Practical | SPPU<br>Evaluation |
| B305              | Management Accounting                                                                   | 4       | III      | 30                       | 20                     | 50                 |
| B306              | Banking & Finance +Business<br>Exposure                                                 | 4       | III      |                          | 50                     | 50                 |
| B405              | Business Taxation                                                                       | 4       | IV       | 30                       | 20                     | 50                 |
| B406              | Financial Services +Computer<br>course (prescribed course or<br>online course )         | 4       | IV       |                          | 50                     | 50                 |
| B505              | Analysis of Financial Statements                                                        | 4       | V        | 30                       | 20                     | 50                 |
| B506              | Legal Aspects of Finance &<br>Security Laws + Project & Viva<br>(50 marks )             | 6       | V        |                          | 50                     | 50                 |
| B605              | Financial Management                                                                    | 4       | VI       | 30                       | 20                     | 50                 |
| B606              | Cases in Finance + Project<br>50 marks theory + Project& Viva<br>50 marks (Internship ) | 6       | VI       |                          | 50                     | 50                 |
|                   | Total Credits                                                                           | 36      |          |                          |                        |                    |
| <b>(C)<br/>OR</b> | <b>(C) Human Resources Management (HRM)</b>                                             |         |          |                          |                        |                    |
|                   | Course Titles                                                                           | Credits | Semester | Concurrent<br>Evaluation | Tutorial<br>/Practical | SPPU<br>Evaluation |
| C305              | Organisational Behaviour                                                                | 4       | III      | 30                       | 20                     | 50                 |

|                   |                                                                                                           |         |          |                          |                        |                        |
|-------------------|-----------------------------------------------------------------------------------------------------------|---------|----------|--------------------------|------------------------|------------------------|
| C306              | Legal Aspects in Human Resource<br>+Business Exposure                                                     | 4       | III      |                          | 50                     | 50                     |
| C405              | Human Resource Management<br>Functions & Practices                                                        | 4       | IV       | 30                       | 20                     | 50                     |
| C406              | Employee Recruitment & Record<br>Management + Computer course<br>(prescribed course or Online<br>course ) | 4       | IV       |                          | 50                     | 50                     |
| C505              | Cross Cultural HR & Industrial<br>Relations                                                               | 4       | V        | 30                       | 20                     | 50                     |
| C506              | Cases in Human Resource<br>Management +Project & Viva (50<br>marks )                                      | 6       | V        |                          | 50                     | 50                     |
| C605              | Global Human Resource<br>Management                                                                       | 4       | VI       | 30                       | 20                     | 50                     |
| C606              | Recent Trends & HR Accounting<br>+ Project<br>50 marks theory + Project& Viva<br>50 marks (Internship)    | 6       | VI       |                          | 50                     | 50                     |
|                   | Total Credits                                                                                             | 36      |          |                          |                        |                        |
| <b>(D)<br/>OR</b> | <b>(D)Services Management (SM)</b>                                                                        |         |          |                          |                        |                        |
|                   | Course Titles                                                                                             | Credits | Semester | Concurrent<br>Evaluation | Tutorial<br>/Practical | SPPU<br>Evalu<br>ation |
| D305              | Fundamentals of<br>Services Management.                                                                   | 4       | III      | 30                       | 20                     | 50                     |

|            |                                                                                                   |         |          |                       |                     |                 |
|------------|---------------------------------------------------------------------------------------------------|---------|----------|-----------------------|---------------------|-----------------|
| D306       | Principles & Functions of Services Management+Business Exposure Project                           | 4       | III      |                       | 50                  | 50              |
| D405       | Banking & Insurance Management                                                                    | 4       | IV       | 30                    | 20                  | 50              |
| D406       | Social Services and NGO Management + Computer Course (prescribed course or Online course )        | 4       | IV       |                       | 50                  | 50              |
| D505       | Health Care Management                                                                            | 5       | V        | 30                    | 20                  | 50              |
| D506       | Permissions & Legal Aspects In Services + Project & Viva (50 marks )                              | 5       | V        |                       | 50                  | 50              |
| D605       | Global Tourism & Hospitality Management                                                           | 5       | VI       | 30                    | 20                  | 50              |
| D606       | Recent Trends in Services and Project<br>50 marks theory + Project& Viva<br>50 marks (Internship) | 5       | VI       |                       | 50                  | 50              |
|            | Total Credits                                                                                     | 36      |          |                       |                     |                 |
| <b>(E)</b> | <b>(E)Agri Business Management (ABM)</b>                                                          |         |          |                       |                     |                 |
|            | Course Titles                                                                                     | Credits | Semester | Concurrent Evaluation | Tutorial /Practical | SPPU Evaluation |
| E305       | Agriculture and Indian Economy                                                                    | 4       | III      | 30                    | 20                  | 50              |

|                  |                                                                                                                  |         |          |                                             |                 |    |
|------------------|------------------------------------------------------------------------------------------------------------------|---------|----------|---------------------------------------------|-----------------|----|
| E306             | Rural Development - Principles and Practice +Business Exposure                                                   | 4       | III      | -                                           | 50              | 50 |
| E405             | Rural Marketing                                                                                                  | 4       | IV       | 30                                          | 20              | 50 |
| E406             | Banking Operations and Finance + Computer Course (prescribed course or Online Course )                           | 4       | IV       | -                                           | 50              | 50 |
| E505             | Warehouse Management                                                                                             | 5       | V        | 30                                          | 20              | 50 |
| E506             | Permissions & Legal Aspects In Agriculture + Project & Viva (50 marks )                                          | 5       | V        | -                                           | 50              | 50 |
| E605             | Agricultural Exports                                                                                             | 5       | VI       | 30                                          | 20              | 50 |
| E606             | Tourism Development in Rural India + project<br>50 marks theory + Project& Viva<br>50 marks (Internship )        | 5       | VI       | -                                           | 50              | 50 |
|                  | Total Credits                                                                                                    | 36      |          |                                             |                 |    |
| <b>Group III</b> | <b>Skill Enhancement Course ( 30 hours)- and for 2 credits<br/>Ability Enhancement Compulsory Courses (AECC)</b> |         |          |                                             |                 |    |
|                  | Courses                                                                                                          | Credits | Semester | Concurrent Evaluation + Tutorial /Practical | SPPU Evaluation |    |
| 107              | Skill Enhancement Course                                                                                         | 2       | I        | 50                                          | Grade           |    |
| 207              | Skill Enhancement Course                                                                                         | 2       | II       | 50                                          | Grade           |    |
| 307              | Compulsory Course in Environment (AECC),                                                                         | 2       | III      | 50                                          | Grade           |    |

|              |                                                                                                                                 |         |             |                     |       |
|--------------|---------------------------------------------------------------------------------------------------------------------------------|---------|-------------|---------------------|-------|
|              | (Select any one course from the List)                                                                                           |         |             |                     |       |
| 407          | Skill Enhancement Course                                                                                                        | 2       | IV          | 50                  | Grade |
|              | Total Credits                                                                                                                   | 8       |             |                     |       |
|              |                                                                                                                                 |         |             |                     |       |
| <b>(III)</b> | <b>List of Skill Enhancement Course ( 30 hours)- for 2 credits<br/>&amp;<br/>Ability Enhancement Compulsory Courses (AECC),</b> |         |             |                     |       |
| Course Code  | Course Title                                                                                                                    | Credits | Core Course | Internal Evaluation | SPPU  |
| A            | Basic Managerial Skills                                                                                                         | 2       | SEC         | 50                  | Grade |
| B            | Communication Skills for Managers                                                                                               | 2       | SEC         | 50                  | Grade |
| C            | Tally and Computer Based Accounting                                                                                             | 2       | SEC         | 50                  | Grade |
| D            | Certificate Course in Analysis and Presentation of Data                                                                         | 2       | SEC         | 50                  | Grade |
| E            | Introductory Course in Disaster Management                                                                                      | 2       | SEC         | 50                  | Grade |
| F            | Personality and Soft Skills Development                                                                                         | 2       | SEC         | 50                  | Grade |
| G            | International Etiquette and Mannerisms                                                                                          | 2       | SEC         | 50                  | Grade |
| H            | Foreign Language                                                                                                                | 2       | SEC         | 50                  | Grade |
| H1           | Foreign Language (Advanced)                                                                                                     | 2       | SEC         | 50                  | Grade |
| I            | Yoga and Meditation                                                                                                             | 2       | SEC         | 50                  | Grade |
| J            | Ground and Sports Management                                                                                                    | 2       | SEC         | 50                  | Grade |

|                    |                                                                                                                                                      |                |                 |                                      |             |
|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|-----------------|--------------------------------------|-------------|
| K                  | Value Education and Gender Equality                                                                                                                  | 2              | SEC             | 50                                   | Grade       |
| L                  | UGC / SPPU Approved online courses (Minimum 4 weeks or 30 Hours )                                                                                    | 2              | SEC             | Online Examination and Certification | -           |
| O                  | College Course Under Specific Scheme.                                                                                                                | 2              | SEC             | 50                                   | Grade       |
| <b>AECC</b>        | <b>Ability Enhancement Compulsory Courses (AECC), i.e.,<br/>Environmental Science.<br/>Duration: 30 hours and Credits: 2 (Select Any One Course)</b> |                |                 |                                      |             |
| <b>Course Code</b> | <b>Course Title</b>                                                                                                                                  | <b>Credits</b> | <b>Semester</b> | <b>Internal Evaluation</b>           | <b>SPPU</b> |
| 1M                 | Basic Course in Environmental Awareness                                                                                                              | 2              | III             | 50                                   | Grade       |
| 2N                 | Advanced Course in Environmental Awareness                                                                                                           | 2              | III             | 50                                   | Grade       |

*Note : All the stakeholders are requested to refer to the updated course content.*

Course Content Annexures are attached separately – Faculty members and students should refer to the semester-wise updated course content.

#### **14. Annexure (I) Course Content**

#### **15. Annexure(II) Contents of Skill-Based Courses**

**16. Acknowledement:** The course focus of BBA Programme (CBCS-2019 Pattern) has always been raising the academic standards, excellence and holistic development of students. Hon. Prof. Dr. Nitin Karmalkar, Vice Chancellor, Hon. Dr. N. S. Umarani, Pro-Vice Chancellor, Hon. Dr. Parag Kalkar, Dean, and Associate Dean Dr. Yashodhan Mithare, Faculty of Commerce and Management have given insights in designing the BBA Programme.

Dr. Sanjay Kaptan ,Head ,Savkar Chair has shared his immense knowledge and expertise for designing the structure. Also, the Industry expert panel has added insights in course titles of the BBA Programme. Dr. Tanuja Devi co-ordinated the BBA Restructuring Committee. This synergy of contributors is very crucial in fine tuning of the BBA Programme in its present form.

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**Savitribai Phule Pune University**  
**FY BBA Semester I (CBCS) Pattern 2019**

**The subject wise Revised Syllabus for F.Y. BBA Program**

**Principles of Management**

**Course Code 101 - GC**

**Credit -3**

**Depth of the course- Reasonable working knowledge**

**Program Objectives**

- To understand basic concept regarding org. Business Administration
- To examining how various management principles
- To develop managerial skills among the students
- 

| Unit No. | Unit Title                       | Contents                                                                                                                                                                                                                                                                                      | Purpose & Skills to be develop                                                                                                                                 |
|----------|----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1        | Nature of management             | <b>1.1</b> Meaning & Importance, Functions <b>1.2</b> Role of Managers <b>1.3</b> Management as an Art, Science, Profession and a Social System <b>1.4</b> Concept of Management, Administration, Organization & Universality of Management                                                   | <b>Basic aspects of management thinking &amp;</b><br>Develop ability of managerial thinking and cultivate business acumen                                      |
| 2        | Evolution of management thoughts | <b>2.1</b> Concept of Managerial Thoughts<br><b>2.2</b> Contribution of Frederick Taylor, Elton Mayo, Henry Fayol and Peter Drucker<br><b>2.3</b> Indian Management ethos (Indian) and different Styles for example (J.R.D Tata, Dhirubhai Ambani, N. R. Narayana Murthy, Verghese Kurien)... | <b>To understand different approaches to management thoughts and philosophy &amp;</b><br>Ability to understand approaches to philosophy of management thinking |



|    |                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                        |
|----|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| 3. | Major managerial Functions  | <b>3.1 Forecasting:</b> Meaning, Need Types, Methods, Advantages, merits ,Disadvantages<br><b>3.2 Planning:</b> Meaning, Need Types ,methods, Advantages, merits, Disadvantages<br><b>3.3 Organizing:</b> Meaning, Concept, <b>Delegation of Authority:</b> Meaning, Importance <b>Decentralization:</b> Concepts, Meaning And, Importance<br><b>3.4 Decision Making:</b> Types, Process, and Techniques Directions nature and principles and<br><b>3.5 Motivation:</b> Meaning, Importance, Nature, Principles, and Theories<br><b>3.6 Controlling :</b> Meaning, Needs, Process, Techniques | <b>To understand the importance of functions of management and their roles</b><br>&<br>Ability to organize various programmes and events               |
| 4. | Recent trends in Management | 4.1 Management of change , management of crises,<br><b>Total Quality Management (TQM):</b> Meaning, Merits, Demerits ,stress management .(Principles ,concepts merits )<br><b>4.2Knowledge Management:</b> Meaning, Merits, Demerits<br><b>4.3 Outsourcing:</b> Meaning, Merits, Demerits                                                                                                                                                                                                                                                                                                     | <b>To know what are the themes in modern management and changes in the business</b><br>&<br>To learn about new systems and trends in modern management |

### Teaching Methodology

| Teaching Hours | Innovative methods to be used                      | Project                                                   | Expected Outcome                                                                       |
|----------------|----------------------------------------------------|-----------------------------------------------------------|----------------------------------------------------------------------------------------|
| 13             | Study the role and functions of different managers | How an organizations manages its activities and functions | To develop managerial effectiveness through managerial thinking Knowledge of effective |

|           |                                                                                                                                                         |                                                                                                                                                                                   |                                                                  |
|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------|
| <b>13</b> | Empirical management thoughts                                                                                                                           | Preparing charts of management thinkers and profile presentations on major management thinkers                                                                                    | Learning about the management philosophy over the period of time |
| <b>12</b> | Situation analysis , Business games<br>Case study                                                                                                       | Implementing planning process in an org ,analysis of different decision and failure of different org and decision                                                                 | How to plan and organize an activity and motivate the group      |
| <b>12</b> | Developing applications of management of change and crises<br>Installing quality management system for a group<br>Case study on majors to reduce stress | Develop a program for management of change and case study on resistance to change and preparing the checklist<br>Developing quality manual<br>Project on stress reduction methods | To Develop understanding regarding new systems of management     |

### Evaluation

| Subject           | Internal Evaluation                                                                                                                                                                           | External Evaluation                                                 | Suggested Add on Course                      |
|-------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|----------------------------------------------|
| <b>Unit – I</b>   | I Quiz on concept importance of mgt<br>II Presentation on role of management in society and organization<br>III GD on importance of management as profession                                  | <b>25% MCQ</b><br><b>Short notes 35%</b><br><b>Long answers 40%</b> | <b>Decision making and leadership skills</b> |
| <b>Unit – II</b>  | I Presentation on contribution of management thinkers<br>II case study on different approaches to mgt<br>III posters on contributions of Indian management thinkers to management discipline  |                                                                     |                                              |
| <b>Unit – III</b> | MCQ on managerial functions<br>II situation analysis how management fails or succeed<br>III presentations on different types of decisions and case study on factors affecting decision making |                                                                     |                                              |

|                  |                                                                                                                                                                                                                                                                      |           |  |
|------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|--|
| <b>Unit – IV</b> | MCQ on various new trends in management<br>II case study on application of total quality management in an organization and compare two different intuitions.<br>III Case study on management of change and crises<br>IV situation analysis of determinants of stress |           |  |
| <b>Total –</b>   | <b>30</b>                                                                                                                                                                                                                                                            | <b>70</b> |  |

### Suggested references

| Sr. No. | Title of the Book                                   | Author/s                                              | Publication                           | Place                 |
|---------|-----------------------------------------------------|-------------------------------------------------------|---------------------------------------|-----------------------|
| 1       | Management Concepts and Strategies                  | J.S. Chandan                                          | Vikas Publishing House Pvt. Ltd.      | New Delhi             |
| 2       | Principles of Management                            | Harold Koontz , Heinz Weihrich , A. RamachandraArysri | McGraw hill companies                 | New Delhi             |
| 3       | Management A Global and Entrepreneurial Perspective | Heinz Weihrich , Mark V. Cannice , Harold Koontz      | McGraw hill companies                 | McGraw hill companies |
| 4       | Management – 2008 Edition                           | Robert Kreitner , MamataMohapatra                     | Biztantra – Management For Flat World | New Delhi             |
| 5       | Introduction to Management                          | John R. Schermerhorn                                  | Wiley India Pvt. Ltd.                 | New Delhi             |
| 6       | Principles of Management                            | P.C. Tripathi , P.N. reddy                            | McGraw hill companies                 | New Delhi             |
| 7       | Management Text and Cases                           | R. SatyaRaju , A. Parthasarthy                        | PHI learning Pvt. Ltd                 | New Delhi             |
| 8       | Management (Multi-Dimensional Approach )            | H. R. Appannaiah , G. Dinakar , H.A. Bhaskara         | Himalaya Publishing House             | Mumbai                |

**Savitribai Phule Pune University**  
**FY BBA Semester I (CBCS) Pattern 2019**  
**Business Communication Skills**  
**Course Code: 102 SC**  
**Credit 4**

**Depth of the syllabus** - Reasonable knowledge of the communication

**Program objectives**

- 1 To understand what is the role of communication in personal and business world
2. To understand system and communication and their utility
3. To develop proficiency in how to write business letters and other communications required in business

| Unit No. | Unit Title                                                 | Contents                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Purpose& Skills to be develop                                                                                                                                     |
|----------|------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1        | Concept of Communication and Introduction to Communication | Role of Communication in social and economic system<br>Need for effective communication, meaning and definition,<br>Principles of effective communication, Barriers to communication and over coming                                                                                                                                                                                                                                                                                           | <b>To understand the basic purpose of communication.</b><br>&<br>Ability to understand and comprehend the meaning of different forms of communication             |
| 2        | Methods and types of Communication                         | <b>Methods of Communications]:</b> Linguistics, Non- Linguistics and Para- Linguistics, Art of Listening<br>Written communication, Forms of written communication.<br>Qualities, difficulties in written communication, Constraints in developing effective written communication<br><b>Types or Channels of Communication:</b><br><b>Internal-</b> Vertical, Horizontal, Consensus, Grapevine<br><b>External-</b> Inward, Outward ,Merits and Limitations of methods & types of communication | <b>To understand how to write effective messages and different types of communication,</b><br>&<br>Ability to write meaningful and concise and effective messages |
| 3.       | Business Correspondence                                    | Concept ,need and functions of Business .Correspondence ,<br>Types of Business letters ,Layout Drafting of business ,                                                                                                                                                                                                                                                                                                                                                                          | <b>To understand how to make effective Business Correspondence</b><br>&                                                                                           |

|    |                                              |                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                          |
|----|----------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|    |                                              | Business Correspondence : Sales , Orders sales circulars and business promotion and resignation letter , leave , application letters<br>,Complaint , Credit verification, Correspondence with bank, Job application , and Reference check | Ability to write precise business letters and understanding about business correspondence                                                                                                                                                                                                                                                                |
| 4. | Analysis of different Media of Communication | Fax communication ,voice mail ,emails ,tele conferencing , communication through social media                                                                                                                                             | <b>1.To understand how modern technology effects businesses and media based communication is working in present context.</b><br><b>2. Effects of new media on business is affecting on interpersonal relations and groups</b><br><b>&amp;</b><br>Ability to use different formats of social communication and technology based communication effectively |

### Teaching Methods

| Teaching Hours     | Innovative methods to be used | AV Applications        | Project                    | Expected Outcome                                             |
|--------------------|-------------------------------|------------------------|----------------------------|--------------------------------------------------------------|
| <b>Unit I - 11</b> | Role Play                     | Films on communication | Life without communication | Ability to understand implication of effective communication |

|                     |                                                                                                                                                |                                                                                      |                                                                                             |                                                                                                                                                                 |
|---------------------|------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Unit II - 13</b> | Paraphrasing \,praise writing complete the sentence and interpretation of given sentences                                                      | Films on understanding written communication                                         | How to write effective message ,<br>Story writing                                           | To develop an appropriate understanding role and utility of written communication in life                                                                       |
| <b>Unit III- 13</b> | Demonstrations of layout of good business letters<br>analysis of good business letters of different forms<br>Drafting of good business letters | Analysis of real life business situations                                            | Writing letters for different situations<br>Case study of Analysis different correspondence | To develop proficiency for different purposes for different organizations                                                                                       |
| <b>Unit IV - 11</b> | Demonstrations hands on experience                                                                                                             | Analysis of implications and utility of different forms of social media , case study | Projects                                                                                    | To develop proficiency in effectives uses of various media of communication<br><br>To communicate interact effectively by using different forms of social media |
| <b>Total 48</b>     |                                                                                                                                                |                                                                                      |                                                                                             |                                                                                                                                                                 |

### Evaluation methods

| Internal Evaluation                                              | External Evaluation                                                | Tutorial /Project - Internal                                               |
|------------------------------------------------------------------|--------------------------------------------------------------------|----------------------------------------------------------------------------|
| Method of evaluation<br>I MCQ on concept factures and definition | <b>25%MCQ</b><br><b>Short notes 35%</b><br><b>Long answers 40%</b> | <b>Business communication skills (102) - Credit</b><br><b>1 - Marks 20</b> |

|                                                                                                                                                                                           |                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Presentation \- on application of communication in day to day business                                                                                                                    |                 | <b>Tentative areas for tutorials – (Select any 2 topics)</b> <ol style="list-style-type: none"> <li>1. Collections of various formal letters and its critical study</li> <li>2. Assignment on précis writing</li> <li>3. Presentation on oral communication skills</li> <li>4. Public speaking</li> <li>5. Common mistakes in business communication</li> </ol>                                                                                                                                                  |
| I Group Discussions on appropriate methods of communication at different situations<br>II – Case study on written communication- Errors in message building and interpretation of message |                 | <b>20 marks (Internal) Guidelines for Tutorials</b><br>The faculty must design the tutorials in tune with theory subject and shall conduct presentation in the class on the given topics.<br><br><b>The evaluation of students must be on the following grounds. (20 marks)</b> <ol style="list-style-type: none"> <li>1. Understanding of the subject</li> <li>2. Content</li> <li>3. Selections of the topic and application of the theory</li> <li>4. Overall confidence &amp; Presentation skills</li> </ol> |
| I Developing appropriate formats<br>Drafting of appropriate Business letters<br>II- cautions in uses of metaphors and idioms and phrases                                                  |                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| I GD on selecting right media<br>II preparation of charts on different media of communication<br>III – case study on usages of social media<br>Communication etiquettes’                  |                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|                                                                                                                                                                                           |                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Marks 30</b>                                                                                                                                                                           | <b>Marks-50</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

**Note: Students should be well informed about the tutorials and sufficient time must be given to the students to fulfil the requirements of the tutorials.**

## References

| Sr. No. | Title of the Book                                             | Author/s                                               | Publication               | Place     |
|---------|---------------------------------------------------------------|--------------------------------------------------------|---------------------------|-----------|
| 1       | Business Communication                                        | Meenakshi Raman ,<br>Prakash Singh                     | Oxford                    | New Delhi |
| 2       | Business Communication                                        | HomaiPradhan , N.S.<br>Pradhan                         | Himalaya Publishing House | Mumbai    |
| 3       | Business Communication                                        | R.K. Madhukar                                          | Vikas Publishing House    | New Delhi |
| 4       | Business Communication and personality<br>Development         | BiswajitDas<br>.ipswwtaSatpathy                        | Excel Books               | New Delhi |
| 5       | Business Communication – Concepts , Cases<br>and applications | P.D Chaturvedi ,<br>MukeshChaturvedi                   | Dorling Kindersley        | New Delhi |
| 6       | Business Communication – Connecting at<br>work                | HorySankarMukerjee                                     | Oxford                    | New Delhi |
| 7       | Business Communication Today                                  | Courtland L. Bovee , John<br>V. Thill , AbhaChatterjee | Pearson                   | New Delhi |
| 8       | Hand Book of internal Communication                           | Eileen Scholes                                         | Infinity Books            | New Delhi |

## Web reference

| Sr. no | Lectures                     | Films               | Animation                             | PPTs              | Articles                                                                                                               | Sources                      |
|--------|------------------------------|---------------------|---------------------------------------|-------------------|------------------------------------------------------------------------------------------------------------------------|------------------------------|
|        | By R. Chandran IIT<br>Kanpur | Film byJ.<br>Balkru | A film on<br>communication<br>barrier | By Matt<br>Setter | 1. Importance of<br>communication<br>skills essay<br>2Importance of<br>communication<br>and effective<br>communication | 1. UK Essay<br>2. Zen growth |



**Savitribai Phule Pune University**  
**FY BBA Semester I (CBCS) Pattern 2019**  
**Business Accounting**  
**Code No. 103 GC**  
**Credit – 3**

**Depth of the syllabus - Reasonable working knowledge**

**Program objectives**

To develop right understanding regarding role and importance of monetary and financial transactions in business

To cultivate right approach towards classifications of different transactions and their implications

TO develop proficiency preparation of basic financial as to how to write basis accounting statement - Trading and P&L

| Unit No. | Unit Title                                        | Contents                                                                                                                                                                                                                 | Purpose& Skills to be develop                                                                                                                                                                                                                                |
|----------|---------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1        | Financial Accounting-                             | Definition and Scope, objectives, Accounting concepts, principles and conventions. Classification of accounts                                                                                                            | <b>To understand role and importance of accounting in Business and how accounting concept can be implemented in business &amp;</b><br>Computation ability in business ability to distinguished between various accounting concepts and practices             |
| 2        | <b>Accounting Transactions and Final Accounts</b> | Problems on Voucher system; Accounting Process, Journals, Ledger, Cash Book , subsidiary books ,Trial Balance preparation of Final Accounts of Sole Proprietorship(Trading and Profit & Loss Account and Balance Sheet ) | <b>To understand how to record different financial transactions and their financial implications &amp;</b><br>Ability to write different accounting tractions and prepare basic financial tractions                                                          |
| 3.       | <b>.Bank Reconciliation Statements</b>            | Meaning, importance and preparation of Bank Reconciliation Statement                                                                                                                                                     | <b>To understand the kind of accounting relationship between customer and bank &amp;</b><br>Ability to write necessary set of entries in books of accounts and in cash book and compare them with bank statement to understand their implications and effect |

|   |                                |                                                                           |                                                                                                                                                                                                |
|---|--------------------------------|---------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 4 | <b>Computerized Accounting</b> | Role of computers and Financial application, Accounting Software packages | <b>Ability to understand growing importance of software and to know how to use software and to write books of accounts &amp;</b><br>Ability to use software like tally for writing of accounts |
|---|--------------------------------|---------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

### Teaching Methodology

| Teaching Hours | Innovative methods to be used                                                                                                       | AV Applications                                                           | Project                                                                                                                  | Expected Outcome                                                     |
|----------------|-------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------|
| 11             | Applying accounting concepts in real life business<br>Ability to distinguish between accounting transactions and real life business | Role of accounting in business                                            | Importance of accounting of business and nonprofit organizations                                                         | To learn about importance of acc. In business                        |
| 15             | Using practical situations for writing Transactions<br>And applying accounting concepts different situations                        | Writing ledger and cash book                                              | Developing model of Journals and model books of accounts<br>Preparing flow chart of accordance of different transactions | Ability to distinguish between different transactions and its nature |
| 12             | Interpretation of bank passbook and its statement<br>Comparative analysis of bank pass book and statement and their interpretation  | Lesson on<br>How to write bank reconciliations.<br>Statement from YouTube | Preparing BR. With imaginary data                                                                                        | Ability to prepare and interpret bank reconciliation statement       |

|           |     |                                                                                                                                               |                                                                     |                                                                                                               |
|-----------|-----|-----------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|
| <b>10</b> | NIL | To Understand how various transactions are recorded while using software and what cautions are need to be taken while recording transactions. | Film on silent features of tally accounting<br>As business software | Appling software basic financial statement and converting row financial data into well written financial data |
|-----------|-----|-----------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|

### Evaluation Method

| Unit No | Internal Evaluation                                                                                    | External Evaluation                                                | Suggested Add on Course                    |
|---------|--------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------|--------------------------------------------|
| I       | MCQ on various aspects of accounting Presentations on accounting and its importance in business        | <b>25%MCQ</b><br><b>Short notes 35%</b><br><b>Long answers 40%</b> | <b>Tally and computer based accounting</b> |
| II      | Practical problems on how to write different accounting tractions and maintaining books of accounts    |                                                                    |                                            |
| III     | Practical problems on Bank Reconciliation                                                              |                                                                    |                                            |
| IV      | Demonstrations and hands on of experience regarding application of Tally and other accounting software |                                                                    |                                            |
|         | <b>30</b>                                                                                              | <b>70</b>                                                          |                                            |

| <b>Sr. No.</b> | <b>Title of the Book</b>                 | <b>Author/s</b>                                                   | <b>Publication</b>                               | <b>Place</b>     |
|----------------|------------------------------------------|-------------------------------------------------------------------|--------------------------------------------------|------------------|
| <b>1</b>       | <b>Advance Accounting Vou- I</b>         | <b>S.N. Maheshwari&amp; S.K. Maheshwari</b>                       | <b>Vikas Publication</b>                         | <b>New Delhi</b> |
| <b>2</b>       | <b>Advance Accounting Vou- I</b>         | <b>M.C. Shukla , T.C. Grewal , S.C Gupta</b>                      | <b>S. Chand</b>                                  | <b>New Delhi</b> |
| <b>3</b>       | <b>Accountancy (Vol- I )</b>             | <b>S. Kr. Paul</b>                                                | <b>Central Educational Enterprises (P). Ltd.</b> | <b>Kolkata</b>   |
| <b>4</b>       | <b>Accounting (text and Cases )</b>      | <b>Robert N. Anthony , David F. Hawkins , Kenneth A. Merchant</b> | <b>McGraw Hill Companies</b>                     | <b>New Delhi</b> |
| <b>5</b>       | <b>Advanced Accountancy( Volume – I)</b> | <b>R.L. Gupta , M. Radhaswamy</b>                                 | <b>Sultan Chand &amp; Sons</b>                   | <b>New Delhi</b> |

**Savitribai Phule Pune University**  
**FY BBA Semester I (CBCS) Pattern 2019**  
**Business Economics – Micro**  
**Course Code: 104 GC**  
**Credit - 3**

**Depth of the syllabus** - Reasonable knowledge of the Business Economics

**Program Objectives -**

1. To understand role of economics as it influences society and business
2. To study how different decisions are taken in relation to price demand and supply
3. To develop right understanding regarding Monopoly, perfect competition, revenue Etc

| Unit No. | Unit Title                     | Contents                                                                                                                                                                                                                                                                                                                                                                   | Purpose & Skills to be develop                                                                                                                                                                                                                                                                                          |
|----------|--------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1        | Concept of Business economics. | Importance of economics in life, scope, forms of economy economic activities, economic problems , circular flow of economy Meaning and definition of business economics, scope of Business Economics Importance of economics in life, forms of economy, central problems of economics, market forces in solving economic problems, 5 sector flow of income and expenditure | <b>Role and purpose of economics in society and economic &amp;</b><br>Ability to think in prudent manner                                                                                                                                                                                                                |
| 2        | Demand and supply analysis     | Concept of demand supply<br>Concept of demand, determinants of demand, individual demand, market demand, Law of demand, elasticity of demand, types of elasticity of demand. Practical implementation of elasticity of demand. Methods of measuring elasticity of demand. Concept of supply, determinants of supply, elasticity of supply.                                 | <b>1.To understand how the concept of demand and supply works in particular economy</b><br><b>2.To study implications of different aspects of demand and supply &amp;</b><br>Ability to examine implications of changes in demand and supply on economics and ability to select right alternatives in a given situation |

|    |                                         |                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                          |
|----|-----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 3. | Revenue and cost analysis               | <p>Concept and types of revenue</p> <p>Importance of revenue , methods of calculation of revenue</p> <p>Interrelationship between marginal , total, and average revenue</p> <p>Concept of cost definition and importance of cost ,typology of cost analysis of cost</p>                                                                                                           | <p><b>1.To understand role and function of revenue in different economic decision</b></p> <p><b>2. To examine what factors determine revenue and cost &amp;</b></p> <p>Ability to comprehend the concept of cost and calculation of revenue and cost and Production.</p> |
| 4  | Pricing under various market conditions | <p>Concept of market and competition</p> <p>Meaning of market, types of markets - perfect competition, Monopoly, monopolistic competition, duopoly, and oligopoly. Price and output determination in different market conditions. Concept of Total Revenue, Average Revenue and Marginal Revenue, Methods of measuring TR, AR and MR, interrelationship between TR, AR and MR</p> | <p><b>To understand concept of market and different forces affecting completion of market under different economic circumstances</b></p> <p><b>&amp;</b></p> <p>Ability to understand market forces governing economic situations</p>                                    |

### Teaching Methodology

| Teaching hours | Innovative methods to be used                                                      | AV Applications                                                             | Project                                                                                                | Expected Outcome                                                                                                                 |
|----------------|------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|
| 10             | Situation analysis evaluation of different alternatives selection of right options | Film on role of economics in life                                           | Understands the importance of economics in life                                                        | To understand different facets of economics and importance of prudent thinking                                                   |
| 13             | Case studies on Market Situation analysis and Market analysis                      | Films on fluctuations in economy and market and their impact on social life | Case studies on demand and supply analysis , Examining market trends and their impact on market supply | To understand variation in demand and supply. How it affects the different economic situations and various factors of production |

|    |                                                                                                                                                       |                                                                   |                                                                    |                                                                                                                                                                                             |
|----|-------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|--------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 13 | Case studies , analysis of a particular economic decisions comparative analysis of revenue and cost decisions                                         | Animation and graphics on cost and revenue ascertainment          | Examination of various cost sheet and revenue statement            | 1.To understand how the revenue is calculated for different situations and factors determined revenue.<br>2. To know the system of determination and factors consider in cost determination |
| 12 | Preparation of graphics for different market situations<br>Analysis of market different market forces affecting demand and supply of various products | Films on monopoly and its effect<br>Films on perfect competitions | Case studies<br>Empirical analysis and projection of market trends | To understand how pricing determination is affected by different market players and forces and its impact on market and society                                                             |

| Unit | Internal Evaluation                                                                                                                                                                                      | External Evaluation                                                |
|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------|
| I    | I- MCQ on concept meaning<br>II- presentation on role of economic in society<br>III- Presentations on life without economic                                                                              | <b>25%MCQ</b><br><b>Short notes 35%</b><br><b>Long answers 40%</b> |
| II   | I - MCQ<br>II- Practical problems on various demand and supply as they influence market<br>III - model illustrations explaining practical illustrations practical demand and supply                      |                                                                    |
| III  | I practical problems on computation of revenue<br>II illustrations on explaining different types of revenue<br>Case study on impact on change in cost structure                                          |                                                                    |
| IV   | I MCQ on monopoly and perfect competition<br>II real life situations on monopolistic pricing<br>III Illustrations on impact of variations in equilibrium of firm on pricing under different circumstance |                                                                    |
|      | <b>30</b>                                                                                                                                                                                                | <b>70</b>                                                          |

### Suggested references

| <b>Sr. No.</b> | <b>Title of the Book</b>                            | <b>Author/s</b>                              | <b>Publication</b>                        | <b>Place</b>             |
|----------------|-----------------------------------------------------|----------------------------------------------|-------------------------------------------|--------------------------|
| <b>1</b>       | <b>Business Economics</b>                           | <b>Andrew Gillespie</b>                      | <b>Oxford Press</b>                       | <b>New Delhi</b>         |
| <b>2</b>       | <b>Business Economics</b>                           | <b>Rob Dransfield</b>                        | <b>Vikas Publishing House</b>             | <b>Noida – New Delhi</b> |
| <b>3</b>       | <b>Business Economics – Theory and Applications</b> | <b>Dr. D.D. Chaturvedi , Dr. S. L. Gupta</b> | <b>International Book House Pvt. Ltd.</b> | <b>New Delhi</b>         |
| <b>4</b>       | <b>Economics for management – Text and Cases</b>    | <b>S,K. Sarangi</b>                          | <b>Himalaya Publishing House</b>          | <b>Mumbai</b>            |
| <b>5</b>       | <b>Economics Principles and Applications</b>        | <b>N. Gregory Mankiw</b>                     | <b>Cengage Learning India Pvt. Ltd.</b>   | <b>New Delhi</b>         |



**Savitribai Phule Pune University**  
**FY BBA Semester I (CBCS) Pattern 2019**  
**Business Mathematics**  
**Course Code – 105 GC**  
**Credit 3**

**Depth of knowledge** - Reasonable working knowledge

**Program objectives**

To develop appropriate understanding as how to use mathematic like computation interest, profit etc

To cultivate right understanding regaining numerical aptitude

To develop logical approach towards analytical approach data

| Unit No. | Unit Title                              | Contents                                                                                                                                                                       | Purpose & Skills to be develop                                                                                                                                                                             |
|----------|-----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1        | Numerical Methods for Business Managers | <ul style="list-style-type: none"> <li>• Commission ,brokerage and premium ,</li> <li>• Banking and taxation and Calendar ,</li> <li>• Simple and compound interest</li> </ul> | <b>To understand how to apply the concept of interest and methods of calculation of interest</b><br>&<br>To develop Mathematical competence for various interest related transactions and other activities |
| 2        | Numerical Methods for Business Managers | <ul style="list-style-type: none"> <li>• Profit and loss</li> <li>• Percentages ,</li> <li>• Ratio and proportion ,</li> <li>• Averages</li> </ul>                             | Ability to examine concept of discount in different business situations                                                                                                                                    |
| 3.       | Numerical Methods for Business Managers | <ul style="list-style-type: none"> <li>• Matrix and Determinant</li> <li>• Permutation And Combination</li> </ul>                                                              | Ability to apply the various concepts in business situations                                                                                                                                               |

|   |                                         |                                                                                                                 |                                                                       |
|---|-----------------------------------------|-----------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|
| 4 | Numerical Methods for Business Managers | <ul style="list-style-type: none"> <li>• Data interpretation ,</li> <li>• Linear Programming Problem</li> </ul> | Ability to develop the skills for data interpretation and inferences. |
|---|-----------------------------------------|-----------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|

#### Teaching Methodology

| Teaching Hours | Projects and classroom practice                                                                                                                                                  |
|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 13             | Impact of interest of profits and how loan helps business solvency                                                                                                               |
| 12             | To develop appropriate model for estimation of profit. Applying ratio to interpreted and evaluate Financial data collection of 5 years reports of various companies for analysis |
| 12             | Problems related with combination and permutation                                                                                                                                |
| 11             | Analyzing for different situations with multiple number of parameters                                                                                                            |

#### Evaluation methods

| Internal Evaluation                                                       | External Evaluation                                                                          |
|---------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
| I Basic mathematical aspects reading Interest ,<br>II. Practical problems | <b>20% MCQ , and 40% marks for 3 marks each problem<br/>40% are for 4 marks each problem</b> |
| Computations on various financial transactions and other transactions     |                                                                                              |
| Data interpretation                                                       |                                                                                              |
| <b>30 marks</b>                                                           | <b>70 marks</b>                                                                              |

### Suggested References

|   | <b>Title</b>                     | <b>Author</b>                                                          | <b>Publisher</b>                             |
|---|----------------------------------|------------------------------------------------------------------------|----------------------------------------------|
| 1 | Arithmetic for business students | Harvey,J.H.                                                            | Cassell,London                               |
| 2 | Business Mathematics             | Dr.<br>AmarnathDikshit&Dr.Jinendra<br>Kumar Jain.                      |                                              |
| 3 | Business Mathematics –           | PadmalochanHazarika                                                    | Sultan chand& sons, Delhi                    |
| 4 | Business Mathematics             | Bari                                                                   | New Literature publishing company,<br>Mumbai |
| 5 | Operations Research              | V.K. Kapoor                                                            | Sultan chand& sons                           |
| 6 | Operations Research              | Dr. S. D. Sharma                                                       | Sultan Chand & Sons.                         |
| 7 | Operations Research              | Dr. J. K. Sharma –                                                     | Sultan Chand & Sons.                         |
| 8 | Business mathematics             | Dr.AnwarShaikh,<br>Prof.R.G.Gurav, Prof.Tawade,<br>Prof. Vaibhav Joshi | Success Publication,Pune                     |

**Savitribai Phule Pune University**  
**FY BBA Semester I (CBCS) Pattern 2019**

**Business Demography**  
**Code: 106 SC**  
**Credit 4**

**Depth of the course - Reasonable working knowledge**

**Program objectives**

1. To give proper understanding regarding concept of demography in modern economic setup
2. To study how population and structure changes affecting quality of life and business
3. To develop clarity of concept regarding social economic process and urbanization and its impact on society

| Unit No. | Unit Title                                       | Contents                                                                                                                                                                                                                                                                | Purpose Skills to be develop                                                                                                                                  |
|----------|--------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1        | Concept of demography                            | Meaning, importance and need of demography. Studies<br>Study of demography. As an essential discipline of social economic change ,Scope and components of Demography<br>Factors affecting mortality, fertility rate, Methods to calculate fertility and mortality rate. | <b>Growing importance of modern economics and society.</b><br><br>To Develop Rational understanding of demography, analysis and effects on society            |
| 2        | Distribution of population and population growth | Density and population distribution<br>Concept of over and under population<br>Method of assessment of population growth                                                                                                                                                | <b>To understand how population growth influences aspects on society</b><br><br>To develop understanding regarding growth process and social economic changes |

|    |                                   |                                                                                                                                                                                                                  |                                                                                                                                                                                                  |
|----|-----------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 3. | Population as resources           | Importance of human resource as development of the nation<br>Concept of literacy and its importance in modern society<br>Concept of sex ratio age and sex pyramid<br>Concept of working and dependent population | <b>To understand importance in modern and socio economic statues and to learn about role of literacy in economic development</b><br><br>Ability to examine implications of changes in population |
| 4  | Urbanization and its implications | Concept of urbanization factors affecting urbanization. and rural population , Features and importance<br>Urbanization. Behavioural and demographic Structure and various factors responsible for urbanization   | <b>To understand the various determinants of urbanization and migration</b><br><br>Ability to understand how urbanization affects the resource allocation and resource planning                  |

### Teaching Methodology

| Teaching hours | Innovative methods to be used                                                                                 | AV Applications                                        | Project                                                                                                     | Expected Outcome                                                                                                                                                              |
|----------------|---------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 12             | Analysis of censuses reports<br>Examining the trends in population curve                                      | Films on population explosion                          | Mapping of various components of Demography<br><br>Case study on impact on changes in demographic structure | Ability to understand the components of demography. Factors governing of a particular economics and government.<br>Socio economic changes as a outcome of demographic changes |
| 12             | Analysis of trends in variation population and its impact on budget ,economic planning and social development | A film on population explosion<br>A film on topography | A study of demographic changes in India<br>Difference provinces in India                                    | Ability to examine how demographic changes - influences different aspects of policy formulation and social development                                                        |

|    |                                                                                                                    |                                                                                                           |                                                                                                    |                                                                                                         |
|----|--------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|
| 12 | Designing of population pyramid<br>Developing charts of implications of changes in sex ratio of economy on society | Project on examining population change as a determinant<br>A film on relation on literacy and development | NIL                                                                                                | To learn about implications of changes in population and structure of population on economy and society |
| 12 | Prepare charts and Study of urbanization taken place from last two decades<br>With its effects on business         | Case studies on urbanization and sustainability and problems of over exploitation of resources            | Study of particular factor of production in district or state and their effects on various sectors | Equal and unequal Distribution of resources and factors of production and its impact on society         |

### Evaluation Methods

| Subject           | Internal Evaluation                                                                                                                                                                             | External Evaluation                                                 | Tutorial /Project (Internal)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Unit – I</b>   | I MCQ on meaning concept and applications of demography<br>II profile preparation on regional<br>III Interpretation of data                                                                     | <b>25% MCQ</b><br><b>Short notes 35%</b><br><b>Long answers 40%</b> | <b>Business Demography (106) Credit 1 - Marks 20</b><br><b>Tentative outline for tutorials – (Select any 2 topics)</b><br>1 Collecting information on changes took place in local and regional Demography<br>2. Issues related migration<br>Gender equalities/ inequalities and its effect on business<br>3. Government regulations and its effects on business<br>Relation of Demography and economic development<br><br><b>The evaluation of students must be on the following grounds. (20 marks)</b><br>1. Understanding of the subject<br>2. Content |
| <b>Unit – II</b>  | MCQ on density of population various aspects of population<br>II Application based questions on measuring assessment of population of method III analysis of particular aspect of census report |                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Unit – III</b> | Presentation on HR Development in growth<br>II Presentation on role of literacy on growth<br>III Interpretation of statistical data                                                             |                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Unit – IV</b>  | I GD on effects of urbanization on society                                                                                                                                                      |                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

|                |                                                                                         |           |                                                                                                                                                                                                                                                                                            |
|----------------|-----------------------------------------------------------------------------------------|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                | II quiz on Urbanization on society III Poster or exhibitions on urbanization of society |           | 3. Selections of the topic and application of the theory<br>4. Overall confidence & Presentation skills<br><br><b>Note:</b><br><b>Students should be well informed about the tutorials and sufficient time must be given to the students to fulfill the requirements of the tutorials.</b> |
| <b>Total –</b> | <b>30</b>                                                                               | <b>50</b> | <b>20 marks</b>                                                                                                                                                                                                                                                                            |

#### Suggested references

| Sr. No. | Title of the Book                                                                                     | Author/s                                   | Publication                      | Place |
|---------|-------------------------------------------------------------------------------------------------------|--------------------------------------------|----------------------------------|-------|
|         | <b>The Methods and uses of anthropological Demography</b>                                             | <b>Alaka M. Basu</b>                       | <b>Columbia university press</b> |       |
|         | <b>The demographic dividend – A new perspective on the Economic consequences of Population Change</b> | <b>David E. Bloom, David Canning</b>       |                                  |       |
|         | <b>The Continuing Demographic Transition</b>                                                          | <b>G.W. Jones ,R.M.Douglas</b>             |                                  |       |
|         | <b>Demographics :A casebook for business and Government</b>                                           | <b>Hallie .JKintner ,,Thomas W.Merrick</b> |                                  |       |
|         | <b>Population , Ethnicity and Nation Building</b>                                                     | <b>By Calvin C.Goldscheider</b>            |                                  |       |
|         | <b>Population Dynamics :A new Economic Approach</b>                                                   | <b>C.Y. Cyrus Chu</b>                      | <b>Oxford</b>                    |       |

**Savitribai Phule Pune University**  
**FY BBA Semester II (CBCS) Pattern 2019**  
**Business Organizations and Systems**  
**Course Code 201**  
**Credit 4**

**Depth of the program – Fundamental Knowledge**

**Objective of the Program:**

- 1) To understand role and functions of modern business
- 2) To develop right understanding regarding business environment
- 3) To study how a business institution functions in a given economic set up

| Unit No. | Unit Title                       | Contents                                                                                                                                                                                                                                                                                                             | Purpose and Skills to be developed                                                                                                                                                                                                                           |
|----------|----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1        | Nature and evolution of business | Concept of business and its characteristics, Objectives of business and prerequisites of a successful business, Development and evolution of Trade, commerce and industry, Recent Trends in Modern Business i.e. BPO, KPO, Entrepreneur & Homepreneur and online trading, digital marketing and payment methods      | To understand the purpose of business,<br>To learn how a business unit works and serves the society, historical progress of business as an economic entity, socio economic changes have led to economic development,<br>To study the new trends in commerce. |
| 2        | Forms of Business Organization   | Forms of business organization and its selection, Meaning, characteristics, advantages and Limitations of Sole proprietorship, Partnership Firm, Limited Liability partnership Firms and private company, Joint Stock Company, virtual business organizations, boundary less organizations, OPC (One Person company) | To understand the significance of different forms of business organizations their types, function, merits and limitations.                                                                                                                                   |



|    |                                     |                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                            |
|----|-------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 3. | Setting up of a business enterprise | Identification of ideas and opportunities, Influencing factors while setting up of business enterprise, Feasibility report of a business enterprise, Size and location of a business enterprise. licensing and basic legal formalities to start a new business enterprise | To know how to search business ideas, how to pre business feasibility report, how to identify ideal business location and deciding optimal size for a new business unit, identification of capital sources for new business unit and basic documentation required for business enterprise. |
| 4. | Study of Domestic and Foreign Trade | Levels of Distribution Channels and their role<br><b>Domestic Trade:</b> Concept of Domestic Trade, Wholesaling and Retailing<br><b>Foreign Trade:</b> Concept of Export and Import; Export and Import Procedure                                                          | To learn about how a retail trade works in business system, different forms of retail trade and their contribution in the economy<br>To give a brief introduction to stages of internationalization.                                                                                       |

### Teaching methodology

| No of lectures | Innovative methods to be used                                                                                                             | Film shows and AV Applications                                                                                                                            | Project                                                                                                                                                           | Expected Outcome                                                                                                                                                                     |
|----------------|-------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 12             | Study of a business unit in given environment , Interview of a sole trader to know how he started the unit,                               | Film shows on ideation of business enterprise<br>Film shows of feasibility report<br>Film on 'Market Development'                                         | Profile of a departmental store works,<br><br>Observation of function of a KPO/ BPO or online trading                                                             | Understand how a business functions , Understanding the idea of business as an economic entity,<br>To understand modern commerce performs new business initiatives.                  |
| 12             | Analysis of partnership firm related documents, Film show on 'Role of sole trader in economy', Film on promotion and formation of company | Film show on 'Role of sole trader in economy'<br>Film/ animation on admission and retirement<br>Film/ animation / Expert lectures on LLP/ Private Company | Report writing on 'Examining the style and functions of different types of sole traders,<br><br>Project on Analysis of LLP and private company related documents. | Knowledge of selection and appropriateness of a form of business organization ,<br>Learning functioning of different types of Sole proprietorship, How a partnership firm is formed, |

|    |                                                                                                                                                                                                                                    |                                                                                                                   |                                                                                              |                                                                                                                                                                                                                                      |
|----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|    |                                                                                                                                                                                                                                    | Film on promotion and formation of company                                                                        | Project on Process of formation of a company and role of promoters in formation              | partnership deed, admission and retirement of a partner, Documentation process of LLP and private limited company and process of registration, Documentation process of joint stock company and process of registration              |
| 11 | Film shows on ideation of business enterprise, Guest lecture on how to write a business report, Analysis of market, business units and initial size of successful business unit                                                    | Film shows on ideation of business enterprise<br>Film shows of feasibility report<br>Film on 'Market Development' | Preparation of a business report and presentation of the same in a business plan competition | Understanding of basic knowledge about how to start a business enterprise, Understanding the determinants of a selection of a business idea, Understanding the factors governing the selection of size of business.                  |
| 10 | Films and presentations of various forms of retail trade and new trends in retail trade<br>Audiovisual aids giving example of stages of internationalization with reference to different multinational and transnational companies | Presentations on Retail trade and contribution in economic growth                                                 | Project report on various types of supply chain and retailing methods                        | Understanding the nature of retail trade and how a retail trade works in business system, different forms of retail trade and their contribution in the economy. Understanding brief introduction to stages of internationalization. |

#### Internal Evaluation

| <b>Tutorials/Presentations</b> | <b>Topics for Assignments ( Select any 2)</b>         |
|--------------------------------|-------------------------------------------------------|
| <b>CCT – 1 Credit</b>          | I) Recent trends in modern businesses                 |
| <b>20 Marks</b>                | ii) Various legal formalities for starting a business |

|                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                      |
|----------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------|
|                                                    | iii ) Case Study Solution Report – Importance of location and competitors analysis<br><br>iv) Project submission Presentation – Homepreneuership, BPO, KPO and One person company.<br><br><b>The evaluation of students must be on the following grounds. (20 marks)</b><br>1. Understanding of the subject<br>2. Content<br>3. Selections of the topic and application of the theory<br>4. Overall confidence & Presentation skills<br><b>Note:</b><br><b>Students should be well informed about the tutorials and sufficient time must be given to the students to fulfil the requirements of the tutorials.</b> |                                                                      |
| <b>Internal Examination</b><br><br><b>30 Marks</b> | <b>Internal Evaluation – Role Plays, Case Studies, Situation analysis, MCQ's , Long question papers etc</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <b>Suggested Add on Course</b><br><br><b>Basic managerial skills</b> |
|                                                    | <b>Total : 50 marks</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                      |

### Suggested References

| Sr. No. | Title of the Book                    | Author/s             | Publication               | Place     |
|---------|--------------------------------------|----------------------|---------------------------|-----------|
|         | Business Organization and Management | Vijay Kumar Kaul     | Pearson                   | New Delhi |
|         | Business organization                | Dr. Khushpat S. Jain | Himalaya Publishing House | Mumbai    |

|  |                                                                       |                                                    |                                  |                  |
|--|-----------------------------------------------------------------------|----------------------------------------------------|----------------------------------|------------------|
|  | <b>Modern Business Organisation and Management – Systems Approach</b> | <b>S.A. Sherlekar , V.s. Sherlekar</b>             | <b>Himalaya Publishing House</b> | <b>Mumbai</b>    |
|  | <b>Business Organization</b>                                          | <b>Rajendra P. Maheshwari , J.P. Mahajan</b>       | <b>International Book House</b>  | <b>New Delhi</b> |
|  | <b>Business Organisation and management</b>                           | <b>Neeruvashishtha , namitaRajput</b>              | <b>Kitab Mahal</b>               | <b>Allahabad</b> |
|  | <b>New Course in Organization of Commerce</b>                         | <b>A.N. Rangparia ,Chopde, Negwekar and 8 more</b> | <b>Sheth</b>                     | <b>Mumbai</b>    |
|  | <b>Students' guide to Business Organisation</b>                       | <b>Dr. neeruVasishth</b>                           | <b>Taxmann</b>                   | <b>New Delhi</b> |
|  | <b>Business Organisation and Management</b>                           | <b>Jagdish Prakash</b>                             | <b>Kitab Mahal</b>               | <b>Allahabad</b> |

**Savitribai Phule Pune University**  
**Question Paper Pattern (2019) for FY BBA (University examination)**  
**Subject - Business Organizations and Systems**  
**Code no 201**

|   | <b>Compulsory /Choice</b> | <b>Name of the Question</b>                           | <b>Marks</b> | <b>Total Marks</b> |
|---|---------------------------|-------------------------------------------------------|--------------|--------------------|
| 1 | Compulsory Question       | Objective Type Question-<br>Multiple Choice Questions | 4            | 15 Marks           |
|   |                           | Fill in the blanks                                    | 3            |                    |
|   |                           | Define the terms and Match<br>the pairs               | 8            |                    |
| 2 | Solve any 2 out of 4      | Long Answer Question                                  | 2*10 marks   | 20 Marks           |
| 3 | Solve any 3 out of 5      | Short Notes                                           | 3*5 marks    | 15 Marks           |
|   | <b>Total</b>              |                                                       |              | <b>50 Marks</b>    |

**Savitribai Phule Pune University**  
**FY BBA Semester II (CBCS) Pattern 2019**  
**Principles of Marketing**  
**Course code 202**  
**Credit 3**

**Depth of the syllabus** - Reasonable knowledge of the Marketing

**Objectives –**

1. To develop write understanding regarding marketing environment in the country
2. To develop appropriate conceptual understanding as to develop basic marketing concept
3. To develop new understanding regarding services , rural marketing and new trends in marketing

| Unit No. | Unit Title                                       | Contents                                                                                                                                                                                                                                                           | Purpose and Skills to be developed                                                                                                                                                                                                                                                        |
|----------|--------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1        | Concepts and functions of marketing              | Marketing concepts, its objectives ,importance and functions of marketing<br>Various Approaches of marketing<br>Challenges and opportunity of marketing manager in international market                                                                            | Role and importance of marketing manager<br>To understand the silent features of Indian and international Marketing Management<br>Ability to learn how marketing functions in a given environment<br>To understand various tasks performed by marketing managers in different environment |
| 2        | Marketing Environment and marketing segmentation | Marketing environment – meaning<br>Internal and external factors influencing marketing environment ,<br>Political ,social economical international , technological multi-cultural environment<br>Segmentation: concepts, importance and its types of segmentation. | To know about changing various factors which affects the marketing system.<br>To study the profiles of change in technology, economic policy and demography of Indian market .<br>To study the types of segmentation<br>To develop write understanding of profile of Indian market        |

|    |                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                             |
|----|--------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 3. | Constituents of marketing mix        | <p>Marketing Mix-<br/> Meaning scope and importance of marketing mix<br/> Product mix concept of a product , product characteristics<br/> Intrinsic and extrinsic, PLC.<br/> Price mix - meaning ,element , importance of price mix ,factors , influencing pricing , pricing methods<br/> Place mix , Promotion mix<br/> Place mix meaning and concepts of channel of distribution or intermediaries , Promotion mix meaning, definitions , importance and limitations of advertisement<br/> People mix meaning &amp; concepts, elements, importance.<br/> Process mix -stages, meaning&amp; importance.<br/> Physical evidence- meaning, importance &amp; components.</p> | <p>To have right understanding of marketing mix as they influences as marketing mix.</p> <p>To develop understanding regarding various aspects of price promotion physical distribution place, people, process &amp; physical evidence affecting a success of a market.</p> |
| 4. | Classifications and types of markets | <p>Conventional classification of markets.<br/> Services marketing its main features importance, growth functions.<br/> Rural marketing features and its contribution to Indian economy ,problems and measures to improve<br/> Recent trends in Marketing-<br/> 1.Green Marketing concepts 2.,Digital Marketing, 3.Virtual Marketing, 4.Hybrid Marketing</p>                                                                                                                                                                                                                                                                                                               | <p>To understand different types of markets there role and functions<br/> To examine marketing activities are performed and contribute to the economy.</p> <p>To learn about types of market in developing economy and society.</p>                                         |

### Teaching Methodology

| Teaching Hours    | Innovative methods to be used                                                                             | AV Applications                                        | Project                                                                                                                                                  | Expected Outcome                                                                                           |
|-------------------|-----------------------------------------------------------------------------------------------------------|--------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|
| <b>Unit I -12</b> | Role Play Development of profiles of Indian Market analysis of a Indian market ,roles and applications in | Films and animations on various marketing Applications | Preparing profiles of marketing functions in different organizations<br>Developing a sketch of various marketing managers working in different companies | <p>Knowledge about functioning of modern Indian Markets</p> <p>Understanding the marketing process and</p> |

|                     |                                                                                                                          |                                                                                                                     |                                                                                                                            |                                                                                                                                                     |
|---------------------|--------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
|                     |                                                                                                                          |                                                                                                                     |                                                                                                                            | planning in international prospects                                                                                                                 |
| <b>Unit II – 12</b> | Project on impact of technology on market , analysis of marketing economic policy as they influence Indian markets       | Films on marketing environment in Indian and expert lectures on Indian economic system as they influence on markets | Project on technological changes ,reports on new trends in market<br>Profile of marketing policies                         | To improve understanding regarding marketing environment and segmentation in Indian context.                                                        |
| <b>Unit III- 14</b> | Analysis of successful product launches a<br>Study of select product failures<br>Analysis of various marketing champions | Films on product launch selection of marketing media product life cycle<br>Case study on marketing mix.             | Profile of event for new product launch<br>Analysis of advertising campaigns for a launch of a product<br>Profile in India | To cultivate an appropriate Product development process launching and pricing of the product<br>To examine the effect of marketing mix and consumer |
| <b>Unit IV - 10</b> | Project on role of marketing economy<br>Profile sketch of improving and developing a cases in rural market               | Films on problems of rural market role of rural economy and growth of services marketing.                           | Case study on marketing of services ,problems of rural markets ,developing appropriate strategies for rural market.        | Developing a right and complete understanding different types of market in developing economy and how marketing services improve quality of life.   |



### Evaluation Method

|                   |                                                                                                                                                                                                     |                                                                     |
|-------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|
| <b>Unit – I</b>   | MCQ – on concept of Marketing role and importance<br>II practical applications on different approaches to marketing<br>profile study of role and functions of marketing at different organizations. | <b>25% MCQ</b><br><b>35% short notes</b><br><b>40% long answers</b> |
| <b>Unit – II</b>  | I MCQ on different facets of marketing environments<br>II analyses of different constituents of marketing environment Through case study<br>III – MCQ on Marketing segmentation                     | <b>20% MCQ</b><br><b>40% short notes</b><br><b>40% long answers</b> |
| <b>Unit – III</b> | I – MCQ on different aspect of Market mix<br>II case study on role of product mix in marketing mix<br>III analysis of market mix Price and place mix as criteria                                    | <b>20% MCQ</b><br><b>40% short notes</b><br><b>40% long answers</b> |
| <b>Unit – IV</b>  | MCQ- on classification and types of Market<br>II analysis of profile of different rural markets and rural consumers in India<br>III analysis of marketing of services in Indi                       | <b>30% MCQ</b><br><b>30% Short notes</b><br><b>40% long answers</b> |
| <b>Total –</b>    | <b>30</b>                                                                                                                                                                                           | <b>70</b>                                                           |

### Suggested References

| Sr. No. | Title of the Book                 | Author/s                          | Publication       | Place      |
|---------|-----------------------------------|-----------------------------------|-------------------|------------|
| 1.      | Marketing Management              | Philip Kotler & keven lane keller | Pearson India     | South Asia |
| 2.      | Marketing Management              | V. S. Ramaswamy , S. Namakumari   | Macmillan         | New Delhi  |
| 3.      | Marketing In India Text and cases | S. Neelamrgham                    | Vikas Publication | New Delhi  |
| 4.      | Textbook of Marketing             | Keith Blois                       | Oxford            | New Delhi  |

|    |                            |                                                       |                  |           |
|----|----------------------------|-------------------------------------------------------|------------------|-----------|
| 5. | Marketing - Cases Insights | Paul Baines , Chris Fill , Kelly page Piyush K. Sinha | Oxford           | New Delhi |
| 6. | Foundational Of marketing  | John Fahy& David Jobber                               | Tata McGraw Hill | New Delhi |

**Savitribai Phule Pune University**  
**Question Paper Pattern (2019) for FY BBA**  
**University Examination**  
**Sub: Principles of Marketing**  
**Code no - 202**

| Q.No | Compulsory /Choice   | Name of the Question                                  | Marks      | Total Marks     |
|------|----------------------|-------------------------------------------------------|------------|-----------------|
| 1    | Compulsory Question  | Objective Type Question-<br>Multiple Choice Questions | 5          | 20 Marks        |
|      |                      | Fill in the blanks                                    | 5          |                 |
|      |                      | Define the terms and Match<br>the pairs               | 10         |                 |
| 2    | Solve any 3 out of 5 | Long Answer Question                                  | 3*10 marks | 30 Marks        |
| 3    | Solve any 4 out of 6 | Short Notes                                           | 4*5 marks  | 20 Marks        |
|      | <b>Total</b>         |                                                       |            | <b>70 Marks</b> |

**Savitribai Phule Pune University**  
**FY BBA Semester II (CBCS) Pattern 2019**  
**Principles of Finance**  
**Course code 203**  
**Credit 3**

**Depth of the syllabus** – Depth Reasonable working knowledge

**Objectives**

1. To cultivate right approach towards money , finance , and their role in business
2. To develop right understanding regarding various sources of finance and their role and utility in business
3. To develop basic skills as to concept of capital structure and concept of capital structure

| Unit No. | Unit Title                              | Contents                                                                                                                                                                                                  | Purpose and Skills to be developed                                                                                                                                                                                                          |
|----------|-----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1        | <b>Unit 1 Basic concepts in finance</b> | Definition - Nature and scope of finance function, Financial Management - Meaning – Approaches: - Traditional, Modern, Role of finance manager.                                                           | To understand role and importance in business<br>Ability to understand implication of finance on business                                                                                                                                   |
| 2        | <b>Unit 2. Sources of Finance</b>       | External: - Shares, Debentures, Public Deposits, Borrowing from banks: - meaning, types, advantages and limitations of these sources, Internal: - Reserves and surplus, Bonus shares Retained earnings,.  | To understand role and need of source of finance<br>How different determinants of size and type of business<br>Sources of business finance<br>To learn about imp features and their applications considering their requirements in business |
| 3.       | <b>Unit 3. Capital Structure</b>        | Meaning criteria for determining capital structure, Factors affecting capital structure, Capitalization:- Meaning, over capitalization and Under Capitalization - meaning, causes, consequences, remedies | To Understand how basic financial structure is designed<br>To know what are the constituents a financially sound business units<br>Analytical ability to understand implications of various constituents of capital units                   |

|          |                                            |                                                                                     |                                                                                                                                                     |
|----------|--------------------------------------------|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>4</b> | <b>Recent Trends in business finance:-</b> | <b>Meaning and nature of</b><br>Venture Capital, Leasing, Microfinance, Mutual Fund | To understand new and emerging trends in business finance<br>Ability to understand about current issues related with new trends in business finance |
|----------|--------------------------------------------|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|

### Teaching Methodology

| <b>Unit &amp; teaching Hours</b> | <b>Innovative methods to be used</b>                                                                                                                                             | <b>AV Applications</b>                                                                                                   | <b>Project</b>                                                                                                                        | <b>Expected Outcome</b>                                                                                                               |
|----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|
| I – (14)                         | Presentation on how finance helps in org .business successfully<br>Presentation on identifying different needs of finance activities                                             | Short films on Finance and business activities                                                                           | Estimation on financial needs of small and tiny business needs<br>Assessing financial feasibility of a business venture               | To develop Competence to apply various concept in finance for decision making to                                                      |
| II-(13)                          | Poster presentation on comparative analysis of sources of finance<br>Financial institution who provides sources of finance                                                       | Films on different institutions meeting different needs of finance                                                       | Developing a suitable financial needs assessment chart<br>developing a checklist for developing source of finance                     | To develop rational understanding regarding role and utility of different sources of finance                                          |
| III-(11)                         | Comparative analysis of different determinants of capital structure<br>Determining need for optimal rational capital structure<br>Implications of over and under capital methods | Films on over and under capitalization on business unit<br>Film on a sound capital structure                             | A report on assessing capital needs of a business need<br>Evaluating a balance sheet<br>Whether the firm is over or under capitalized | To understand importance of rational and sound financial structure<br>To understand role of capital as a determinant business success |
| IV –(10)                         | Presentation emerging trends in business<br>Micro finance and mutual funds<br>Profile presentation on various mutual funds and venture capital financiers in India               | Films on contemporary trends in mutual fund in India<br>Films on venture capital and micro finance institutions in India | A report on contribution of mutual funds in economy<br>Role of leasing industry in business finance                                   | To have right understanding how modern business is changing and what are the new trends in business finance                           |

### Evaluation Method

| Unit              | Internal Evaluation (30Marks)                                                                                                                                                                               | Suggested Add on Course                  |
|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|
| <b>Unit – I</b>   | MCQ on role and importance of finance and business ,Discuss/debate on implications of finance on business success , Presentations on assessing financial need and financial needs in business               | <b>Basic course in Financial markets</b> |
| <b>Unit – II</b>  | Comparative analysis of various sources of finance -Selecting a right source of finance for different business and projects, MCQ on various sources of finance.                                             |                                          |
| <b>Unit – III</b> | MCQ on determinants of capital structure ,Cases study on over and under capital structure<br>Designing on over and under capital structure ,Practical problems on estimating capital requirements of a firm |                                          |
| <b>Unit – IV</b>  | MCQ on Concepts ,applications on Capital, Leasing, Microfinance, Mutual Fund ,Presentations on utility of venture capital and leasing in business , Profile of successful micro financing institutions      |                                          |
|                   |                                                                                                                                                                                                             |                                          |

### Suggested References

| Sr. No. | Title of the Book                                                     | Author/s                                           | Publication                               | Place            |
|---------|-----------------------------------------------------------------------|----------------------------------------------------|-------------------------------------------|------------------|
| 1       | <b>Financial management – Theory and Practice</b>                     | <b>Prasanna Chandra</b>                            | <b>McGraw Hill Education</b>              | <b>New Delhi</b> |
| 2       | <b>Financial Management</b>                                           | <b>I.M. Pandey</b>                                 | <b>Vikas Publishing House Pvt. Ltd.</b>   | <b>New Delhi</b> |
| 3       | <b>Financial Management</b>                                           | <b>Rajiv Srivastava , Anil Misra</b>               | <b>Oxford – University Press</b>          | <b>New Delhi</b> |
| 4       | <b>Financial Management</b>                                           | <b>P.V. Kulkarni , B.G. Satyaprasad</b>            | <b>Himalaya Publishing House</b>          | <b>Mumbai</b>    |
| 5       | <b>Fundamentals of Financial management</b>                           | <b>James C. Van Horne , John M. Wachowicz , JR</b> | <b>Prentice Hall of India Pvt. Lit.</b>   | <b>New Delhi</b> |
| 6       | <b>Financial management Comprehensive Text Book with Case Studies</b> | <b>Ravi M. Kishore</b>                             | <b>Taxmann's</b>                          | <b>New Delhi</b> |
| 7       | <b>Financial management – recent Trends In Practical Application</b>  | <b>Chandra Hariharanlyer</b>                       | <b>International Book House Pvt. Ltd.</b> | <b>Mumbai</b>    |

**Savitribai Phule Pune University**  
**Question Paper Pattern 2019 for FY BBA**  
**University Examination**  
**Principles of Finance**  
**Code no -203**

|                                      |            |
|--------------------------------------|------------|
| <b>Q.1. (A) Write true or false</b>  | <b>5M</b>  |
| <b>Q.1. (B) Fill in the blanks</b>   | <b>5M</b>  |
| <b>Q.2 Write short notes (Any 3)</b> | <b>15M</b> |
| <b>Solve Any 3</b>                   |            |
| <b>Q.3 Long question</b>             | <b>15M</b> |
| <b>Q.4 Long question</b>             | <b>15M</b> |
| <b>Q.5 Long question</b>             | <b>15M</b> |
| <b>Q.6 Long question</b>             | <b>15M</b> |
| <b>Q.7 Long question</b>             | <b>15M</b> |

**Savitribai Phule Pune University**  
**FY BBA Semester II (CBCS) Pattern 2019**  
**Basics of Cost Accounting**  
**Course code 204**  
**Credit 3**

**Depth of the syllabus** – Reasonable working knowledge

**Objectives**

1. To develop rational understanding regarding concept of cost expenditure in business
2. To develop understanding how overheads influence the cost structure of cost
3. To develop skills for computation of total cost for a particular product

| Unit No. | Unit Title                             | Contents                                                                                                                                                                                                             | Purpose and Skills to be developed                                                                                                                                                                                                                        |
|----------|----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1        | <b>Basic concept in cost –</b>         | Concept of Cost, Costing, Cost Accounting & Cost Accountancy , Origin, Objectives and Features of Cost Accounting , Difference between Financial and Cost Accounting, Conceptual analysis of Cost Unit & Cost Centre | To understand importance of costing in decision making<br><br>Ability to understand importance of costing and role of costing                                                                                                                             |
| 2        | <b>Elements of cost and Cost Sheet</b> | Material, Labour and other Expenses,<br><br>Classification of Cost & Types of Costs,<br><br>Preparation of Cost Sheet                                                                                                | To understand how to prepare a cost statement and analyze implication of elements of cost on total cost Ability to examine different aspects of cost as they influence total cost structure and sales price. Ability to prepare comprehensive cost sheet. |
| 3.       | <b>Overheads</b>                       | Meaning and Definitions, Classification of Overheads, Collection, allocation, apportionment and reapportionment of overheads 3.4 Under and over absorption – Definition and Reasons                                  | To understand concept of overhead as it contributes to total cost of a product or service<br><br>Ability to ascertain ability to distinguish different types of overheads as it influences the total cost in a given situation                            |

|           |                                                        |                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-----------|--------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>4.</b> | <b>Contact and process cost and Methods of costing</b> | Contract Costing – Meaning and features of contract costing, works certified and uncertified, escalation clause, cost plus contract, work in progress, profit on incomplete contract , Process Costing - Meaning, Features of process costing, preparation of process costing including Normal and Abnormal Loss/Gains, | <p>To understand role of contract costing in ascertaining cost of a particular project or activity</p> <p>To know how cost is ascertained for different types of processes</p> <p>To develop ability to ascertain cost of a particular contract under different circumstances.</p> <p>To learn how cost of a particular process is ascertained especially in case of single or multiple process as well as for joint products.</p> |
|-----------|--------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

| Unit & teaching Hours | Innovative methods to be used                                                                                                       | AV Applications                                                | Project                                                                                                   | Expected Outcome                                                                                                           |
|-----------------------|-------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|
| <b>Unit I -12</b>     | Demonstration of costing as basic decision input                                                                                    | Film on costing                                                | Preparing a statement of cost , understanding different aspects cost and financial accounting             | How to use cost of concept                                                                                                 |
| <b>Unit II - 12</b>   | NA                                                                                                                                  | Videos on methods of determination of cost                     | Analysis of cost statement of different types of manufacturing units                                      | Development of basic ability to think about cost as an ingredient of price mechanism                                       |
| <b>Unit III- 14</b>   | Practical problems on computation of overhead and relationship between different overheads as they affect the total cost structure. | Video on ‘Role of different overheads in total cost structure’ | To ascertain different components of overheads and identify how overheads brings difference in total cost | To develop competence, to prepare comprehensive cost sheet and understand implication of overheads on total cost structure |



|                     |                                                                                      |                                     |                                                                                                                                                                          |                                                                                                          |
|---------------------|--------------------------------------------------------------------------------------|-------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|
| <b>Unit IV - 10</b> | To learn about contract and process cost and to learn practical aspects of the above | Videos on contract and process cost | Project on development contact cost system for a particular project. Analysis of various elements of cost associated with multi process products in manufacturing units. | Development of reasonable working knowledge of methods of ascertainment of cot of a contract or process. |
|---------------------|--------------------------------------------------------------------------------------|-------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|

### Teaching Methodology

| Unit              | Internal Evaluation (30 Marks )                                                                                                                                                                                                |
|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Unit – I</b>   | I Filling the banks and match the pairs related with different concepts of cost ,II presentations on cost accounting in different org<br>III cases study on role of cost accounting in profit determinations                   |
| <b>Unit – II</b>  | I. Application based questions on –different components elements of cost ,preparing charts on different types of cost sheet                                                                                                    |
| <b>Unit – III</b> | I. Application based questions on classification of overheads , II MCQ on concept of overheads ,III practical questions on reapportionment on classification of overheads ,Preparation of chars on classification of overheads |
| <b>Unit – IV</b>  | MCQ on contact and process cost , II interpretations based questions on different types of cost<br>III Practical based questions on contact based costing                                                                      |

### Suggested References

| Sr. No. | Title of the Book                               | Author/s                                                        | Publication                    | Place            |
|---------|-------------------------------------------------|-----------------------------------------------------------------|--------------------------------|------------------|
|         | <b>Cost Accounting and Financial Management</b> | <b>M.Y. Khan , P.K. Jain</b>                                    | <b>McGraw Hill</b>             | <b>New Delhi</b> |
|         | <b>Cost accounting Theory and practice</b>      | <b>Bhabatosh Banerjee</b>                                       | <b>PHL Learning Pvt. Ltd.</b>  | <b>New Delhi</b> |
|         | <b>Cost Accounting -</b>                        | <b>Dr. P.C. Tulsian</b>                                         | <b>S. Chand</b>                | <b>New Delhi</b> |
|         | <b>Costing Adviser</b>                          | <b>P.v.Rathnam , P. Lalitha</b>                                 | <b>Kitab Mahal</b>             | <b>Allahabad</b> |
|         | <b>Cost Accounting – A managerial Emphasis</b>  | <b>Charles T. Horngren , Srikant M. Datar , Madhav V. Rajan</b> | <b>Pearson</b>                 | <b>New Delhi</b> |
|         | <b>Advanced Cost and Management Accounting</b>  | <b>V. K. saxena , C. D. Vashist</b>                             | <b>Sultan Chand &amp; Sons</b> | <b>New Delhi</b> |
|         | <b>Cost Accounting</b>                          | <b>Jawahar Lal Seema Srivastava</b>                             | <b>McGraw Hill education</b>   | <b>New Delhi</b> |

**Savitribai Phule Pune University**  
**Question Paper Pattern (2019) for FY BBA**  
**University Examination**  
**Sub: Basics of cost accounting**  
**Code No.204**

| <b>Compulsory /Choice</b>   | <b>Name of the Question</b>                                   | <b>Marks</b>      | <b>Total Marks</b> |
|-----------------------------|---------------------------------------------------------------|-------------------|--------------------|
| <b>Compulsory Question</b>  | <b>Objective Type Question-<br/>Multiple Choice Questions</b> | <b>5</b>          | <b>15 Marks</b>    |
|                             | <b>Fill in the blanks</b>                                     | <b>5</b>          |                    |
|                             | <b>Define the terms and Match<br/>the pairs</b>               | <b>5</b>          |                    |
| <b>Solve any 4 out of 5</b> | <b>Short Notes /short questions</b>                           | <b>4*5 marks</b>  | <b>20 Marks</b>    |
| <b>Q4. Solve</b>            | <b>Problems on Cost sheet</b>                                 | <b>1*15 marks</b> | <b>15 Marks</b>    |
|                             | <b>Problems on Contact costing<br/>and process costing</b>    | <b>3*10</b>       | <b>20 Marks</b>    |

**Savitribai Phule Pune University**  
**FY BBA Semester II (CBCS) Pattern 2019**  
**Business Statistics**  
**Course code 205**  
**Credit 3**

**Course Depth:** Reasonable working knowledge

**Objectives:**

1. To understand role and importance of statistics in various business situations
2. To develop skills related with basic statistical technique
3. Develop right understanding regarding regression, correlation and data interpretation

| Unit No. | Unit Title                         | Contents                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | No of Hours |
|----------|------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| 1        | <b>Frequency Distribution</b>      | 1.1 Raw data, variable, discrete variable, continuous variable, constant, attribute with illustration.<br>1.2 Classification- Concept and definition of classification, objectives of classification, types of classification.<br>1.3 Frequency Distribution- Discrete and Continuous frequency distribution, Cumulative frequency and Cumulative frequency distribution.<br>1.4 Graphs & Diagram- Histogram, Ogive curve, Pie-Diagram, Bar Diagram, Multiple bar Diagram, Sub-divided bar diagram                     | 8           |
| 2        | <b>Measure of Central Tendency</b> | 2.1 Concept and meaning of Measure of Central Tendency, Objectives of Measure of Central Tendency, Requirements of good Measure of Central Tendency.<br>2.2 Types of Measure of Central Tendency, Arithmetic Mean (A.M), Median, Mode for discrete and Continuous frequency distribution, Merits & Demerits of A.M., Median , Mode, Numerical Problem.<br>2.3 Determination of Mode and Median graphically.<br>2.4 Empirical relation between mean, median and mode.<br>2.5. Combined Mean<br>2.6. Numerical Problems. | 8           |

|   |                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |    |
|---|-------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|
|   |                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |    |
| 3 | <b>Measure of Dispersion</b>        | 3.1 Concept and meaning of Measure of dispersion, Requirements of good Measure of dispersion.<br>3.2 Types of Measure of Dispersion- Absolute & Relative Measure dispersion (Range, Standard Deviation (S.D.), Variance, Quartile Deviation, Coefficient of Range, Coefficient of Quartile Deviation, and Coefficient of Variation (C.V).<br>3.4. Combined Standard Deviation<br>3.5 Numerical Problems                                                                                    | 10 |
| 4 | <b>Correlation &amp; Regression</b> | 4.1. Concept and meaning of Correlation, Types of correlation.<br>4.2. Methods to study Correlation:- Scatter Diagram, Karl Pearson correlation coefficient, Spearman Rank Correlation Coefficient ( with Repeated Ranks)<br>4.3 Numerical Problems on Correlation<br>4.4 Regression- Concept and meaning of regression, lines of regression equation of Y on X and X on Y.<br>4.5 Regression coefficients, properties of regression coefficients,<br>4.6 Numerical problems on Regression | 12 |
| 5 | <b>Index Numbers</b>                | 5.1 Concept and meaning of Index Number, Notations<br>5.2 Construction of Price Index Number, Problems in the construction of Index Number, Cost of Living Index Number (CLI), Family Budget Index Number<br>5.3 Uses of Index Number<br>5.4. Numerical Problems.                                                                                                                                                                                                                          | 10 |

#### Suggested References

| Sr. No. | Title of the Book                                       | Author/s                | Publication               | Place     |
|---------|---------------------------------------------------------|-------------------------|---------------------------|-----------|
| 1       | Business Statistics                                     | Girish Phatak           | Tech – Max                | Pune      |
| 2       | Statistics for Business                                 | Dr. S. K. Khandelwal    | International Book House  | New Delhi |
| 3       | Fundamentals of Business Statistics                     | J.K. Sharma             | Pearson                   | New Delhi |
| 4       | Business Statistics                                     | G.C. Beri               | The McGraw-Hill companies | New Delhi |
| 5       | Statistics Theory and Practice                          | R.S. N. PillaiBagavathi | S. Chand                  | New Delhi |
| 6       | Statistics for Managerial decision Making               | Dr. S. K. Khandelwal    | International Book House  | New Delhi |
| 7       | Business Statistics<br>For Contemporary Decision Making | Ken Black               | Wiley India Edition       | New Delhi |

|   |                            |            |                            |        |
|---|----------------------------|------------|----------------------------|--------|
| 8 | Fundamentals of statistics | S.C. Gupta | Himalaya Publication House | Mumbai |
|---|----------------------------|------------|----------------------------|--------|

**Savitribai Phule Pune University**  
**Question Paper Pattern (2019) for FY BBA**  
**University Examination**  
**Sub: Business Statistics**  
**Code No.205**

MAXMARKS:-70

Instructions:

- I. All question are compulsory
- II. Figures to the right indicate full marks.
- III. Notations & abbreviations have their usual meaning
- IV. Simple calculator is allowed

Q1.A) Fill in the blanks [2 X 5=10]

B) State whether the following statements are True OR False: [2 X 3=6]

Q2. Attempt any four of the following (Four out of Six) [4 X4=16]

Q3. . Attempt any four of the following (Four out of Six) [4 X4=16]

Q4. . Attempt any four of the following (Four out of Six) [4 X4=16]

Q5 Attempt any one of the following (One out of Two) [1 X 6=6]

**Savitribai Phule Pune University**  
**FY BBA Semester II (CBCS) Pattern 2019**  
**Fundamentals of Computers**  
**Course code 206**  
**Credit 4**

**Depth of the course - Reasonable working knowledge**

**Objectives:**

1. To develop concept of information and their role in modern businesses
2. To develop rational approach as to how computers can be used in data process analysis in business
3. To develop understanding regarding cautions to be taken security, safety and security while using net based service

| Unit No. | Unit Title                       | Contents                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Purpose and Skills to be developed                                                                                                                       |
|----------|----------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1        | <b>Introduction to Computers</b> | Introduction, Characteristics of Computers, Block diagram of computer, Booting Process, Types of Programming Languages-Machine Languages, Assembly Languages, High Level Languages, Data Organization, Drives, Files, Directories, Storage Devices, Primary Memory, RAM , ROM, Secondary Storage Devices - FD, CD, HDD, Pen drive<br>I/O Device- Monitor<br>and types of monitor, Printer and types of printer, Scanners, Digitizers, Plotters<br>Number Systems-Introduction to Binary, Octal, Hexadecimal system<br>Types of computers | To understand role and importance of computers in business processes<br><br>To develop understanding regarding role of computers in business operations. |

|           |                                                                       |                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                             |
|-----------|-----------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>2</b>  | <b>Basics of Computer Networks &amp; Internet</b>                     | <p>Definition-Operating System, Functions of O.S., Types of O. S. – Single user O.S., Multiuser O.S., Overview of Windows O. S., Android O. S., IOS</p> <p>Definition, Goals, Applications, Components, Topology, Types of Topology, Types of Networks, LAN, MAN, WAN,</p>                                                                                 | <p>To understand the importance of operating system</p> <p>To understand structure and modeling of computer networking and data communication in business process.</p> <p>To develop understanding regarding usage, functionality and services provided by operating system in business processes.</p> <p>To develop understanding regarding need, structure and working of computer networking in business operations.</p> |
| <b>3.</b> | <b>Introduction to Spreadsheet Software and Presentation Software</b> | <p>MS-Excel<br/>Various Functions such as<br/>Sum, average, count, max, min, Graph / Charts in Ms Excel<br/>MS–PowerPoint: Animation Effects, Transition Effects, Slide Show Setting</p>                                                                                                                                                                   | <p>To learn the process for usage of different computer application in business processes.</p> <p>To develop skills and ability to handle different applications in business process.</p>                                                                                                                                                                                                                                   |
| <b>4</b>  | <b>Introduction to Internet &amp; cyber security</b>                  | <p>WWW, Internet, Internet Service Providers(ISP), Services Provided by the Internet: e-mail, search engine, Information security overview – Background and current scenario<br/>Types of Attacks , Goals of security ,Overview of security threats ,Weak / Strong passwords and password cracking<br/>Insecure Network connections, Digital signature</p> | <p>To understand cautions and stapes to be taken and net based services.</p> <p>Ability to handle various software and programmes with due cautions and care.</p>                                                                                                                                                                                                                                                           |



## Teaching Methodology

| Teaching hours | Innovative methods to be used                                                                                   | AV Applications                                                                | Project                                                                                                                                          | Expected Outcome                                                                                                                       |
|----------------|-----------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|
| 11             | Demonstrations and hands-on experience<br>Practical exposure regarding usages of computers                      | Films on role of computers in business decision making                         | Role of computers in simplifications of business activities<br>Projects on importance of computers in business data analysis.                    | Proficiency in applying computers in business activities like data processing<br>Tabulation ,data analysis<br>And presentation of data |
| 12             | Demonstration and on experience exposure regarding set up of networks like client server architecture, LAN etc. | Films on role of networking in business communication, environment and process | Role of networking system in simplifications of business activities.<br>Projects on importance of Computer network in business Processes.        | Proficiency in set up of Different structure computer network in business environment.                                                 |
| 11             | Demonstration and on experience regarding usage of MS-Excel, MS-Power Point.                                    | Films on Spreadsheets and Presentation                                         | Role of Spreadsheets in simplifications of business activities Projects on importance of spread sheets in business data analysis and processing. | Proficiency in handling of different applications, preparation of power point Presentation.                                            |
| 11             | Demonstrations hands on experience and care to be taken while using computers and charts and checklist.         | Films on cyber security                                                        | Case studies on implications on cyber-attacks and Loss due to improper cyber activities.                                                         | Proficiency in usages in processing and transmission of data through computers and internet.                                           |

|                   |                                                        |
|-------------------|--------------------------------------------------------|
| <b>Evaluation</b> | <u>Internal 30 Marks</u><br><u>External - 50 Marks</u> |
|-------------------|--------------------------------------------------------|

#### Suggested References

| Sr. No. | Title of the Book                 | Author/s         | Publication               | Place     |
|---------|-----------------------------------|------------------|---------------------------|-----------|
| 1       | Introduction to Computer Security | Matt Bishop ,    | Pearson                   | New Delhi |
| 2       | Computer Organization             | G.V. Anjaneyulu  | Himalaya Publishing House | Mumbai    |
| 3       | Fundamentals of Computers         | V. Rajaraman     | PHI Learning              | New Delhi |
| 4       | Computer fundamentals             | Pradeep K. Sinha | BPB Publications          | New Delhi |

**Savitribai Phule Pune University**  
**FY BBA Semester II (CBCS) Pattern 2019**  
**Course Title: Fundamentals of Computers**  
**Course Code 206**  
**Credit 1**

**Supplementary Guidelines for conducting BBA CBCS**

**Demo Lecture for the following topics by the teachers. The students are supposed to submit a written assignment and Presentations on the given topics.**

**The evaluation of students must be on the following grounds. (20 marks)**

1. Understanding of the subject
2. Content
3. Selections of the topic and application of the theory
4. Overall confidence & Presentation skills

**Note:**

**Students should be well informed about the tutorials and sufficient time must be given to the students to fulfill the requirements of the tutorials.**

1. Prepare a Power point presentation on “Mobile Shoppe”.
2. Prepare a Power point presentation on “New Product Launch”.
3. Prepare a Power point presentation on “Monsoon Sale Dhamaka”.
4. Using any spreadsheet package creates worksheet to calculate the balance of customer from bank after depositing and withdrawing some amount.

(take 10 suitable records)

| Account No. | Withdraw | Deposits | Balance |
|-------------|----------|----------|---------|
|             |          |          |         |

Calculate and display the following

- Maximum Balance - Minimum Balance
- Average Balance - Total No. of Accounts

5. Using any popular spreadsheet package, prepare a worksheet to calculate the monthly total salary of an Employee if basic salary is given (take 10 suitable records).

| Name of Employee | Basic Salary | HRA | DA | IT | PF | Net |
|------------------|--------------|-----|----|----|----|-----|
|                  |              |     |    |    |    |     |

Total Salary=Basic Salary+DA+HRA

HRA=15%of Basic Salary

DA=10% of Basic Salary

PF=8.33% of Basic Salary

IT=30% of Basic Salary

Net Salary=Basic+DA+HRA-(IT+PF)

6. Apply for New Passport using e-Seva.
7. Use of Internet for Railway Ticket Booking.
8. Online application for Driving License.

Revised syllabi (2019Pattern) for three years B. Com. Degree course (CBCS)

Semester :- I

Subject :- Techniques of Account Writing

Syllabus for B. Com. Semester –I

Subject Name :- - **TECHNIQUES OF ACCOUNTS WRITING**

Course code :- TAW

Credit 3

Depth of the program – fundamental Knowledge

Objective of the Program

1. To create awareness about general commercial transactions.
2. To explore the students about banking, mutual funds, share market and insurance related transactions.
3. To prepare students for various competitive examinations.

| Unit No. | Unit Title    | Contents                                                                                                                                                                                                                                                                                                       | Purpose Skills to be developed                                                        |
|----------|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| 1        | Introduction: | <ul style="list-style-type: none"><li>• Meaning and concept of Accounting and Accounts Writing.</li><li>• Meaning, Nature, Scope and Importance of Commercial Transactions.</li><li>• Principles of Accounting. (Concepts and Conventions).</li><li>• Introduction to Accounting Software.(SAP, ERP)</li></ul> | To acquaint the students with basic fundamental knowledge of commercial transactions. |

|    |                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                        |
|----|--------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|
| 2  | Banking & Banking Transactions | <ul style="list-style-type: none"> <li>• Introduction to Banks, Primary functions of Banks</li> <li>• Meaning of Nationalized, Private Sector &amp; Co-operative Banks.</li> <li>• Difference between Nationalized, Private Sector &amp; Co-operative Banks.</li> <li>• Types of Accounts (Saving A/c, Current A/c, Recurring Deposit A/c, Fixed Deposits A/c).</li> <li>• KYC Norms.</li> <li>• Concept of Mobile Banking, Net Banking, (UPI), Debit and Credit Cards.</li> <li>• RTGS, NEFT, TDR, STDR.</li> </ul> | To develop the skill of handling banking transactions. |
| 3. | Loans and Advances             | <ul style="list-style-type: none"> <li>• Meaning of loans and Advances</li> <li>• Difference between Loans and Advances</li> <li>• Overdraft facility, Cash Credit, Hypothecation, Advance against FDR.</li> </ul> <p>Car Loan, Personal Loan, Housing Loan, Gold Loan.</p>                                                                                                                                                                                                                                          | To understand the loans and advances.                  |
| 4. | Insurance                      | <ul style="list-style-type: none"> <li>• Meaning of Life Insurance</li> <li>• Meaning of General Insurance</li> <li>• Schemes of Life Insurance: Endowment Plan, Term Insurance, Unit Linked Plans, Surrender Value, Maturity.</li> </ul> <p>Schemes of General Insurance: Shop, House, Car/Vehicles, Fire Insurance.</p>                                                                                                                                                                                            | To develop the decision making skills.                 |

#### Teaching methodology

| Topic No. | Total Lectures | Innovative methods to be used | Film shows and AV Applications | Project/Practical    | Expected Outcome                                                                                                  |
|-----------|----------------|-------------------------------|--------------------------------|----------------------|-------------------------------------------------------------------------------------------------------------------|
| 1         | 12             | Teaching in class             | Power point Presentations      | Accounting Procedure | <ul style="list-style-type: none"> <li>• To understand the procedure to prepare the books of accounts.</li> </ul> |

|   |    |                                 |                           |                                     |                                                                                                                                                                                |
|---|----|---------------------------------|---------------------------|-------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2 | 12 | Group discussion and role play  | Power point Presentations | Account Opening with Bank           | <ul style="list-style-type: none"> <li>To study the banking functions.</li> <li>To study the necessary documents required for opening an Account in the Bank.</li> </ul>       |
| 3 | 12 | Guest lecture/ visit            | Power point Presentations | Loans and Advances from Banks       | <ul style="list-style-type: none"> <li>To study and understand the documentation related to loans and Advances</li> </ul>                                                      |
| 4 | 12 | Classroom lecture/Guest lecture | Power point Presentations | Life insurance or General Insurance | <ul style="list-style-type: none"> <li>To understand the concept of life or general insurance.</li> <li>To collect information of at least one life insurance plan.</li> </ul> |

#### Method of Evaluation

| Subject    | Internal Evaluation                       | External Evaluation                     | Suggested Add on Course |
|------------|-------------------------------------------|-----------------------------------------|-------------------------|
| Unit – I   | Internal Continuous assessment : 30 marks | University Theory Examination: 50 marks | -                       |
| Unit – II  |                                           | University practical Exam: : 20 Marks   |                         |
| Unit – III |                                           | Total                                   |                         |
| Unit – IV  |                                           | 70 marks                                |                         |

## References

| Sr. No. | Title of the Book                     | Author/s                        | Publication                       | Place      |
|---------|---------------------------------------|---------------------------------|-----------------------------------|------------|
| 1.      | Principles and Practice of Accounting | P.C. Tulsian and Bharat Tulsian | Bharat Law House Private Ltd      | New Delhi  |
| 2.      | Banking Law and Practice              | Sukhvinder Mishra               | Sultan Chand and Sons Publication | New Delhi  |
| 3.      | Banking Law and Practice,             | Varshney                        | Sultan Chand and Sons Publication | New Delhi  |
| 4.      | Investment Management                 | Preeti Singh                    | Sultan Chand and Sons Publication | New Delhi. |
| 5.      |                                       |                                 |                                   |            |
| 6.      |                                       |                                 |                                   |            |
| 7.      |                                       |                                 |                                   |            |
| 8.      |                                       |                                 |                                   |            |



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Please mail completed file to [associatedean.sppu@gmail.com](mailto:associatedean.sppu@gmail.com)

Syllabus for B. Com. Semester –II  
Subject Name :- -      **TECHNIQUES OF ACCOUNTS WRITING**

Course code :- TAW  
Credit 3

Depth of the program – fundamental Knowledge

Objective of the Program

1. To impart knowledge related to various taxes & other relevant statutes in day-to-day working of business.
2. To prepare the students for becoming an independent businessman or a consultant.
3. To Make the students self employable.

| Unit No. | Unit Title | Contents                                                                                                                                                                                                                         | Purpose Skills to be developed                                                                      |
|----------|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|
| 1        | Taxation   | <ul style="list-style-type: none"><li>• Meaning of Tax, Direct and Indirect Tax</li><li>• Need of Tax.</li><li>• Difference between Direct and Indirect tax.</li><li>• Introduction to Income tax Act and Finance Act.</li></ul> | To create general awareness about taxation and understand the basic terminology related to taxation |
| 2        | Direct Tax | <ul style="list-style-type: none"><li>• Meaning and concept of Direct Tax: Income Tax.</li><li>• Heads of Income.</li><li>• IT returns procedure.</li><li>• Deductions under chapter VI-A( 80C, 80D, 80E, 80G)</li></ul>         | To develop the skill to understand the IT returns procedure.                                        |

|    |                                          |                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                       |
|----|------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| 3. | Indirect tax                             | <ul style="list-style-type: none"> <li>• Meaning of Goods and Service Tax</li> <li>• Basic Knowledge of GST, Concept of Goods, Service, Dual taxation System, Input Credit tax and output tax.</li> <li>• GST Returns- Procedure of filing GST returns.</li> <li>• Basic problems of CGST and SGST.</li> </ul>                                                                                                         | To develop the skill to file GST returns and understand the basic calculation of GST. |
| 4  | Share Market Transactions & Mutual Fund: | <ul style="list-style-type: none"> <li>• Concept of share market, Primary and Secondary Market.</li> <li>• Meaning of Demat A/c.</li> <li>• Procedure of Purchase and selling of shares.</li> <li>• Meaning of Mutual fund</li> <li>• Concept of Open Ended Funds, Close Ended Funds, Equity Linked Savings Scheme (ELSS), Systematic Investment Plan (SIP), Liquid funds</li> <li>• Net Assets Value (NAV)</li> </ul> | To acquaint students with the share trading concepts.                                 |

#### Teaching methodology

| Topic No. | Total Lectures | Innovative methods to be used       | Film shows and AV Applications | Project/Practical     | Expected Outcome                                                                                                                                                           |
|-----------|----------------|-------------------------------------|--------------------------------|-----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1         | 12             | Teaching in class                   | Power point Presentations      | Taxation              | <ul style="list-style-type: none"> <li>• To understand the concept of taxation.</li> <li>• To study the difference between direct and indirect tax.</li> </ul>             |
| 2         | 12             | Guest Lecture/ Classroom discussion | Power point Presentations      | Income Tax            | <ul style="list-style-type: none"> <li>• To study the concept of Income tax</li> <li>• To Collect &amp; study ITR -1, &amp; self-Assessment challan.</li> </ul>            |
| 3         | 12             | Guest lecture/ visit                | Power point Presentations      | Goods and Service Tax | <ul style="list-style-type: none"> <li>• To study the concept of GST.</li> <li>• To collect &amp; study GST return.</li> <li>• To study the calculation of GST.</li> </ul> |

|   |    |                                       |                           |              |                                                                                                                                             |
|---|----|---------------------------------------|---------------------------|--------------|---------------------------------------------------------------------------------------------------------------------------------------------|
|   |    |                                       |                           |              | <ul style="list-style-type: none"> <li>To understand how to file R-1 and 3B returns.</li> </ul>                                             |
| 4 | 12 | Classroom lecture/Guest lecture/visit | Power point Presentations | Mutual Funds | <ul style="list-style-type: none"> <li>To Study the concepts of Mutual Funds</li> <li>To study any five schemes of Mutual Funds.</li> </ul> |

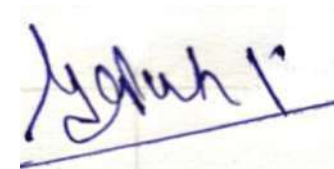
### Method of Evaluation

| Subject    | Internal Evaluation                       | External Evaluation                     | Suggested Add on Course |
|------------|-------------------------------------------|-----------------------------------------|-------------------------|
| Unit – I   | Internal Continuous assessment : 30 marks | University Theory Examination: 50 marks | -                       |
| Unit – II  |                                           | University practical Exam: : 20 Marks   |                         |
| Unit – III |                                           | Total                                   |                         |
| Unit – IV  |                                           | 70 marks                                |                         |

## References

| Sr. No. | Title of the Book                                   | Author/s                                     | Publication                       | Place     |
|---------|-----------------------------------------------------|----------------------------------------------|-----------------------------------|-----------|
| 1.      | Principles and Practice of Accounting               | P.C.Tulsian and Bharat Tulsian               | Bharat Law House Private Ltd      | New Delhi |
| 2.      | Taxmann, Students guide to Income Tax Including GST | Dr. Vinod Singhania and Dr. Monica Singhania | Taxmann Publication Private Ltd   | New Delhi |
| 3.      | Financial Services                                  | Punit Pandya                                 | Mc Graw Hill Education.           | New Delhi |
| 4.      | Investment Management                               | Preeti Singh                                 | Sultan Chand and Sons Publication | New Delhi |

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**Prof. Dr. Gangadhar V. Kayandepatil**  
**Chairman**  
Steering Committee  
**Savitribai Phule Pune University, Pune**

Revised syllabi (2019Pattern) for three years B. Com. Degree course (CBCS)

Semester :- **I**

Subject :- **Business Mathematics - I**

1. Preamble :

Mathematics is an important part of managing business. Business mathematics is used by commercial enterprises to record and manage business operations. Commercial organizations use mathematics in Accounting, Inventory management, marketing, sales forecasting and Financial analysis. The syllabus covers the foundational aspects of Mathematics and also develops the requisite professional skills in business by using Mathematics.

Objectives of the course :

- To Prepare for Competitive examination.
- To develop arithmetical and numerical abilities.
- To develop the abilities to apply the mathematical concepts to real life problems in commerce, economics and management.
- To develop logic and quantitative thinking.

Syllabus for B. Com. Semester –I  
 Subject Name :- **Business Mathematics - I**  
 Course code :- **B.M.-I**  
 Credit 3

Depth of the program – fundamental Knowledge

Objective of the Program

1. To prepare for production cost calculation.
2. To increase price determination ability.
3. To prepare for profit measurement.
4. Use to improve for Financial analysis.

| Unit No. | Unit Title                                         | Contents                                                                                                                                                                       | Purpose Skills to be developed                                                                                                                               |
|----------|----------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.       | Percentage, Ratio and Proportion:                  | simple problems on percentage, ratio and proportion.                                                                                                                           | To develop ideas about compare the quantities with the help of Ratio, Proration and percentage.                                                              |
| 2.       | a) Profit and Loss:<br><br>b) Shares and Dividend: | Cost price, Selling price, Market price, Trade and Cash discount.<br><br>Types of Shares, Face value and Market value of Shares, Debentures and examples.                      | This chapter deals with various aspects relating to transactions of sales and purchases.<br><br>To prepare necessary knowledge about share and share market. |
| 3.       | Interest:                                          | Simple interest, Compound interest- Compounded Monthly, Quarterly, Half yearly, Annually. Simple Annuity and problems. EMI- Flat rate of interest and reducing balance method. | Learn the practical application of simple and compound interest in real life.                                                                                |
| 4.       | Matrix algebra:                                    | Types of Matrices, algebra of matrices, Determinant of matrix, co-factors and minors of matrix, Inverse of matrix (2 <sup>nd</sup> , 3 <sup>rd</sup> order).                   | To prepare basic ideas of matrices and its applications.                                                                                                     |

### Teaching methodology

| Topic No. | Total Lectures | Innovative methods to be used                                               | Film shows and AV Applications | Practical's                                                        | Expected Outcome                                                                                                                                                      |
|-----------|----------------|-----------------------------------------------------------------------------|--------------------------------|--------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.        | 3              | Lectures, Power Point Presentations, Problem Solving sessions, Discussions. | Lecture Videos on You Tube.    | 1 practical on Topic No. 1                                         | On Completion of this course, students will be able to: 1) Explore Theoretical approach in Practical situations.<br>2) Use effectively all this concepts in Business. |
| 2.        | 6+4=10         |                                                                             |                                | 1 practical on Topic No. 2 a) and<br>1 practical on Topic No. 2 b) |                                                                                                                                                                       |
| 3.        | 5              |                                                                             |                                | 1 practice on Topic No. 3                                          |                                                                                                                                                                       |
| 4.        | 6              |                                                                             |                                | 1 practice on Topic No. 4                                          |                                                                                                                                                                       |

### Method of Evaluation

| Subject    | Internal Evaluation<br>Unit tests – 30 Marks                               | External Evaluation<br>70 marks                                          | Suggested Add on Course |
|------------|----------------------------------------------------------------------------|--------------------------------------------------------------------------|-------------------------|
| Unit – I   | Unit test – on Topic No. 1-5 Marks                                         | 50 marks Theory Examination + 20 marks Practical Examination = 70 marks. | -----                   |
| Unit – II  | Unit test on topic No. 2 a)-5 Marks<br>Unit test on topic No. 2 b)-5 Marks |                                                                          |                         |
| Unit – III | Unit test – on Topic No. 3 -10 Marks                                       |                                                                          |                         |
| Unit – IV  | Unit test – on Topic No. 4- 5 Marks                                        |                                                                          |                         |

## References

| Sr. No. | Title of the Book                                                                    | Author/s    | Publication                          | Place |
|---------|--------------------------------------------------------------------------------------|-------------|--------------------------------------|-------|
| 1.      | Practical Business Mathematics by S.A. Bari<br>( New Literature publishing company). | S.A. Bari   | New Literature publishing<br>company | _____ |
| 2.      | Business Mathematics by V.K. Kapoor<br>( Sultan Chand and Sons ).                    | V.K. Kapoor | Sultan Chand and Sons.               | _____ |
| 3.      | Text book of Business Mathematics.                                                   | _____       | Nirali Publication                   | _____ |

### Suggested references

#### Web reference

| Sr. no | Lectures | Films | Animation | PPTs | Articles                      | Others           |
|--------|----------|-------|-----------|------|-------------------------------|------------------|
| 1.     | 3        | -     | -         | 1    | Search Articles<br>on Google. | Reference Books. |
| 2.     | 10       | -     | -         | 1    |                               |                  |
| 3.     | 5        | -     | -         | 1    |                               |                  |
| 4.     | 6        | -     | -         | 1    |                               |                  |

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Revised syllabi (2019Pattern) for three years B. Com. Degree course (CBCS)

Semester :- **II**

Subject :- **Business Mathematics - II**

2. Preamble :

Mathematics is an important part of managing business. Business mathematics is used by commercial enterprises to record and manage business operations. Commercial organizations use mathematics in Accounting, Inventory management, marketing, sales forecasting and Financial analysis. The syllabus covers the foundational aspects of Mathematics and also develops the requisite professional skills in business by using Mathematics.

Objectives of the course

- To Prepare for Competitive examination.
- To develop arithmetical and numerical abilities.
- To develop the abilities to apply the mathematical concepts to real life problems in commerce, economics and management.
- To develop logic and quantitative thinking.

Syllabus for B. Com. Semester –II  
 Subject Name :- **Business Mathematics - II**  
 Course code :- **B.M.-II**

Credit 3

Depth of the program – fundamental Knowledge

Objective of the Program

5. To prepare for production cost calculation.
6. To increase price determination ability.
7. To prepare for profit measurement.
8. Use to improve for Financial analysis.

| Unit No. | Unit Title                                                   | Contents                                                                                                                                                                                                                                                                           | Purpose Skills to be developed                                                                                                    |
|----------|--------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|
| 1.       | System of linear equations:                                  | System of linear equations in matrix form, Solution of system of linear equations by Cramer's rule and matrix inverse method.                                                                                                                                                      | To build the necessary skill for solving linear equation by matrix method.                                                        |
| 2.       | Set Theory:                                                  | Definition of Set, Presentation of Set, Types of Set- Null set, Finite set, Infinite set, Universal set, Subset, Power set. Operation on sets, Law's of algebra of sets.                                                                                                           | To know about basic of set theory.                                                                                                |
| 5.       | a) Function, Limit and Continuity:<br><br>b) Derivative :    | Concept of standard functions, Even and Odd functions, Limit of simple function and simple problems. Continuity of function at point and simple problems.<br><br>Derivatives of simple algebraic functions, Simple problems. Application of derivatives in Economics and Commerce. | To prepare necessary knowledge for calculus and to study about its applications in commerce.                                      |
| 6.       | a) Counting Techniques:<br><br>b) LPP (Up to Two variables): | Counting Principles, Permutation and Combination.<br><br>Formulation of L.P.P. and solution by Graphical method.                                                                                                                                                                   | To develop skill for counting's using permutations and combinations.<br><br>To help students for formulation and solution of LPP. |

### Teaching methodology

| Topic No. | Total Lectures | Innovative methods to be used                                               | Film shows and AV Applications | Practical's                                                        | Expected Outcome                                                                                                                                                      |
|-----------|----------------|-----------------------------------------------------------------------------|--------------------------------|--------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.        | 4              | Lectures, Power Point Presentations, Problem Solving sessions, Discussions. | Lecture Videos on You Tube.    | 1 practical on Topic No. 1                                         | On Completion of this course, students will be able to: 1) Explore Theoretical approach in Practical situations.<br>2) Use effectively all this concepts in Business. |
| 2.        | 5              |                                                                             |                                | 1 practical on Topic No. 2                                         |                                                                                                                                                                       |
| 3.        | 5+5=10         |                                                                             |                                | 1 practical on Topic No. 3 a) and b). combined.                    |                                                                                                                                                                       |
| 4.        | 3+2=5          |                                                                             |                                | 1 practical on Topic No. 4 a) and<br>1 practical on Topic No. 4 b) |                                                                                                                                                                       |

### Method of Evaluation

| Subject    | Internal Evaluation<br>Unit tests – 30 Marks             | External Evaluation<br>70 marks                                          | Suggested Add on Course |
|------------|----------------------------------------------------------|--------------------------------------------------------------------------|-------------------------|
| Unit – I   | Unit test –on Topic No. 1-5 Marks                        | 50 marks Theory Examination + 20 marks Practical Examination = 70 marks. | _____                   |
| Unit – II  | Unit test –on Topic No. 2-10 Marks                       |                                                                          |                         |
| Unit – III | Unit test –on Topic No. 3-10 Marks Combined on a) and b) |                                                                          |                         |
| Unit – IV  | Unit test –on Topic No. 4-5 Marks Combined on a) and b)  |                                                                          |                         |

## References

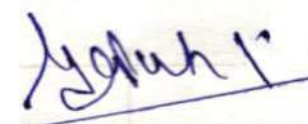
| Sr. No. | Title of the Book                                                                    | Author/s    | Publication                          | Place |
|---------|--------------------------------------------------------------------------------------|-------------|--------------------------------------|-------|
| 4.      | Practical Business Mathematics by S.A. Bari<br>( New Literature publishing company). | S.A. Bari   | New Literature publishing<br>company | _____ |
| 5.      | Business Mathematics by V.K. Kapoor<br>( Sultan Chand and Sons ).                    | V.K. Kapoor | Sultan Chand and Sons.               | _____ |
| 6.      | Text book of Business Mathematics.                                                   | _____       | Nirali Publication                   | _____ |

## Suggested references

### Web reference

| Sr. no | Lectures | Films | Animation | PPTs | Articles                      | Others           |
|--------|----------|-------|-----------|------|-------------------------------|------------------|
| 1.     | 4        | -     | -         | 1    | Search Articles<br>on Google. | Reference Books. |
| 2.     | 5        | -     | -         | 1    |                               |                  |
| 3.     | 10       | -     | -         | 1    |                               |                  |
| 4.     | 5        | -     | -         | 1    |                               |                  |

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**Prof. Dr. Gangadhar V. Kayandepatil**  
Chairman  
Steering Committee  
**Savitribai Phule Pune University, Pune**

Revised syllabi (2019Pattern) for three years B. Com. Degree course (CBCS)

Semester :- I

Subject :- Salesmanship and Advertising.

Syllabus for B. Com. Semester –I  
Subject Name :- Salesmanship and Advertising -I  
Course code :- SA  
Credit 3

Depth of the program – fundamental Knowledge

Objective of the Program

1. To understand the concept of Salesmanship & Advertising.
2. To understand the role of Salesman in the changing scenario in global marketing
3. To know various types of salesman and skills of successful salesman.
4. To understand various types of customers and their buying motives.

| Unit No. | Unit Title                                                                | Contents                                                                                                                                                                | Purpose Skills to be developed                                                             |
|----------|---------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|
| 1        | <b>CONCEPT OF SALESMANSHIP, ESSENTIAL SKILLS &amp; TYPES OF SALESMAN.</b> | Salesmanship, Advertising and publicity<br>Concept, Need and Importance,<br>Skills required to be a good salesman,<br>Attitude & Values of salesman, Types of salesman. | To understand the concept of salesmanship and skills required to be a successful salesman. |

|    |                                               |                                                                                                                                               |                                                                                                  |
|----|-----------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|
| 2  | <b>COSUMER PSYCHOLOGY</b>                     | Consumer Behavior-Concept, Types of Customers, Buying Motives of Customers.                                                                   | To understand consumer psychology, types of customers and buying motives of customers.           |
| 3. | <b>PROCESS OF SELLING AND SALES PROMOTION</b> | Steps in process of Selling, A.I.D.A. Model of Selling ,<br><br>Concept of Sales Promotion, Emerging techniques in consumers Sales Promotion. | a) To know steps in process of selling.<br><br>b) To know various techniques of sales promotion. |
| 4. | <b>NEW TRENDS IN ORGANISED RETAILING</b>      | Concept of Organized Retailing, Online Shopping, Brand Shops and Malls.                                                                       | To understand new trends in organized retailing.                                                 |

Teaching methodology

| Topic No. | Total Lectures | Innovative methods to be used            | Film shows and AV Applications              | Project/Practical         | Expected Outcome                                           |
|-----------|----------------|------------------------------------------|---------------------------------------------|---------------------------|------------------------------------------------------------|
| 1.        | 12             | Visit/Interview of a successful salesman | Audio visual media will be used as per need | Skills of a Good Salesman | To Study skills of successful salesman                     |
| 2.        | 12             | Guest lecture                            | Audio visual media will be used as per need | Buying Motives            | To know buying motives of customers                        |
| 3.        | 12             | Visit                                    | Audio visual media will be used as per need | Sales Promotion           | To know the latest techniques for consumer sales promotion |

|    |    |            |                                             |                  |                                                       |
|----|----|------------|---------------------------------------------|------------------|-------------------------------------------------------|
| 4. | 12 | Case Study | Audio visual media will be used as per need | Online Marketing | To understand need and importance of online marketing |
|----|----|------------|---------------------------------------------|------------------|-------------------------------------------------------|

### Method of Evaluation

| Subject    | Internal Evaluation                       | External Evaluation                     | Suggested Add on Course |
|------------|-------------------------------------------|-----------------------------------------|-------------------------|
| Unit – I   | Internal Continuous assessment : 30 marks | University Theory Examination: 50 marks | -                       |
| Unit – II  |                                           | University practical Exam: : 20 Marks   | -                       |
| Unit – III |                                           |                                         | -                       |
| Unit – IV  |                                           | Total 70 marks                          | -                       |

### References

| Sr. No. | Title of the Book                 | Author/s                                          | Publication                               | Place |
|---------|-----------------------------------|---------------------------------------------------|-------------------------------------------|-------|
| 1.      | Salesmanship and publicity        | Dr. Rustom Davar Sohrab R. Davar, Nuslir R. Davar | Vikas Publicating House Pvt. Ltd.         | -     |
| 2.      | Marketing management              | S.A.Sherlekar                                     | 16 th Edition, Himalaya Publishing House. | -     |
| 3.      | Marketing and Salesmanship        | S.A.Sherlekar                                     | Himalaya Publishing House.                |       |
| 4.      | Salesmanship and Sales Management | P.K. Sahu , K.C. Raut                             | Vikas Publication House Pvt               |       |

|    |                                   |              |                   |  |
|----|-----------------------------------|--------------|-------------------|--|
|    |                                   |              | Limited           |  |
| 5. | Personal Selling and Salesmanship | Neeru Kapoor | Pinnacle Learning |  |

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Syllabus for B. Com. Semester –II  
Subject Name :-Salesmanship and Advertising-II  
Course code :- SA  
Credit 3

Depth of the program – fundamental Knowledge  
Objective of the Program

1. To know the role of advertising in consumer oriented market.
2. To understand importance of latest media of advertising.
3. To know importance of advertising agency in making of an advertisement

| Unit No. | Unit Title                                                         | Contents                                                                                                                                                                                                                                           | Purpose Skills to be developed                                                                            |
|----------|--------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|
| 1.       | <b>ADVERTISING AND MEDIA OF ADVERTISING.</b>                       | Concept, Meaning, Need, objectives of Advertising, Merits & Limitations of Advertising, Impact of advertising on Indian Economy.<br><br>Print Media, Electronic media, outdoor Media, Social Media- Concept, Merits & limitations of every medium. | a) To get acquainted with the concept of advertising.<br>b) To understand different media of advertising. |
| 2.       | <b>ESSENTIALS OF ADVERTISEMENT COPY AND LAYOUT FOR PRINT MEDIA</b> | Concept of Layout of Ad Copy, Elements & types of AD Copy, Role of Animation in advertising.                                                                                                                                                       | c) To develop a creative thinking for preparing an advertisement for different media.                     |

|    |                                                                           |                                                                                                                                                                                                     |                                                                                                     |
|----|---------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|
| 3. | <b>APPEALS IN ADVERTISING, ROLE OF ADVERTISING AGENCY &amp; AD BUDGET</b> | Emotional, Moral and rational appeals in advertising, Ethics in Advertising.<br><br>Role of advertising agency and its functions, Concept of Ad- Budget, Essential factors for preparing AD-Budget. | a) To understand various appeals used in advertising.<br>b) To understand the working of Ad-Agency. |
| 4. | <b>EVENT MANAGEMENT</b>                                                   | Concept, Need of Event Management in present scenario, Services provided by event management company.                                                                                               | To develop various skills to manage an event.                                                       |

#### Teaching methodology

| Topic No. | Total Lectures | Innovative methods to be used | Film shows and AV Applications              | Project                      | Expected Outcome                                          |
|-----------|----------------|-------------------------------|---------------------------------------------|------------------------------|-----------------------------------------------------------|
| 1.        | 12             | Visit/Guest lecture           | Audio visual media will be used as per need | Media of advertising         | To understand different media of advertising              |
| 2.        | 12             | Visit/Guest lecture           | Audio visual media will be used as per need | Creation of an advertisement | To create an advertisement for print medium               |
| 3.        | 12             | Visit                         | Audio visual media will be used as per need | Role of AD Agency            | To know the functions of ad agency                        |
| 4.        | 12             | Visit/Guest lecture           | Audio visual media will be used as per need | Event Management             | To Know the services provided by Event Management Company |

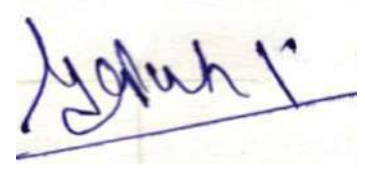
**Method of Evaluation**

| Subject    | Internal Evaluation                       | External Evaluation                                                                                      | Suggested Add on Course |
|------------|-------------------------------------------|----------------------------------------------------------------------------------------------------------|-------------------------|
| Unit – I   | Internal Continuous assessment : 30 marks | University Theory Examination: 50 marks<br>University practical Exam: : 20 Marks<br><hr/> Total 70 marks | -                       |
| Unit – II  |                                           |                                                                                                          | -                       |
| Unit – III |                                           |                                                                                                          | -                       |
| Unit – IV  |                                           |                                                                                                          | -                       |

**References**

| Sr. No. | Title of the Book                                   | Author/s                      | Publication                      | Place     |
|---------|-----------------------------------------------------|-------------------------------|----------------------------------|-----------|
| 1.      | ‘Advertising, Sales and Promotion Management’       | S.A.Chunawala                 | Himalaya Publishing House.       |           |
| 2.      | ‘Advertising Management’                            | Dr.M.M. Varma and R.K.Agrawal | Forword Book depot               |           |
| 3.      | ‘Advertising’ - A Critical Approach                 | Dr.Keval J.Kumar              | Nirali Prakashan.                |           |
| 4.      | ‘Multimedia in Practice Technology and Application’ | Judith Jeffcoate              | Prentice Hall of India Pvt. Ltd. | New Delhi |
| 5.      | ‘Advertising ,Principles & Practice’                | Ruchi Gupta                   | S. Chand.                        |           |
| 6.      | ‘Sustainable Event Management’                      | Jones Meegan                  | Google Books                     |           |

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**Prof. Dr. Gangadhar V. Kayandepatil**  
**Chairman**  
Steering Committee  
**Savitribai Phule Pune University, Pune**

## Revised Syllabus (2019 Pattern) for three years B.Com Degree Course (CBCS)

**Semester:- I & II**

**Subject:- Statistical Techniques**

### Syllabus for B.Com Semester- I & II

**Subject Name:- Statistical Techniques**

**Course Code:- Statec (Restructure)**

**Objectives:-** This subject is meant to make students understand basic concepts of Statistics, give quantitative methods of data analysis and develop in them professional skills which can be used in corporate life.

| UNIT NO.   | TITLE                                              | CONTENTS                                                                                                                                                                                                                                  | PURPOSE SKILLS TO BE DEVELOPED                                |
|------------|----------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------|
| FIRST TERM |                                                    |                                                                                                                                                                                                                                           |                                                               |
| 1          | Introduction to Statistics and Data Analysis       | Statistics – Meaning, Scope and Applications<br>Descriptive Statistics compared to Inferential Statistics<br>Types of Data<br>Summation operation<br>Rules of Sigma $\Sigma$ operations<br>Presentation of data using charts and diagrams | To get acquainted with the subject of Statistics              |
| 2          | Measure of Location and Counting Techniques        | Mean, Median, Mode (for ungrouped and grouped Data),<br>Combine mean, Weighted mean, Quartiles<br>Multiplication and Addition Principle<br>Permutation and Combination<br>Simple problems                                                 | To get idea of basics of the subject                          |
| 3          | Measure of Dispersion, Correlation and Analysis of | Measure of Dispersion: Range, coefficient of range, mean deviation from median, standard deviation, combined standard                                                                                                                     | To get idea of basics of the subject and various applications |

|                    |                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                            |
|--------------------|-------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------|
|                    | Univariate and Bivariate Data | <p>deviation, coefficient of variation(C.V.), it's applications and interpretation.</p> <p>Measure of Correlation: Introduction to Regression, Line of Regression of X on Y and Y on X, Coefficient of Regression</p> <p>Analysis of Univariate Data: Construction of frequency distribution, Concept of central tendency and dispersion – and their measures, Partition values, Moments, Skewness and measures, Kurtosis and measures</p> <p>Analysis of Bivariate data: Linear Regression, Correlation, Types of Correlation, Scatter diagram, Covariance, Karl Pearson's Coefficient of Correlation for ungrouped data and examples.</p> |                                                            |
| 4                  | Index Number                  | <p>Meaning, Types and Uses</p> <p>Methods of constructing price and quantity indices (simple and aggregate)</p> <p>Test of adequacy, Chain-base index numbers</p> <p>Base shifting, splicing and deflating</p> <p>Problems in constructing index numbers</p> <p>Consumer price index</p>                                                                                                                                                                                                                                                                                                                                                    | To get idea of index number and uses                       |
| <b>SECOND TERM</b> |                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                            |
| 5                  | Analysis of Time Series       | <p>Causes of variations in time series data</p> <p>Components of a time series</p> <p>Decomposition – additive and multiplicative models</p> <p>Determination of trend – moving averages methods and method of least squares (including linear, second degree, parabolic and exponential trend)</p> <p>Computation of seasonal indices by simple averages, ratio-to-trend, ratio-to-moving average and link relative methods</p>                                                                                                                                                                                                            | To get acquaint with time series, its data and application |
| 6                  | Forecasting and Methods       | <p>Forecasting – concept, types and importance</p> <p>General approach to forecasting</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | To study the various forecast method                       |

|   |                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                   |
|---|-----------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
|   |                                                     | Methods of forecasting<br>Forecasting demand<br>Industry Vs Company sales forecast<br>Factors affecting company sales                                                                                                                                                                                                                                                                                                              |                                                                                   |
| 7 | Theory of Probability and Probability Distributions | Theory of Probability: Probability as a concept, The three approaches to defining probability, Addition and multiplication laws of probability<br>Conditional probability, Baye's theorem, Expectation and variance of a random variable<br><br>Probability Distributions: Concept, Binomial, Poisson and Normal distributions – their properties and parameters<br>Empirical distribution – generating<br>Application to business | To get acquaint with theory of probability and probability distribution           |
| 8 | Data Interpretation                                 | Problems related to Tables, Chart, Graphs, Pie Chart (Refer UPSC Prelims Paper II – CSAT)                                                                                                                                                                                                                                                                                                                                          | To get acquaint with various practical dimension of Statistics in day-to-day life |

### Teaching Methodology for First and Second Term

| Unit No.    | Total Lectures | Innovative methods to be used       | Film shows and AV Applications | Project | Expected Outcome |
|-------------|----------------|-------------------------------------|--------------------------------|---------|------------------|
| FIRST TERM  |                |                                     |                                |         |                  |
| 1           | 12             | Guest Lecture and Group Discussion  | -----                          | -----   | -----            |
| 2           | 12             | Guest Lecture                       | -----                          | -----   | -----            |
| 3           | 12             | Guest Lecture & Library Assignments | -----                          | -----   | -----            |
| 4           | 12             | Group Discussion/ Workshop/ Visits  | -----                          | -----   | -----            |
| SECOND TERM |                |                                     |                                |         |                  |
| 5           | 12             | Guest Lecture and Group Discussion  | -----                          | -----   | -----            |
| 6           | 12             | Guest Lecture                       | -----                          | -----   | -----            |
| 7           | 12             | Guest Lecture & Library Assignments | -----                          | -----   | -----            |
| 8           | 12             | Group Discussion/ Workshop/ Visits  | -----                          | -----   | -----            |

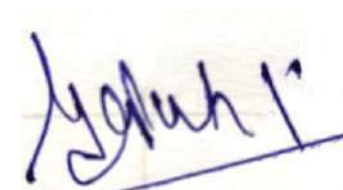


**Method of Evaluation**

| Subject     | Internal Evaluation            | External Evaluation             |
|-------------|--------------------------------|---------------------------------|
| FIRST TERM  |                                |                                 |
| Unit – I    | Internal assessment : 30 Marks | Final University exam: 70 Marks |
| Unit – II   |                                |                                 |
| Unit – III  |                                |                                 |
| Unit – IV   |                                |                                 |
| SECOND TERM |                                |                                 |
| Unit – V    | Internal assessment : 30 Marks | Final University exam: 70 Marks |
| Unit – VI   |                                |                                 |
| Unit – VII  |                                |                                 |
| Unit – VIII |                                |                                 |

## References

| Sr. No. | Title of the Book                                                  | Author/s                                              | Publication                     | Place     |
|---------|--------------------------------------------------------------------|-------------------------------------------------------|---------------------------------|-----------|
| 1.      | Basic statisticsl                                                  | Agrawal                                               | ---                             | ---       |
| 2.      | Introduction to discrete probability and Probability distribution. | M..B.Kulkarni and S.B.Ghatpande (2007)                | SIPF academy.                   | Nashik    |
| 3.      | Introduction to Statistics and Data Analysis                       | Roxy Peck, Chris Olsen, Jay L. Devore                 | Cenage Publication              | Noida     |
| 4.      | Fundamental of statistics                                          | S.C. Gupta                                            | Himalaya Publishing house)      | New Delhi |
| 5.      | First course in probability                                        | By T.K.Chandra and D.Chatterjee                       | Alpha Science International Ltd | ---       |
| 6.      | Forecasting: Methods and Applications                              | Spyros Makridakis, Steven Wheelwright, Rob J. Hyndman | Wiley                           | Noida     |



**Prof. Dr. Gangadhar V. Kayandepatil**

**Chairman**

Steering Committee

**Savitribai Phule Pune University, Pune**

## Revised Syllabus (2019 Pattern) for three years B.Com Degree Course (CBCS)

**Semester:- I & II**

**Subject:- Computer Appreciation**

### Syllabus for B.Com Semester- I & II

**Subject Name:- Computer Appreciation**

**Course Code:- Coap (Restructure)**

**Objectives:-** This subject is meant to acquaint the students with various concepts related to Industrial Psychology and workforce management as are applicable in business.

| UNIT NO.          | TITLE                    | CONTENTS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | PURPOSE SKILLS TO BE DEVELOPED                                            |
|-------------------|--------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|
| <b>FIRST TERM</b> |                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                           |
| <b>1</b>          | Introduction to Computer | Definition, Computer Characteristics, Data vs Information, Classification of Computer, Applications of Computer, Block Diagram of Computer, Central Processing Unit and its parts<br>Definition- Software and Hardware<br>Computer Hardware: Input Devices; Output Devices , Storage Devices<br>Types of Software: System Software, Application Software<br>Storage devices: Primary and secondary memory, Types of memory, Memory capacity and enhancement, Memory devices, Various devices and comparison<br>Definition- Operating System, Functions of O.S.,<br>Types of O. S. – Single user O.S., Multiuser O.S., Overview of Windows O. S., Android O. S., IOS | To discuss the basics of computers and terminology related to it in depth |

|   |                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                        |
|---|--------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|
|   |                                            | <p>Number Systems: Binary, Decimal, Octal, Hexadecimal and their conversion; EBCDIC and ASCII and their conversions</p> <p>Computer Arithmetic and Gates: Binary arithmetic, Complements, Conversion from one system to other, Logic Gates, their truthable and applications minimisation</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                        |
| 2 | File Formats and Applications to Open Them | <p>Difference between Microsoft Office 2007, Microsoft Office 2010 and various higher versions such as latest 2019 version</p> <p>Types of Applications-<br/>Word, PowerPoint, Spreadsheet, Database, Word, Notepad, Paint, Microsoft Office Picture Manager, Picasa Photo Viewer, PDF</p> <p>Types of Document-<br/>Document:- .doc and .docx; .ppt and .pptx; .xls and .xlsx ; .dbm; .txt; .rtf; .odt; .pdf<br/>Image:- JPEG (.jpg, .jpeg, .jpe, .jfif), Bitmap (.bmp, .dib); GIF (.gif); TIFF (.tif, .tiff) and PNG (.png)<br/>Audio:- (.mp3, .aac, .wma, .wav, m4a and others)<br/>Video:- (.mp4, .m4v, .mov, .flv, .avi, .mpg, .wmv and others)<br/>HTML:- (.htm, .html)<br/>WinRAR:- (.rar) and its importance</p> <p>Looking for appropriate program on Web if file is unknown</p> | To make students acquaint with various file formats in computers and necessary application needed to operate that file |
| 3 | Computer Based Business Application        | <p>a. Word Processing: Meaning and role of word processing in creating word documents, editing, formatting and printing documents. Inserting images and using word art. Using tools like spell check, thesaurus etc.</p> <p>b. PowerPoint: Meaning and role of PPT in creating slides, text box, inserting text, images, audio, video, charts, tables, graphics and animations to create effective slideshows</p> <p>c. Spreadsheet: Meaning, structure and application in accounting,</p>                                                                                                                                                                                                                                                                                                | To make students acquaint with basic computer software and their importance in day-to-day business application         |

|                    |                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                            |
|--------------------|----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                    |                                        | <p>finance and marketing functions of business. Using formulas and charts. Sorting, Queries, Graphs. Functions- Mathematical, Statistical, Logical, String, Date and Time. Copying data from Word to Excel sheet and vice-versa</p> <p>d. Database: Meaning and application in day-to-day life; Data field, records and files; Sorting and indexing data; Searching records; Designing queries and reports; Linking data files</p>                                                                                                    |                                                                                                                                                                                                                                            |
| 4                  | Terminology in Networking and Internet | <p>Definition – Networking<br/>Types of Networks-LAN,WAN, MAN<br/>Network Topologies-Bus, Star, Ring, Tree, Hybrid</p> <p>Definition - Internet<br/>Internet Concept, Applications of the Internet, Services Provided by the Internet.<br/>Internet Service Provider (ISP)<br/>Internet Terminology: TCP/IP, DNS, Web, Websites, URL, Creating and Accessing web<br/>Web Browser (Google Chrome, Mozilla Firefox, Opera Mini, Internet Explorer, Apple Safari)<br/>Search Engine (Google Search, Microsoft Bing, Yahoo, Ask, AoI)</p> | To get acquaint with computer networking and internet – its terminology and applications                                                                                                                                                   |
| <b>SECOND TERM</b> |                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                            |
| 5                  | Digital Storytelling and Social Media  | <p>Digital Storytelling – Meaning, Types, Application<br/>Text Story vs Multimedia Story<br/>Storyboard – making, writing draft, editing and rewriting, collecting the photos, sketch, graphics, animation, video, background music<br/>Tools needed for Storytelling –<br/>a. Hardware: Digital Camera, Voice Recorder, Computer<br/>b. Software:<br/>(i) Video: Adobe Premiere Pro, Adobe After Effects, Final Cut</p>                                                                                                              | <p>To get acquaint with Digital Storytelling tools and its application from job opportunity point of view.</p> <p>To get acquaint with various Social Media platforms and compare them for purpose, reach, advantages, limitations and</p> |

|   |                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                       |
|---|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|
|   |                          | <p>Pro, Canopus Edius<br/> (ii) Audio: Audacity, Adobe Edition<br/> (iii) Images/Graphics: Adobe Photoshop, Lightroom, Indesign, Corel Draw, Adobe Illustrator<br/> (iv) Sharing stories on YouTube, Facebook, Twitter, Flickr, Tumblr, Pinterest, LinkedIn</p> <p>Social Media – Meaning, Types and Application<br/> Platforms – Facebook, Twitter, Instagram, Snapchat, YouTube, LinkedIn, Pinterest, WeChat and their comparison<br/> Blogs – Meaning, Various Platforms – free and paid, applications<br/> Blog platforms – WordPress, Tumblr, Medium, Squareface</p>                                                                           | security                                                                                                              |
| 6 | Use of Internet          | <p>a. Use of internet for development – Government, Education, Corporate, NGOs, Politician and Political Parties<br/> b. Use of Internet in - Politics 2.0, Virtual Democracy, Social Activism, Campaigns, Human Rights<br/> c. Ticket booking – hotel and restaurant, flight, bus, train, movie<br/> Payment – electricity, water bill, various Govt and corporation taxes<br/> d. Apps for Payment – BHIM, Google Pay, PhonePe, PAYTM<br/> e. Apps for Transportation – Ola, Uber, redBus, IRCTC, Make My Trip etc<br/> f. Apps for Food – Swiggy, Uber Eats, Zomato etc<br/> g. Apps for Shopping – Amazon, Flipkart, eBay, Snapdeal, Jabong</p> | To get acquaint with uses of Internet in contemporary era and study the various websites and applications of the same |
| 7 | Emerging Trends in IT    | <p>Introduction to-<br/> Artificial Intelligence (AI)<br/> Cloud Computing<br/> Internet of Things (IoT)</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | To discuss the latest trends in the field of Information and Technology                                               |
| 8 | Cyber Crimes and IT Laws | <p>Cyber Crime- Meaning , Types (Hacking, Phishing, Identity Theft, Credit/Debit Card Fraud, Trolling and Hate Speech, Fake News, Cyber Stalking, Prohibited/Illegal Content, Violation of</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                      | To get acquaint with various Cyber Crimes, related laws and punishments. Also, to get idea of                         |

|  |  |                                                                                                                             |                          |
|--|--|-----------------------------------------------------------------------------------------------------------------------------|--------------------------|
|  |  | Intellectual Property Rights, Plagiarism)<br>Net War, Cyber Terrorism<br>Laws and Punishment<br>IT Laws, Need of ICT Policy | malafide use of Internet |
|--|--|-----------------------------------------------------------------------------------------------------------------------------|--------------------------|

### Teaching Methodology for First and Second Term

| Unit No.    | Total Lectures | Innovative methods to be used                 | Film shows and AV Applications           | Project | Expected Outcome                                                                                                                                                                                      |
|-------------|----------------|-----------------------------------------------|------------------------------------------|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| FIRST TERM  |                |                                               |                                          |         |                                                                                                                                                                                                       |
| 1           | 12             | Use ICT or presentation on Basics of Computer | YouTube Tutorial on Computer Fundamental | -----   | -----                                                                                                                                                                                                 |
| 2           | 12             | Use ICT or presentation on Basics of Computer | -----                                    | -----   | -----                                                                                                                                                                                                 |
| 3           | 12             | Use ICT or presentation on Basics of Computer | YouTube Tutorial on Computer Fundamental | -----   | -----                                                                                                                                                                                                 |
| 4           | 12             | Use ICT or presentation on Basics of Computer | Live Demo                                | -----   | -----                                                                                                                                                                                                 |
| SECOND TERM |                |                                               |                                          |         |                                                                                                                                                                                                       |
| 5           | 12             | Guest Lecture and Group Discussion            | Live Demo                                | -----   | Students must know about latest tools and emerging fields in contemporary times from job opportunity perspective. Practical demo of Digital Storytelling Software mentioned is optional for teachers. |
| 6           | 12             | Guest Lecture                                 | Live Demo                                | -----   | -----                                                                                                                                                                                                 |



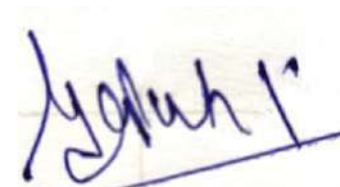
|   |    |                                       |           |       |       |
|---|----|---------------------------------------|-----------|-------|-------|
| 7 | 12 | Guest Lecture & Library Assignments   | Live Demo | ----- | ----- |
| 8 | 12 | Group Discussion/<br>Workshop/ Visits | -----     | ----- | ----- |

### Method of Evaluation

| Subject     | Internal Evaluation            | External Evaluation             |
|-------------|--------------------------------|---------------------------------|
| FIRST TERM  |                                |                                 |
| Unit – I    | Internal assessment : 30 Marks | Final University exam: 70 Marks |
| Unit – II   |                                |                                 |
| Unit – III  |                                |                                 |
| Unit – IV   |                                |                                 |
| SECOND TERM |                                |                                 |
| Unit – V    | Internal assessment : 30 Marks | Final University exam: 70 Marks |
| Unit – VI   |                                |                                 |
| Unit – VII  |                                |                                 |
| Unit – VIII |                                |                                 |

## References

| Sr. No. | Title of the Book                                    | Author/s            | Publication          | Place     |
|---------|------------------------------------------------------|---------------------|----------------------|-----------|
| 1.      | Computer Fundamentals                                | P. K. Sinha         | BPB Publication      | New Delhi |
| 2.      | Introduction to Computers                            | Peter Nortons       | Tata McGraw Hills    | New Delhi |
| 3.      | Introduction to Computer Network                     | Andrew S. Tanenbaum | Pearson Publications | Chennai   |
| 4.      | Cloud Computing: Concepts, Technology & Architecture | Thomas Erl          | Pearson Publications | Chennai   |
| 5.      | Cyber Law and Cyber Crimes Simplified                | Prashant Mali       | Cyber Infomedia      | Mumbai    |



**Prof. Dr. Gangadhar V. Kayandepatil**

**Chairman**

Steering Committee

**Savitribai Phule Pune University, Pune**

## Revised Syllabus (2019 Pattern) for three years B.Com Degree Course (CBCS)

**Semester:- I & II**

**Subject:- Industrial Psychology & Workforce Management**

### Syllabus for B.Com Semester- I & II

**Subject Name:- Industrial Psychology & Workforce Management**

**Course Code:- Indpsy (Restructure)**

**Objectives:-** This subject is meant to acquaint the students with various concepts related to Industrial Psychology and Workforce Management as are applicable in business.

| UNIT NO.   | TITLE                        | CONTENTS                                                                                                                                                                                                                          | PURPOSE SKILLS TO BE DEVELOPED                                                        |
|------------|------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| FIRST TERM |                              |                                                                                                                                                                                                                                   |                                                                                       |
| 1          | Industrial Psychology        | Role of Industries in Indian Economy<br>Review of Development of Industries specially after Independence<br>Need of study of Industrial Psychology<br>Meaning, Definition and Importance of Industrial Psychology in present era  | To discuss the concept of Industrial Psychology and its relevance in LPG era          |
| 2          | Industrial Production        | Meaning of Industries, Selection of Location, Proposal – Finance and Plant<br>Purchasing of Machinery<br>Starting of Production<br>Need of Society and their Expectations, Industrial Product/ Service, Expectations of Customers | To focus on different aspects related to Industrial product and customer expectations |
| 3          | Industrial Marketing and its | Comparison of Industrial Marketing with Consumer Marketing                                                                                                                                                                        | To focus on Marketing of                                                              |

|                    |                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                        |
|--------------------|-------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|
|                    | Importance                                | Characteristics and Classification of Capital and Other goods,<br>Firm Market, Institutional Market and Government Market<br>Need for Industrial Marketing Research<br>Process and Problems in Industrial Marketing                                                                                                                                                                                                                                                                                                                            | Industrial products                                                                    |
| 4                  | Industrial Psychology<br>regarding Demand | Demand and Product Characteristics<br>User and their Classifications (Standard Industrial Classification<br>Systems)<br>Regional Concentration, Vertical and Horizontal Markets<br>Buying Power of Industrial Users, Buying Motives of Industrial<br>Buyers<br>Industrial Market Segmentation<br>Vendor Analysis and Selection<br>Buying Stages, Buying Patterns and Length of Negotiations,<br>Frequency of Purchase and Size of Order, Direct Purchases<br>Reciprocity Arrangements, Leasing vs Buying, Service and<br>Quality Consideration | To take review of various points<br>to be considered at the time of<br>buying products |
| <b>SECOND TERM</b> |                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                        |
| 5                  | Workforce Management                      | Different factors of Production<br>Labour as an Active Human Product of Production<br>Factors affecting Labour Market<br>Labour vs Human Resources – its role in Indian Economy<br>Establishment of Quality Educational and Professional Institute<br>after Independence<br>Review of Educational and Professional Institutions in the eyes<br>of increasing Workforce                                                                                                                                                                         | To discuss the concept of<br>Workforce Management                                      |
| 6                  | Recruitment Management                    | Methods of Recruitment – Procedure of Recruitment<br>Demand of Human Resources<br>Administrative Approval, Preparation of Advertisement<br>Publication, Receiving Application, Scrutiny of Application<br>Planning and Conducting at Written / Computer Based Test,<br>Declaration of Results, Interview, Selection, Sending                                                                                                                                                                                                                   | To consider various steps<br>involved in Recruitment<br>Management (Process)           |

|   |                                                                                            |                                                                                                                                                                                                                                                          |                                                                         |
|---|--------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------|
|   |                                                                                            | Appointment Orders, Joining , Necessary Documents of Job Training<br>Performance Appraisal, Permanent Appointment                                                                                                                                        |                                                                         |
| 7 | Exploitation of Human Resources                                                            | Outsourcing, Contractual Appointment through Contractor\<br>Various types of Harassment<br>Salary/Wages Minimum – Maximum, Payment of Less Salary<br>Physical and Mental Health of Human Resources<br>Role of Trade Union and Changes in Trade Union Act | To examine various aspects of exploitation of Human Resources           |
| 8 | Visiting different Medium and Large Scale Industries in Nashik District and Writing Report | Visits and Report Writing<br>Visiting Different Multinational of Domestic Companies in Nashik where minimum 50 Workers are Working                                                                                                                       | To take review of different Medium and Large scale industries in Nashik |

### Teaching Methodology for First and Second Term

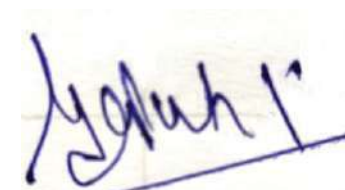
| Unit No.    | Total Lectures | Innovative methods to be used       | Film shows and AV Applications | Project | Expected Outcome |
|-------------|----------------|-------------------------------------|--------------------------------|---------|------------------|
| FIRST TERM  |                |                                     |                                |         |                  |
| 1           | 12             | Guest Lecture and Group Discussion  | -----                          | -----   | -----            |
| 2           | 12             | Guest Lecture                       | -----                          | -----   | -----            |
| 3           | 12             | Guest Lecture & Library Assignments | -----                          | -----   | -----            |
| 4           | 12             | Group Discussion/ Workshop/ Visits  | -----                          | -----   | -----            |
| SECOND TERM |                |                                     |                                |         |                  |
| 5           | 12             | Guest Lecture and Group Discussion  | -----                          | -----   | -----            |
| 6           | 12             | Guest Lecture                       | -----                          | -----   | -----            |
| 7           | 12             | Guest Lecture & Library Assignments | -----                          | -----   | -----            |
| 8           | 12             | Group Discussion/ Workshop/ Visits  | -----                          | -----   | -----            |

**Method of Evaluation**

| Subject     | Internal Evaluation            | External Evaluation             |
|-------------|--------------------------------|---------------------------------|
| FIRST TERM  |                                |                                 |
| Unit – I    | Internal assessment : 30 Marks | Final University exam: 70 Marks |
| Unit – II   |                                |                                 |
| Unit – III  |                                |                                 |
| Unit – IV   |                                |                                 |
| SECOND TERM |                                |                                 |
| Unit – V    | Internal assessment : 30 Marks | Final University exam: 70 Marks |
| Unit – VI   |                                |                                 |
| Unit – VII  |                                |                                 |
| Unit – VIII |                                |                                 |

## References

| Sr. No. | Title of the Book                                                                 | Author/s        | Publication             | Place     |
|---------|-----------------------------------------------------------------------------------|-----------------|-------------------------|-----------|
| 1.      | Industrial Marketing                                                              | Richard M. Hill | Taraporewala            | Mumbai    |
| 2.      | Industrial and Organizational Psychology                                          | Spector Paul E. | John Wiley and Sons Ltd | Noida     |
| 3.      | Industrial Psychology                                                             | Narendar Singh  | McGraw Hill             | New Delhi |
| 4.      | Work Rules: Insights from Inside Google That Will Transform How You Live and lead | Laszlo Bock     | Hodder & Stoughton      | Gurgaon   |
| 5.      | Industrial Economics: An Introductory Textbook                                    | R.R. Barthwal   | NEW AGE                 | New Delhi |



**Prof. Dr. Gangadhar V. Kayandepatil**

**Chairman**

Steering Committee

**Savitribai Phule Pune University, Pune**



## Revised Syllabus (2019 Pattern) for three years B.Com Degree Course (CBCS)

**Semester:- I & II**

**Subject:- Personality Development**

### Syllabus for B.Com Semester- I & II

**Subject Name:- Personality Development**

**Course Code:- Perdevp (Restructure)**

**Objectives:-** This subject is meant to develop the personality and effective communication skills among the students for self assessment as well as job selection in near future.

| UNIT NO.   | TITLE                                   | CONTENTS                                                                                                                                                                                                                                                                                                                                        | PURPOSE SKILLS TO BE DEVELOPED                       |
|------------|-----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------|
| FIRST TERM |                                         |                                                                                                                                                                                                                                                                                                                                                 |                                                      |
| 1          | Introduction to Personality Development | Definition, Meaning, Characteristics and Elements of Personality<br>Importance of Personality in present era<br>Inner traits and outer traits of personality<br>Self vs Personality<br>Personality traits vs Body feature<br>Control mechanism of personality                                                                                   | To know the concept of personality development       |
| 2          | Pillars of Personality Development      | First pillar – Introspection: Meaning, Need and Process<br>Second pillar – Self Assessment: Meaning, Approach, Life Orientations, Personal Attributes, Comprehensive List of Attributes, Method for Assessment<br>Third pillar – Self Appraisal: Meaning, Technique, Salient Features of Self Appraisal, Life Aspirations, Academic Performance | To take review of pillars of personality development |

|                    |                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                    |
|--------------------|---------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|
|                    |                                                                     | Fourth pillar – Meaning, Purpose, Influencing factors, External factors, Self driving factors, Self driven attributes, Self development process, Road map for self development, Setting personal mission, Watch and guard against pitfalls<br>Fifth pillar – Meaning, Self questioning, Self appraisal report, Self introspective questions                                                                                                                                                                                                                                             |                                                                                                    |
| 3                  | Self Identification and Self Assessment                             | Meaning of self identification and introspection, SWOT Analysis, Self centric process, Self belief system, Self concept system, Scale for assessment, Self qualifying factors, Self identification matrix                                                                                                                                                                                                                                                                                                                                                                               | To analyze your strength and weaknesses and focus on self identification                           |
| 4                  | Mission and Vision Statements and Goals and Objectives of Your Life | Mission, vision, goals and objectives – meaning and the difference between them<br>Personal mission, Modality for Self questioning, Observing your response<br>Process: Basis, Values, Principles<br>Roles and Responsibilities: Projection, Identifying role – personal, professional, social/community<br>Winning factors: Your strength and role, Positive attributes, Negative attributes, Relationship and upgradation, Impression and opinion about you<br>Human dispensation: Characteristics of a personal mission statement, Monitoring and evaluation, Multidimensional areas | To critically examine the personal mission, vision, goals and objectives and plan for achieving it |
| <b>SECOND TERM</b> |                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                    |
| 5                  | Personality Building                                                | Motivating and leading people at work – Concept and theories of motivation, Financial & non-financial incentives<br>Leadership – concept and styles – developing the qualities for ideal leadership                                                                                                                                                                                                                                                                                                                                                                                     | To discuss various aspects and points of personality building                                      |
| 6                  | Self Attributes and Selection of Job                                | Self attributes – Intellect, Genius, Intelligence, Talent, Synergetic aspects<br>Purpose of Job, Different career and courses, Criteria of selection – basic qualification, Interest, Aptitude, Family background and                                                                                                                                                                                                                                                                                                                                                                   | To examine self attributes and discuss the job selection according to contemporary times           |

|   |                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                |
|---|-------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|
|   |                               | support, Health and physical fitness, Promotional aspects, Employer's expectations<br>Self Employment, Entrepreneur<br>Attribute needed to become entrepreneur, Prior planning, Government subsidy and other schemes                                                                                                                                                                                                                                           |                                                                |
| 7 | Advising and Counseling       | Advice – Meaning, Importance, Advantage, Limitations<br>Role of an Advisor<br>Quality of an Advice<br>Guidance for an Advisor<br>Counseling – Meaning, Importance, Advantage, Limitations<br>Role of a Counselor<br>Quality of Counseling<br>Ethics for Advisor and Counselor<br>Advice for Students from rural areas                                                                                                                                          | To elucidate the importance of advising and counseling         |
| 8 | Study of Renowned Personality | Mahatma Gandhi, Indira Gandhi, Rajiv Gandhi – IT Revolution, Narendra Modi<br>Bill Gates, Dhirubhai Ambani, Shantanu Rao Kirloskar, Ratan Tata<br>Homi Baba, Vijay Bhatkar, Stephen Hawking, APJ Abdul Kalam<br>Dr. B.R. Ambedkar, Dr. Chintamanrao Deshmukh, Principal Dr. M.S. Gosavi<br>President of NIMA, President or MD of five MNCs in Nashik<br>Study of Personality of five women entrepreneur in Nashik and report writing / Conducting of interview | To examine the contribution and personality of renowned person |

### Teaching Methodology for First and Second Term

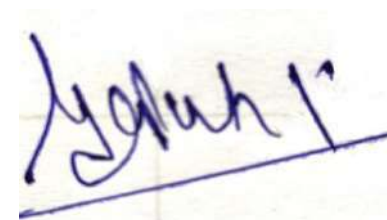
| Unit No.    | Total Lectures | Innovative methods to be used       | Film shows and AV Applications | Project | Expected Outcome |
|-------------|----------------|-------------------------------------|--------------------------------|---------|------------------|
| FIRST TERM  |                |                                     |                                |         |                  |
| 1           | 12             | Guest Lecture and Group Discussion  | -----                          | -----   | -----            |
| 2           | 12             | Guest Lecture                       | -----                          | -----   | -----            |
| 3           | 12             | Guest Lecture & Library Assignments | -----                          | -----   | -----            |
| 4           | 12             | Group Discussion/ Workshop/ Visits  | -----                          | -----   | -----            |
| SECOND TERM |                |                                     |                                |         |                  |
| 5           | 12             | Guest Lecture and Group Discussion  | -----                          | -----   | -----            |
| 6           | 12             | Guest Lecture                       | -----                          | -----   | -----            |
| 7           | 12             | Guest Lecture & Library Assignments | -----                          | -----   | -----            |
| 8           | 12             | Group Discussion/ Workshop/ Visits  | -----                          | -----   | -----            |

**Method of Evaluation**

| Subject     | Internal Evaluation            | External Evaluation             |
|-------------|--------------------------------|---------------------------------|
| FIRST TERM  |                                |                                 |
| Unit – I    | Internal assessment : 30 Marks | Final University exam: 70 Marks |
| Unit – II   |                                |                                 |
| Unit – III  |                                |                                 |
| Unit – IV   |                                |                                 |
| SECOND TERM |                                |                                 |
| Unit – V    | Internal assessment : 30 Marks | Final University exam: 70 Marks |
| Unit – VI   |                                |                                 |
| Unit – VII  |                                |                                 |
| Unit – VIII |                                |                                 |

## References

| Sr. No. | Title of the Book                                                                | Author/s                                           | Publication                 | Place     |
|---------|----------------------------------------------------------------------------------|----------------------------------------------------|-----------------------------|-----------|
| 1.      | Personality Development and Career Management                                    | Onkar R.M.                                         | S. Chand                    | New Delhi |
| 2.      | Personality Development and Soft Skills                                          | Barun Mitra                                        | Oxford University Press     | Noida     |
| 3.      | Theories of Personality                                                          | Calvin S. Hall Gardner<br>Lindzey John B. Campbell | Wiley                       | Noida     |
| 4.      | The Monk Who Sold His Ferrari                                                    | Robin Sharma                                       | Jaico                       | Mumbai    |
| 5.      | Get Your Dream Job: A Step-by -step Guide to Clear Any Interview With Confidence | Piyush Bhatia                                      | Createspace Independent Pub | ---       |



**Prof. Dr. Gangadhar V. Kayandepatil**

**Chairman**

Steering Committee

**Savitribai Phule Pune University, Pune**

## Revised Syllabus (2019 Pattern) for three years B.Com Degree Course (CBCS)

**Semester:- I & II**

**Subject:- Agricultural Production and Marketing**

### Syllabus for B.Com Semester- I & II

**Subject Name:- Agricultural Production and Marketing**

**Course Code:- Agprma (Restructure)**

**Objectives:-** This subject is meant to explain core concepts related to Agriculture and its Marketing. This subject will imbibe the importance of Agriculture in students and connect them with farmers and their problems. Students will suggest remedies to cure problems associated with farming.

| UNIT NO.   | TITLE                                  | CONTENTS                                                                                                                                                                                                                                                                                                                                                     | PURPOSE SKILLS TO BE DEVELOPED                                             |
|------------|----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------|
| FIRST TERM |                                        |                                                                                                                                                                                                                                                                                                                                                              |                                                                            |
| 1          | Role of Agricultural in Indian Economy | Agriculture – Meaning, Importance<br>Agricultural Production – Food crops, Commercial crops<br>Trends in production of - food crops, commercial crops<br>Agricultural development during plan five year plan<br>National Agricultural policy, Evaluation of agricultural development – land development, land reforms, cultivation tenure system, irrigation | To take review of the role of Agriculture in Indian Economy                |
| 2          | Marketing of Consumer                  | Durable and non-durable goods and services in rural market<br>Product planning, Pricing, Promotion and Management and Distribution<br>Channel for Marketing durable and non-durable goods in rural areas                                                                                                                                                     | To explain the concept of marketing of consumers and distribution channels |

|                    |                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                              |
|--------------------|-------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------|
|                    |                                                 | Media Planning: Planning and Organizing Personal Selling in Rural Markets                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                              |
| 3                  | Marketing of Agricultural Inputs                | Meaning of Agricultural inputs and its importance in the eyes of agricultural production<br>Marketing of Fertilizers, Pesticides, Seeds, Tractors and other Agricultural implements in Rural areas, Irrigation<br>Government policies regarding agricultural inputs                                                                                                                                                                                                                                                                                                                                           | To take review of marketing inputs                           |
| 4                  | Agricultural Production                         | Meaning of Agricultural production and its importance<br>Average growth rate of agricultural production<br>Factors determining agricultural productivity<br>Low agricultural productivity<br>Trends of agricultural productivity<br>Importance of increase in agricultural productivity<br>Measures employed to develop agriculture                                                                                                                                                                                                                                                                           | To study the importance of agricultural production           |
| <b>SECOND TERM</b> |                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                              |
| 5                  | Agricultural Marketing                          | Classification of agricultural products with particular reference to seasonality and perishability<br>Market structure for agricultural product and its performance<br>Processing facilities for different agricultural products<br>Role and types of warehousing<br>Marketable surplus, Conditions of satisfactory agricultural marketing, Present agricultural marketing system in India<br>Defects of agricultural marketing<br>Govt measures to improve agricultural marketing<br>Co-operative marketing<br>Report of Shankarlal Guru Committee<br>Agricultural Exports<br>Agricultural Marketing Reforms | To study various aspects related to Agricultural Marketing   |
| 6                  | Distribution Channels and Physical Distribution | Distribution channels – concept and role, Types of distribution channels, Factors affecting choice of a distribution channel<br>Retailer and Wholesaler                                                                                                                                                                                                                                                                                                                                                                                                                                                       | To study about distribution channel of agricultural products |



|   |                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                           |
|---|----------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|
|   |                                                          | Physical distribution of goods, Transporting and Warehousing<br>Inventory control, Order processing                                                                                                                                                                                                                                                                                                                       |                                                                                           |
| 7 | Agriculture Price Determination and Commodity Training   | Agricultural Price Policy – Meaning, Objectives, Need<br>Main features of Agricultural Price Policy in India, Effects and Suggestions for Agricultural Price Policy<br>Role of Agricultural Price Commission, Role of Central and State Government institutions and Organizations in Agricultural Marketing<br>Minimum Support Price (MSP), Method of calculation of MSP<br>Unique features of Commodity Markets in India | To study various factors regarding Agriculture Price Determination and Commodity Training |
| 8 | Agricultural Production and Marketing in Nashik District | A case study of Production – input – warehousing – agricultural status; Marketing – prices, Agricultural produce; Marketing committee – Financial status, Socio-economic status<br>Study of Farmers, Farmer suicides and rural indebtedness<br>Export of Onion, Grapes, Roses and other agricultural products<br>Interview of ten ideal farmers/families in Nashik district                                               | To conduct an interview of successful farmers and their families on subject matter        |

### Teaching Methodology for First and Second Term

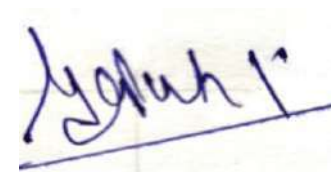
| Unit No.    | Total Lectures | Innovative methods to be used       | Film shows and AV Applications | Project | Expected Outcome |
|-------------|----------------|-------------------------------------|--------------------------------|---------|------------------|
| FIRST TERM  |                |                                     |                                |         |                  |
| 1           | 12             | Guest Lecture and Group Discussion  | -----                          | -----   | -----            |
| 2           | 12             | Guest Lecture                       | -----                          | -----   | -----            |
| 3           | 12             | Guest Lecture & Library Assignments | -----                          | -----   | -----            |
| 4           | 12             | Group Discussion/ Workshop/ Visits  | -----                          | -----   | -----            |
| SECOND TERM |                |                                     |                                |         |                  |
| 5           | 12             | Guest Lecture and Group Discussion  | -----                          | -----   | -----            |
| 6           | 12             | Guest Lecture                       | -----                          | -----   | -----            |
| 7           | 12             | Guest Lecture & Library Assignments | -----                          | -----   | -----            |
| 8           | 12             | Group Discussion/ Workshop/ Visits  | -----                          | -----   | -----            |

**Method of Evaluation**

| Subject     | Internal Evaluation            | External Evaluation             |
|-------------|--------------------------------|---------------------------------|
| FIRST TERM  |                                |                                 |
| Unit – I    | Internal assessment : 30 Marks | Final University exam: 70 Marks |
| Unit – II   |                                |                                 |
| Unit – III  |                                |                                 |
| Unit – IV   |                                |                                 |
| SECOND TERM |                                |                                 |
| Unit – V    | Internal assessment : 30 Marks | Final University exam: 70 Marks |
| Unit – VI   |                                |                                 |
| Unit – VII  |                                |                                 |
| Unit – VIII |                                |                                 |

## References

| Sr. No. | Title of the Book                        | Author/s                                  | Publication               | Place     |
|---------|------------------------------------------|-------------------------------------------|---------------------------|-----------|
| 1.      | Agricultural Marketing                   | Mamoria C.B                               | Himalaya Publishing House | New Delhi |
| 2.      | Globalisation and Agricultural Marketing | Nayyar H and Ramaswamy                    | Rawat Publications        | Jaipur    |
| 3.      | Agricultural Economics                   | Kayandepatil Gangadhar                    | Chaitanya Publications    | Nashik    |
| 4.      | कुरुक्षेत्र                              | Govt of India                             | ---                       | New Delhi |
| 5.      | Annual Reports and Survey Reports        | Ministry of Agriculture,<br>Govt of India | ---                       | New Delhi |
| 6.      | Indian Economy                           | Datta Sundaram                            | S. Chand                  | New Delhi |



**Prof. Dr. Gangadhar V. Kayandepatil**

**Chairman**

Steering Committee

**Savitribai Phule Pune University, Pune**

## Revised Syllabus (2019 Pattern) for three years B.Com Degree Course (CBCS)

**Semester:- I & II**

**Subject:- Catering, Hotel and Event Management**

### Syllabus for B.Com Semester- I & II

**Subject Name:- Catering, Hotel and Event Management**

**Course Code:- Cahoem (Restructure)**

**Objectives:-** This objective of this course is to help students understand the concept and practical working of catering, hotel and event management firm and job opportunities available in these sectors.

| UNIT NO.   | TITLE                                     | CONTENTS                                                                                                                                                                                                                                                                                                                                  | PURPOSE SKILLS TO BE DEVELOPED                                                                                      |
|------------|-------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|
| FIRST TERM |                                           |                                                                                                                                                                                                                                                                                                                                           |                                                                                                                     |
| 1          | Introduction to Hotel Industry / Business | Introduction to Hotel Industry<br>Target Market and Potential in Hotel Industry<br>Different Types of Hotel Ownerships<br>Hotel's Functional Areas<br>Classification of Hotels<br>Types of Room<br>Tariff Structure and Plans<br>Partnership with MakeMyTrip (MMT), Goibibo and OYO<br>Different License required to start Hotel Business | To give detailed introduction about Hotel Industry                                                                  |
| 2          | Hotel Operations                          | Front Office: Accepting reservation on phone and answering guest enquiries, Maintaining record, Booking confirmation and cancellation, Computerized ledger and billing<br><br>Housekeeping and laundry operations – organizational structure,                                                                                             | To examine the different departments in Hotel industry, their daily functioning and relation with other departments |

|   |                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                       |
|---|-----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|
|   |                                   | <p>Staff hierarchy, Lines of authority and areas of responsibility, Essential qualities in housekeeping staff – communication and interpersonal skills, Amenities provided in standard and deluxe rooms, VIP amenities, Cleaning schedules and Pest Control</p> <p>Kitchen Stewarding – Hierarchy, responsibility and relation with other department</p> <p>Safety Officer(s) – Hierarchy and relation with other department</p> <p>Cashiering and Auditing Department - Hierarchy, responsibility and relation with other department</p>                                                                                                                                                                                                                                                                                                           |                                                       |
| 3 | Introduction to Catering Business | <p>Introduction to Cookery – from History to Modern era</p> <p>Kitchen equipments – heavy and light equipments; utensils; care and maintenance</p> <p>Various culinary terms – origin of modern cookery</p> <p>Personal Grooming, Hygiene, Uniform and Safety procedure in handling equipment</p> <p>Food Production Department – Organizational Structure, Layout, Duties and Responsibilities, Relation between various departments</p> <p>Composition of different ingredients &amp; the action of heat on fats, carbohydrates, proteins, vitamins and minerals</p> <p>Full service restaurant, hotel and beverage facilities, catering halls, independent caterers and private clubs</p> <p>Meals &amp; Menu planning - Origin, objective, types</p> <p>Types of Meals – Early Morning Tea, Breakfast, Lunch, Afternoon Tea, Dinner, Supper</p> | To give detailed introduction about Catering Business |
| 4 | Catering Operations               | Food & Beverage department – organization, structure, principal                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | To examine the different                              |

|                    |                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                  |
|--------------------|----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|
|                    |                                  | <p>staff, duties and responsibilities, inter-departmental relationship<br/>Serving in restaurant, hotel, events – marriages, birthday party, corporate event, Government events</p> <p>Methods of service – Table laying for different meals, receiving and seating the guests, taking the order, food serving types: Banquet-Buffer-Table, procedure of service, presentation and encashing the bill</p> <p>License from FSSAI and other licenses required to start catering business</p>                                                                                                                                      | <p>operations in Catering business, their method of service and licenses required to start catering business</p> |
| <b>SECOND TERM</b> |                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                  |
| <b>5</b>           | Introduction to Event Management | <p>Event Management – Meaning, Importance and Application<br/>5C's of Event, 5W's of Event, Types of Event<br/>Elements and objectives of Event Management<br/>Business Communication and negotiation skills<br/>Public Relations<br/>Event Risk Management</p>                                                                                                                                                                                                                                                                                                                                                                 | <p>To give detailed introduction about Event Management industry</p>                                             |
| <b>6</b>           | Event Management Operations      | <p>Process of Event Planning, Event Organizer – Need, Role and Qualities, Venue, Types of Venue– Indoor and Outdoor, Criteria to choose venue<br/>Steps in Organizing an Event<br/>Pre-Event: Finalizing service provisions, budget finalization and venue selection<br/>Execution of Event – Developing a hierarchy with personnel having fixed role and responsibilities to conduct the event smoothly<br/>Networking Components – Print, Radio, TV, Outdoor Media, Social Media, Direct Media<br/>Post Event- Taking feedback, Engage on Social Media, Update the Website and Social Media handles, Take internal review</p> | <p>To examine the process of planning an event and different elements required to make the event successful</p>  |

|   |                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                             |
|---|-------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|
| 7 | Problems and Challenges in Hotel, Catering Business and Event Management                                    | <p>Problem and challenges (Hotel and Catering) – high competition, improper marketing, poor customer satisfaction, lack of productive chef and manager, high service rate, cleanliness issue, no proper transportation and security challenge especially to women</p> <p>Problem and challenges (Event Management) – budget, right venue, vendor, technological, tracking live event, time management and customer expectation and satisfaction, multiple events being managed by one single organizer or staffing problem and planner's block</p> | To examine the different problems and challenges in Hotel, Catering Business and Event Management                           |
| 8 | Case Study of Catering, Hotel Business and Event Management<br>And different career opportunities available | <p>A case study of any Caterer, Hotel Business and Event Management Company in Nashik District and Preparing Report</p> <p>Explore different career opportunities present in this sector</p>                                                                                                                                                                                                                                                                                                                                                       | To get first hand information about the status of the subject matter and exploring different career opportunities available |



### Teaching Methodology for First and Second Term

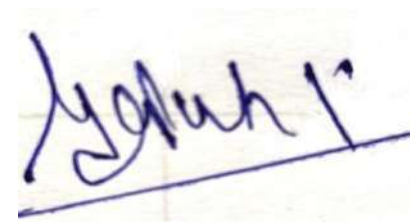
| Unit No.    | Total Lectures | Innovative methods to be used       | Film shows and AV Applications | Project | Expected Outcome |
|-------------|----------------|-------------------------------------|--------------------------------|---------|------------------|
| FIRST TERM  |                |                                     |                                |         |                  |
| 1           | 12             | Guest Lecture and Group Discussion  | -----                          | -----   | -----            |
| 2           | 12             | Guest Lecture                       | -----                          | -----   | -----            |
| 3           | 12             | Guest Lecture & Library Assignments | -----                          | -----   | -----            |
| 4           | 12             | Group Discussion/ Workshop/ Visits  | -----                          | -----   | -----            |
| SECOND TERM |                |                                     |                                |         |                  |
| 5           | 12             | Guest Lecture and Group Discussion  | -----                          | -----   | -----            |
| 6           | 12             | Guest Lecture                       | -----                          | -----   | -----            |
| 7           | 12             | Guest Lecture & Library Assignments | -----                          | -----   | -----            |
| 8           | 12             | Group Discussion/ Workshop/ Visits  | -----                          | -----   | -----            |

**Method of Evaluation**

| Subject     | Internal Evaluation            | External Evaluation             |
|-------------|--------------------------------|---------------------------------|
| FIRST TERM  |                                |                                 |
| Unit – I    | Internal assessment : 30 Marks | Final University exam: 70 Marks |
| Unit – II   |                                |                                 |
| Unit – III  |                                |                                 |
| Unit – IV   |                                |                                 |
| SECOND TERM |                                |                                 |
| Unit – V    | Internal assessment : 30 Marks | Final University exam: 70 Marks |
| Unit – VI   |                                |                                 |
| Unit – VII  |                                |                                 |
| Unit – VIII |                                |                                 |

## References

| Sr. No. | Title of the Book                            | Author/s             | Publication             | Place     |
|---------|----------------------------------------------|----------------------|-------------------------|-----------|
| 1.      | Hotel Front Office Operations and Management | Jatashankar R Tewari | Oxford University Press | Mumbai    |
| 2.      | Hotel Facility Planning                      | Tarun Bansal         | Oxford University Press | Mumbai    |
| 3.      | Guide for Hotel Management 2019              | ---                  | Arihant                 | New Delhi |
| 4.      | Food Services And Catering Management        | Saxena R P           | Centrum Press           | New Delhi |
| 5.      | Event Management 1 Edition                   | Wagen                | Pearson                 | Noida     |



**Prof. Dr. Gangadhar V. Kayandepatil**

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## Revised Syllabus (2019 Pattern) for three years B.Com Degree Course (CBCS)

**Semester:- I & II**

**Subject:- Travel and Tourism Management**

### Syllabus for B.Com Semester- I & II

**Subject Name:- Travel and Tourism Management**

**Course Code:- Trtoma (Restructure)**

**Objectives:-** The objective of this subject is to help students understand various issues in Travel and Tourism business in India and job availability and job creation in this sector.

| UNIT NO.   | TITLE                                 | CONTENTS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | PURPOSE SKILLS TO BE DEVELOPED                                         |
|------------|---------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|
| FIRST TERM |                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                        |
| 1          | Career in Travel and Tourism Industry | Tour Manager, Tour Guide, Travel Manager, Travel Counselor, Sales and Public Relation Officer, Itinerary Planner<br>Information Assistant (through SSC Exam), Reservation and Counter Staff, Interpreter<br><br>Adventure Tour Operator, Travel Media Specialist, Travel Educationist, Global Distribution Service Manager<br><br>Amusement and Recreation Attendant, Cruise Ship Director<br><br>Airlines: Ground Staff (Traffic Assistance, Counter Staff, Booking and Reservation); In-flight staff (Airhostesses, Stewards) | To discuss the various job opportunities available in Tourism Industry |

|                    |                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                               |
|--------------------|--------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------|
|                    |                                                        | Hotels: Operations, Front office, Housekeeping, Food and beverages, Accounting, Maintenance, Sales, Public Relation Officer, Security<br><br>Entrepreneurship, Retailer (Franchise), Freelance Writer or Travel Blogger                                                                                                                                                                                                  |                                                                               |
| 2                  | History and Development of Travel and Tourism Industry | History and Development of Travel and Tourism Industries in India<br>India's rich history dating back to centuries and scope of travel in India<br>Various aspects of Travel and Tourism business<br>Constituents of Tourism Industry and Tourism Organizations<br>Govt. policies and programmes related to Travel and Tourism in India<br>Tourism Regulations<br>Statistics and Measurement related to Tourism industry | To discuss History and Development of Travel and Tourism Industry             |
| 3                  | Tourism Services and Operation                         | Modes of transport, Tourist Accommodation, Informal Services in Tourism, Subsidiary Services: Categories and Roles, Travel Agency, Tour Operators, Guides and Escorts, Tourism Information Centers                                                                                                                                                                                                                       | To examine various modes of transport in tourism services and its operations  |
| 4                  | Geography and Tourism                                  | India's Biodiversity: Landscape features – Himalaya (North), Bay of Bengal (East), Indian Ocean (South), Arabian Sea (West), Thar Desert (North-West), Eastern and Western Ghats, Tropical and Evergreen Forests, Gangetic Plains, Deccan Plateau and hilly and mountainous terrain<br><br>India's Environment and Ecology<br>Season's in India and Prominent Destination<br>Map and Charts                              | To examine geography of India and study it's tourism trends all over the year |
| <b>SECOND TERM</b> |                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                               |
| 5                  | Tourism Marketing and                                  | Relevance, Product Design, Market Research, Promotional                                                                                                                                                                                                                                                                                                                                                                  | To examine tourism marketing                                                  |

|   |                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                 |
|---|--------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
|   | Communication                                    | Events, Advertising, Publicity, Selling, Role of Media, Writing for Tourism, Personality Development and Skills required for Tourism Industry                                                                                                                                                                                                                                                                                                                                                                              | and communication skills required for this industry                                                             |
| 6 | Tourism: Planning and Policy                     | <p>Tourism Planning and Policy<br/>           Infrastructural Development<br/>           Local Bodies, Officials and Tourism<br/>           Development, Dependency and Manila Declaration</p> <p>Surge of Travel and Tourism websites and other platforms in India – Indian Railway Catering and Tourism Corporation (IRCTC), Make My Trip (MMT), Yatra, Cleartrip, Ixigo, Goibibo, Travelguru, redBus, Confirmktkt etc and the discounts they offer while booking and cashback received after successful booking</p>     | To discuss tourism planning and policy and undergo detail scrutiny of latest websites and platforms for booking |
| 7 | Innovative Practices in Tourism and Case Studies | <p>Adventure tourism, Himalayan Trekking, Lake side camping, Culinary tourism, Sustainable tourism<br/>           Solo tours especially for Women, Eco travel, Local experience<br/>           Bleisure Travel (Leisure + business travel)<br/>           Ice hotel (Western concept), World Tour</p> <p>Robot, chatbots, automation, artificial intelligence, Internet of Things (IoT) and Virtual Reality in Tourism industry</p> <p>Five different cases studies of innovative practices in modern tourism industry</p> | To discuss the innovative practices in Tourism industry and examining various case studies                      |
| 8 | Challenges in Travel and Tourism                 | <p>Impact – Economic, Social, Environmental and Political<br/>           Threats and Obstacles to Tourism<br/>           National Travelling: Security and Safety concerns<br/>           International Travelling: Passport and Visa availability</p>                                                                                                                                                                                                                                                                     | To examine challenges in travel and tourism                                                                     |

### Teaching Methodology for First and Second Term

| Unit No.    | Total Lectures | Innovative methods to be used       | Film shows and AV Applications | Project                                                                         | Expected Outcome                                                                                   |
|-------------|----------------|-------------------------------------|--------------------------------|---------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|
| FIRST TERM  |                |                                     |                                |                                                                                 |                                                                                                    |
| 1           | 12             | Guest Lecture and Group Discussion  | -----                          | -----                                                                           | To get the knowledge of diverse job opportunities in tourism sector                                |
| 2           | 12             | Guest Lecture                       | -----                          | -----                                                                           | -----                                                                                              |
| 3           | 12             | Guest Lecture & Library Assignments | -----                          | -----                                                                           | -----                                                                                              |
| 4           | 12             | Group Discussion/ Workshop/ Visits  | -----                          | -----                                                                           | To understand the geography of India and travel trends throughout the year                         |
| SECOND TERM |                |                                     |                                |                                                                                 |                                                                                                    |
| 5           | 12             | Guest Lecture and Group Discussion  | -----                          | -----                                                                           | -----                                                                                              |
| 6           | 12             | Guest Lecture                       | -----                          | Make a detailed report of any six travel and tourism websites and compare them  | To get first hand information and enable students to use ICT in Travel                             |
| 7           | 12             | Guest Lecture & Library Assignments | -----                          | Five different cases studies of innovative practices in modern tourism industry | To cope up with modern means of travel and tourism industry and consider this sector as profession |
| 8           | 12             | Group Discussion/ Workshop/ Visits  | -----                          | -----                                                                           | -----                                                                                              |

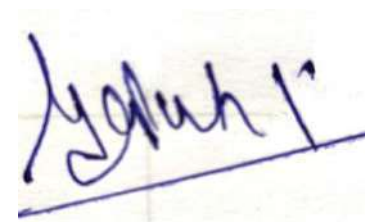
**Method of Evaluation**

| Subject     | Internal Evaluation            | External Evaluation             |
|-------------|--------------------------------|---------------------------------|
| FIRST TERM  |                                |                                 |
| Unit – I    | Internal assessment : 30 Marks | Final University exam: 70 Marks |
| Unit – II   |                                |                                 |
| Unit – III  |                                |                                 |
| Unit – IV   |                                |                                 |
| SECOND TERM |                                |                                 |
| Unit – V    | Internal assessment : 30 Marks | Final University exam: 70 Marks |
| Unit – VI   |                                |                                 |
| Unit – VII  |                                |                                 |
| Unit – VIII |                                |                                 |



## References

| Sr. No. | Title of the Book                                                                   | Author/s       | Publication              | Place     |
|---------|-------------------------------------------------------------------------------------|----------------|--------------------------|-----------|
| 1.      | Geography and Transport and Market Centre                                           | Saxena Hari M. | S.Chand and Co.          | New Delhi |
| 2.      | Road Transport Management                                                           | Manchandra     | Himalaya Publishers      | Mumbai    |
| 3.      | Tourism Development, Principles and Practices                                       | Bhatia A.K.    | Sterling Publishers      | New Delhi |
| 4.      | Tourism Law in India - A Comprehensive Manual of Concepts, Regulations & Guidelines | Shashank Garg  | Universal Law Publishing | Prayagraj |
| 5.      | Lonely Planet India (Travel Guide)                                                  | Lonely Planet  | Lonely Planet            | Gurgaon   |



**Prof. Dr. Gangadhar V. Kayandepatil**

**Chairman**

Steering Committee

**Savitribai Phule Pune University, Pune**

## Revised Syllabus (2019 Pattern) for three years B.Com Degree Course (CBCS)

**Semester:- I & II**

**Subject:- Share and Security Management**

**Syllabus for B.Com Semester- I & II**

**Subject Name:- Share and Security Management**

**Course Code:- SSMA (Restructure)**

**Objectives:-** The subject aims at acquainting the students with the working of Financial Markets in India and specially focuses on Share and Security Management

| UNIT NO.          | TITLE                                                 | CONTENTS                                                                                                                                                                                                                                                                                                                       | PURPOSE SKILLS TO BE DEVELOPED                                                   |
|-------------------|-------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|
| <b>FIRST TERM</b> |                                                       |                                                                                                                                                                                                                                                                                                                                |                                                                                  |
| <b>1</b>          | Investment and overview of various Financial concepts | Different terms and terminology used in Financial Market operations<br>Investment, Speculation, Gambling, Increasing Popularity of Investment, Features of Investment Programmes, Risk of Investment, Finance vs Investment, Interacting Decision Elements, Investment Management and other discipline<br>Interest Calculation | To take review of Investment and Overview of various financial concepts          |
| <b>2</b>          | New Issue Market                                      | Introduction to New Issue Market, concept, function, organization, understanding, distribution and role of new issue market<br>Recent trends in primary and secondary market<br>Listing of securities, advantages of securities, listing requirements – withdrawal and insider training                                        | To study the new issue market and recent trends in primary and secondary markets |

|                    |                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                            |
|--------------------|------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------|
| 3                  | Money Market and Capital Market                            | <p>Indian Money Markets' composition and structure</p> <p>(a) Acceptance houses</p> <p>(b) Discount houses</p> <p>(c) Call Money Market</p> <p>Recent trends in Indian Money market</p> <p>Security Market-</p> <p>(a) New issue market</p> <p>(b) Secondary market</p> <p>Functions and role of stock exchange</p> <p>Listing procedure and legal requirements</p> <p>Public Issue-</p> <p>Pricing and Marketing</p> <p>Stock Exchanges – National Stock Exchange and over the counter exchange</p> | To throw light on money and capital market in India                        |
| 4                  | Securities and Contract Act and Investment Alternatives    | <p>Main Provisions of Securities Act, SEBI Act, Contract Act</p> <p>Investment Alternatives – Bonds, Debentures, Govt Securities, Preference Shares, Equity Shares, Non-securities forms of Investment, Private Equity and Venture capital</p> <p>Dividend policies and decision</p> <p>Unethical practices – financial fraud, insider trading, money laundering, hostile merger and acquisition, causes of unethical practices and methods to prevent investors from such practices</p>             | To study the provision of important Acts related to Security and contract  |
| <b>SECOND TERM</b> |                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                            |
| 5                  | Investor Protection                                        | <p>Grievances concerning stock exchange – dealings and their removal</p> <p>Grievance cells in stock exchanges</p> <p>SEBI Company Law Board – Press, Remedy through courts</p>                                                                                                                                                                                                                                                                                                                      | To take review of various provisions regarding Investor's provisions       |
| 6                  | Functionaries on Stock Exchange and the Brokerage Business | <p>Brokers, Sub-brokers, Market Makers, Jobbers, Portfolio Consultants, Institutional Investors and NRI</p> <p>Primary and Secondary Market – Role functions and methods of selling securities, allotment procedure</p>                                                                                                                                                                                                                                                                              | To study various functionaries on Stock Exchange and in Brokerage Business |

|   |                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                            |
|---|-------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------|
|   |                                                                                           | SEBI Guidelines on Public Issues<br>Functionaries of Brokerage Firm, Brokerage Information,<br>Selecting of a Broker and a Brokerage Firm, Types of Exchange<br>in Stock Exchange                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                            |
| 7 | Financial Services                                                                        | Merchant banking – Functions and roles, SEBI Guidelines<br>Credit rating – Concept, functions and types, role and importance<br>Depositories Act 1996 – Role and need, Valuation of Bonds,<br>Debentures, Preferential shares, Equity shares etc<br>Weak, Semi strong and Strong Market                                                                                                                                                                                                                                                                                                                                                                             | To study various financial<br>services                                     |
| 8 | Fundamental and Technical<br>Analysis and Career<br>Opportunities in Financial<br>Markets | Current State of the Economy, Industrial Growth Cycle,<br>Fundamental Security Analysis, Basic Technical Assumptions<br>and Various elements of Technical Analysis<br>Portfolio Analysis – Estimating rate of return and standard<br>deviation of portfolio<br>Effect of combining the securities, Markowitz Risk – return<br>optimization, Single index model or Market model<br>Portfolio unique risk, Simple Sharpe's optimization solution<br>Measure of return, Risk adjusted, Measures of return, Market<br>timing, Evaluation criteria and Procedures<br>Various career opportunities available in Stock and Money<br>Market and Brokerage Business in India | To examine various job<br>opportunities available for<br>commerce graduate |

### Teaching Methodology for First and Second Term

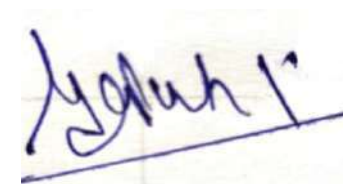
| Unit No.    | Total Lectures | Innovative methods to be used       | Film shows and AV Applications | Project | Expected Outcome |
|-------------|----------------|-------------------------------------|--------------------------------|---------|------------------|
| FIRST TERM  |                |                                     |                                |         |                  |
| 1           | 12             | Guest Lecture and Group Discussion  | -----                          | -----   | -----            |
| 2           | 12             | Guest Lecture                       | -----                          | -----   | -----            |
| 3           | 12             | Guest Lecture & Library Assignments | -----                          | -----   | -----            |
| 4           | 12             | Group Discussion/ Workshop/ Visits  | -----                          | -----   | -----            |
| SECOND TERM |                |                                     |                                |         |                  |
| 5           | 12             | Guest Lecture and Group Discussion  | -----                          | -----   | -----            |
| 6           | 12             | Guest Lecture                       | -----                          | -----   | -----            |
| 7           | 12             | Guest Lecture & Library Assignments | -----                          | -----   | -----            |
| 8           | 12             | Group Discussion/ Workshop/ Visits  | -----                          | -----   | -----            |

**Method of Evaluation**

| Subject     | Internal Evaluation            | External Evaluation             |
|-------------|--------------------------------|---------------------------------|
| FIRST TERM  |                                |                                 |
| Unit – I    | Internal assessment : 30 Marks | Final University exam: 70 Marks |
| Unit – II   |                                |                                 |
| Unit – III  |                                |                                 |
| Unit – IV   |                                |                                 |
| SECOND TERM |                                |                                 |
| Unit – V    | Internal assessment : 30 Marks | Final University exam: 70 Marks |
| Unit – VI   |                                |                                 |
| Unit – VII  |                                |                                 |
| Unit – VIII |                                |                                 |

## References

| Sr. No. | Title of the Book                                | Author/s                      | Publication          | Place     |
|---------|--------------------------------------------------|-------------------------------|----------------------|-----------|
| 1.      | Financial Markets and Institutions               | Bhole L.M.                    | Tata McGraw Hill     | New Delhi |
| 2.      | Indian Securities Market – Investor's View Point | Hooda R.P.                    | Excell Books         | New Delhi |
| 3.      | Indian Financial System                          | Machiraju H.R.                | Vikas                | New Delhi |
| 4.      | Money Market Operations in India                 | Sengupta A.K and Agrawal M.K. | Skylark Publications | New Delhi |
| 5.      | RBI Report on Currency and Finance               | RBI                           | RBI Publications     | New Delhi |
| 6.      | Economic Survey                                  | Govt of India                 | Ministry of Finance  | New Delhi |
| 7.      | Investment Management                            | Bhalla V.K.                   | S. Chand & Co.       | New Delhi |



**Prof. Dr. Gangadhar V. Kayandepatil**

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## Revised Syllabus (2019 Pattern) for three years B.Com Degree Course (CBCS)

**Semester:- I & II**

**Subject:- Commercial and Co-operative Banking with GDCA**

### Syllabus for B.Com Semester- I & II

**Subject Name:- Commercial and Co-operative Banking with GDCA**

**Course Code:- Combank (Restructure)**

**Objectives:-** This subject enables the students to understand the working of commercial and co-operative banking as well as job opportunities available in commercial and co-operative banking.

| UNIT NO.          | TITLE                                                       | CONTENTS                                                                                                                                                                                                                                                                                                               | PURPOSE SKILLS TO BE DEVELOPED                                                       |
|-------------------|-------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| <b>FIRST TERM</b> |                                                             |                                                                                                                                                                                                                                                                                                                        |                                                                                      |
| <b>1</b>          | Career Opportunities in Commercial and Co-operative Banking | Advertisement – Different Posts – Qualification – Application – Syllabus – Preparation for Examination – Appearing for Examination – Interview – Training                                                                                                                                                              | To examine the career opportunities available in commercial and co-operative banking |
| <b>2</b>          | Indian Banking System                                       | Structure and Organization of Banks<br>Reserve Bank of India (RBI) – apex banking institutions<br>Commercial banks, Regional Rural Banks, Co-operative banks, Development banks<br>History, Objectives, Functions, Structures, Organizations, Working and Progress of Commercial, Co-operative and State Bank of India | To take review of the development of Indian Banking System in India                  |
| <b>3</b>          | Banking Regulation Act 1949                                 | History, Social Control, Banking Regulation Act as applicable to Banking Companies and Public Sector Banks                                                                                                                                                                                                             | To study the important provisions of Banking Regulation Act 1949                     |



|                    |                                                                        |                                                                                                                                                                                                                                                                                   |                                                                                  |
|--------------------|------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|
|                    |                                                                        | Banking Regulation Act as applicable to Co-operative banks                                                                                                                                                                                                                        |                                                                                  |
| <b>4</b>           | Terminology Used in Banks                                              | Different Terminology used in Commercial and Co-operative Banking                                                                                                                                                                                                                 | To memorize various technical and non-technical terms used in day-to-day banking |
| <b>SECOND TERM</b> |                                                                        |                                                                                                                                                                                                                                                                                   |                                                                                  |
| <b>5</b>           | Functioning of Commercial Banks                                        | Meaning, Definition, Features of Commercial Banks, Types of Commercial Banks, Functioning of Commercial Banks, Organization Structure of Commercial Banks – head office, regional office, training centre, main district office and branch                                        | To get acquaint the functions of commercial banks                                |
| <b>6</b>           | Functioning of Co-operative Banks                                      | Meaning, Definition, Features of Co-operative Banks, Types of Co-operative Banks, Functioning of Co-operative Banks, Organization Structure of Co-operative Banks – head office, regional office, training centre, main district office and branch                                | To get acquaint the functions of co-operative banks                              |
| <b>7</b>           | Government Diploma in Co-operative and Accountancy (GDCA)              | Syllabus – Preparation for Examination – Appearing for Examination                                                                                                                                                                                                                | To study the syllabus of GDCA and mentally prepare for appearing GDCA exams      |
| <b>8</b>           | Case Study of Functioning of Commercial / Co-operative Banks in Nashik | Branch, Location, Customers, A/c opening, KYC Procedure, Withdraw, Pay in, Customer relationship, Observation of day-to-day activity, Maintenance of records<br>Visit to any five commercial and five co-operative banks in Nashik District and preparation of reports and visits | To get expertise in Indian Banking system                                        |

### Teaching Methodology for First and Second Term

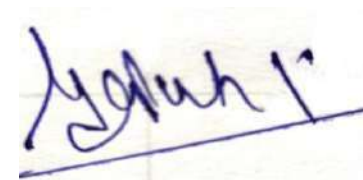
| Unit No.    | Total Lectures | Innovative methods to be used       | Film shows and AV Applications | Project | Expected Outcome                                              |
|-------------|----------------|-------------------------------------|--------------------------------|---------|---------------------------------------------------------------|
| FIRST TERM  |                |                                     |                                |         |                                                               |
| 1           | 12             | Guest Lecture and Group Discussion  | -----                          | -----   | -----                                                         |
| 2           | 12             | Guest Lecture                       | -----                          | -----   | -----                                                         |
| 3           | 12             | Guest Lecture & Library Assignments | -----                          | -----   | -----                                                         |
| 4           | 12             | Group Discussion/ Workshop/ Visits  | -----                          | -----   | -----                                                         |
| SECOND TERM |                |                                     |                                |         |                                                               |
| 5           | 12             | Guest Lecture and Group Discussion  | -----                          | -----   | Collection and solving of ten question papers of Banking Exam |
| 6           | 12             | Guest Lecture                       | -----                          | -----   | Collection and solving of ten question papers of Banking Exam |
| 7           | 12             | Guest Lecture & Library Assignments | -----                          | -----   | To solve atleast five years question paper of GDCA exam       |
| 8           | 12             | Group Discussion/ Workshop/ Visits  | -----                          | -----   | -----                                                         |

**Method of Evaluation**

| Subject     | Internal Evaluation            | External Evaluation             |
|-------------|--------------------------------|---------------------------------|
| FIRST TERM  |                                |                                 |
| Unit – I    | Internal assessment : 30 Marks | Final University exam: 70 Marks |
| Unit – II   |                                |                                 |
| Unit – III  |                                |                                 |
| Unit – IV   |                                |                                 |
| SECOND TERM |                                |                                 |
| Unit – V    | Internal assessment : 30 Marks | Final University exam: 70 Marks |
| Unit – VI   |                                |                                 |
| Unit – VII  |                                |                                 |
| Unit – VIII |                                |                                 |

## References

| Sr. No. | Title of the Book                                            | Author/s            | Publication            | Place     |
|---------|--------------------------------------------------------------|---------------------|------------------------|-----------|
| 1.      | Fundamentals of Banking – Theory and Practice                | Basu A.K.           | Mukherjee & Co.        | Kolkata   |
| 2.      | Banking Theory and Practice                                  | Shekhar and Shekhar | Vikas Publishing House | New Delhi |
| 3.      | Practice and Law of Banking                                  | Khubchandani B.S.   | Macmillan              | New Delhi |
| 4.      | Banking Awareness for SBI & IBPS Bank Clerk/PO/RRB/RBI Exams | Disha Experts       | Disha Publications     | New Delhi |
| 5.      | Management and Operations Of Co-Operative Banks              | IIBF                | Macmillan              | New Delhi |



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## Revised Syllabus (2019 Pattern) for three years B.Com Degree Course (CBCS)

**Semester:- I & II**

**Subject:- Official Correspondence & Drafting Skills with Tally**

### Syllabus for B.Com Semester- I & II

**Subject Name:- Official Correspondence & Drafting Skills with Tally**

**Course Code:- Corres (Restructure)**

**Objectives:-** This subject will make students acquaint with terminology and expertise in official correspondence. This subject will educate about Tally and drafting skills.

| UNIT NO.          | TITLE                                            | CONTENTS                                                                                                                                                                                                                                                                                                                                                                                | PURPOSE SKILLS TO BE DEVELOPED                                     |
|-------------------|--------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------|
| <b>FIRST TERM</b> |                                                  |                                                                                                                                                                                                                                                                                                                                                                                         |                                                                    |
| <b>1</b>          | Modern Office Management and its Function        | Meaning of office, Characteristics of Modern Office , Role and importance of modern office, Role of Office Manager/ In-charge and his position and status                                                                                                                                                                                                                               | To know the importance of modern office management                 |
| <b>2</b>          | Modern Office Organization and Office Automation | Basic steps in Modern office organization<br>Organization – Principles and techniques<br>Effective use of Office Committees<br>The idea organization<br>Delegation and decentralization of authority<br>Features of Good office systems<br>Importance of flow for smooth work<br>Objectives of office layout<br>Guidelines in designing modern office layout<br>Elements of supervision | To focus light on modern office organization and office automation |

|                    |                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                 |
|--------------------|--------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|
|                    |                                                                    | Qualities of good supervisor<br>Supervisor and good human relation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                 |
| 3                  | Records Indexing, Office Furniture, Office Machines and Equipments | Definition of records, importance of records, objectives of maintaining records, record management, element of record management system, filing system and its qualities, types of filing systems<br>Objectives of indexing, selection of suitable indexing<br>Need of office furniture – various types of furniture required in office<br>Principles of the selection of furniture – modern modular furniture<br>Office mechanization – purpose of office machines, various machines used in modern office<br>Various equipments required for office | To take review of the importance of records indexing, furniture, office, machines and equipments                                |
| 4                  | Management and Control                                             | Office forms and kinds of forms, advantages, form design, guidelines in form design<br>Objectives of form control, its management and control                                                                                                                                                                                                                                                                                                                                                                                                         | To examine the importance of various forms used in day-to-day office functioning and focus on guidelines regarding form control |
| <b>SECOND TERM</b> |                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                 |
| 5                  | Office Correspondence and Mail                                     | Meaning of Office Correspondence, external and internal correspondence, centralized and decentralized correspondence, drafting of correspondence, methods of drafting correspondence, skill, language, techniques, selection of proper words in drafting etc<br>Importance of reproduction, business mail service, planning the business mail service, classification of business mail, postal services, maintaining record<br>Enterprise resource planning (ERP)                                                                                     | To discuss and draft the various types of office correspondence and mail                                                        |
| 6                  | Office Manual, Stationery and Reports                              | Need, benefits, types of office manual<br>Effective preparation of office manual<br>Office stationery and need to control office stationery                                                                                                                                                                                                                                                                                                                                                                                                           | To study the importance of office manual, stationery and reports                                                                |

|   |                              |                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                    |
|---|------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|
|   |                              | <p>Demand and supply, issue of stationery, importance of stationery, essentials of good system of regulatory stationery</p> <p>Nature and functions of personal management in motivation, work measurement and standardization</p> <p>Meaning of office reports, types of reports, basic principles of reports, qualities of good reports, drafting of report writing, specimen reports drafting, precise writing</p> |                                                                                                    |
| 7 | Development of Communication | <p>Process of communication, importance of office communication, types of office communication, factors affecting choice of the methods of external communication, common barriers to communication, on job training of communication, drafting correspondence</p>                                                                                                                                                    | To focus on the need of effective communication and steps to be taken                              |
| 8 | Career Opportunities         | <p>Career opportunities in Govt, Semi Govt, Multinationals and renowned companies</p> <p>Various certificate courses - MS-CIT, Tally, Data entry courses</p>                                                                                                                                                                                                                                                          | To study the various career opportunities available in Govt, Semi Govt and Multinational companies |

### Teaching Methodology for First and Second Term

| Unit No.    | Total Lectures | Innovative methods to be used       | Film shows and AV Applications | Project | Expected Outcome |
|-------------|----------------|-------------------------------------|--------------------------------|---------|------------------|
| FIRST TERM  |                |                                     |                                |         |                  |
| 1           | 12             | Guest Lecture and Group Discussion  | -----                          | -----   | -----            |
| 2           | 12             | Guest Lecture                       | -----                          | -----   | -----            |
| 3           | 12             | Guest Lecture & Library Assignments | -----                          | -----   | -----            |
| 4           | 12             | Group Discussion/ Workshop/ Visits  | -----                          | -----   | -----            |
| SECOND TERM |                |                                     |                                |         |                  |
| 5           | 12             | Guest Lecture and Group Discussion  | -----                          | -----   | -----            |
| 6           | 12             | Guest Lecture                       | -----                          | -----   | -----            |
| 7           | 12             | Guest Lecture & Library Assignments | -----                          | -----   | -----            |
| 8           | 12             | Group Discussion/ Workshop/ Visits  | -----                          | -----   | -----            |

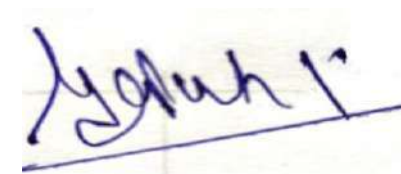


**Method of Evaluation**

| Subject     | Internal Evaluation            | External Evaluation             |
|-------------|--------------------------------|---------------------------------|
| FIRST TERM  |                                |                                 |
| Unit – I    | Internal assessment : 30 Marks | Final University exam: 70 Marks |
| Unit – II   |                                |                                 |
| Unit – III  |                                |                                 |
| Unit – IV   |                                |                                 |
| SECOND TERM |                                |                                 |
| Unit – V    | Internal assessment : 30 Marks | Final University exam: 70 Marks |
| Unit – VI   |                                |                                 |
| Unit – VII  |                                |                                 |
| Unit – VIII |                                |                                 |

## References

| Sr. No. | Title of the Book                                         | Author/s                       | Publication               | Place     |
|---------|-----------------------------------------------------------|--------------------------------|---------------------------|-----------|
| 1.      | Business Correspondence and Report Writing                | R.C. Sharma and Krishna Mohan  | McGraw Hill               | New Delhi |
| 2.      | Modern Office Management                                  | Jain J.N. and Singh P.P.       | Regal Publication         | New Delhi |
| 3.      | Oxford Handbook of Commercial Correspondence              | Ashley A.                      | Oxford University Press   | New Delhi |
| 4.      | Effective Office Communications Noting and Drafting (CAP) | Shital Parkash,<br>M.K.Agarwal | Pustak Mahal              | New Delhi |
| 5.      | Writing Skills: Success in 20 Minutes a Day               | Judith F. Olson                | Goodwill Publishing House | New Delhi |



**Prof. Dr. Gangadhar V. Kayandepatil**

**Chairman**

Steering Committee

**Savitribai Phule Pune University, Pune**

## Revised Syllabus (2019 Pattern) for three years B.Com Degree Course (CBCS)

**Semester:- I & II**

**Subject:- Professional Ethics, Values & Integrity**

### Syllabus for B.Com Semester- I & II

**Subject Name:- Professional Ethics, Values & Integrity**

**Course Code:- Ethics (Restructure)**

**Objectives:-** This subject will teach about issues relating to integrity and probity in public life and develop problem solving approach related to society.

| UNIT NO.   | TITLE                               | CONTENTS                                                                                                                                                                                                                                                                                                                                                                                                                                                       | PURPOSE SKILLS TO BE DEVELOPED                |
|------------|-------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|
| FIRST TERM |                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                               |
| 1          | Introduction to Ethics and Morality | Meaning and Objectives of Ethics and Morality<br>Difference between Ethics and Morality<br>Moral Standards and Moral Development<br>Essence determinants and consequences of Ethics in human actions<br>Dimensions of ethics<br>Ethics in public and private relationships<br>Human values – lessons from the lives and teachings of great leaders, reformers and administrators<br>Role of family, society and educational institutions in inculcating values | To know the concept of Ethics and Morality    |
| 2          | Business Ethics                     | Business Ethics - Meaning, Objectives, Need to study and Scope<br>Views in Business Ethics – Separatist, Unitarian, Integration                                                                                                                                                                                                                                                                                                                                | To consider the importance of Business Ethics |

|                    |                                      |                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                |
|--------------------|--------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
|                    |                                      | Principles of Business Ethics                                                                                                                                                                                                                                                                                                                                      |                                                                                                |
| 3                  | Theories of Business Ethics          | Meaning and Relevance of Theory of Business Ethics<br>Foundation of Theories of Business Ethics<br>Theories of Business Ethics – Teleological and Deontological Theories                                                                                                                                                                                           | To take review of various theories of Business Ethics and its importance in present era        |
| 4                  | Human Values and Professional Ethics | Meaning and Formation of Human Values<br>Importance of Human Values at the Workplace<br>Meaning of Profession and Professional Ethics<br>Difference between Professional Ethics and Personal Ethics<br>Professional Ethos – Meaning and Significance                                                                                                               | To consider the significance of Human values and Professional Ethics in present era            |
| <b>SECOND TERM</b> |                                      |                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                |
| 5                  | Ethical Dilemmas in Business         | Ethical Dilemma – Meaning and Types<br>Resolving Ethical Dilemmas at Workplace<br>Case Study to resolve Ethical Dilemma                                                                                                                                                                                                                                            | To explain the ethical dilemma in business                                                     |
| 6                  | Ethical Decision Making              | Ethical Decision Making – Meaning and Importance<br>Determinants of Ethical Decision Making – Individual and Situational Factors<br>Models of Ethical Decision Making – Consequentialist and Non-consequentialist Theory<br>Kohlberg's Model of Moral Development and Decision Making<br>Ethical Decision Making Process<br>Limitations in Making Ethical Decision | To teach the importance of ethical decision making and its application in students near future |
| 7                  | Code of Ethics                       | Code of Ethics – Meaning, Importance and Advantage<br>Clauses in Code of Ethics<br>Procedure of preparing Code of Ethics<br>Implementation of Code of Ethics                                                                                                                                                                                                       | To examine various aspects of code of ethics                                                   |
| 8                  | Case Study                           | Various Case Studies related to Code of Ethics to be taken from UPSC Mains Examination Paper of Ethics, Integrity and Aptitude                                                                                                                                                                                                                                     | To obtain the knowledge of Ethics, Values and Integrity in professional and personal life      |

### Teaching Methodology for First and Second Term

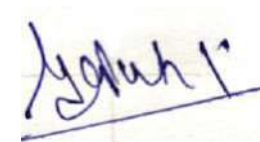
| Unit No.    | Total Lectures | Innovative methods to be used       | Film shows and AV Applications | Project | Expected Outcome |
|-------------|----------------|-------------------------------------|--------------------------------|---------|------------------|
| FIRST TERM  |                |                                     |                                |         |                  |
| 1           | 12             | Guest Lecture and Group Discussion  | -----                          | -----   | -----            |
| 2           | 12             | Guest Lecture                       | -----                          | -----   | -----            |
| 3           | 12             | Guest Lecture & Library Assignments | -----                          | -----   | -----            |
| 4           | 12             | Group Discussion/ Workshop/ Visits  | -----                          | -----   | -----            |
| SECOND TERM |                |                                     |                                |         |                  |
| 5           | 12             | Guest Lecture and Group Discussion  | -----                          | -----   | -----            |
| 6           | 12             | Guest Lecture                       | -----                          | -----   | -----            |
| 7           | 12             | Guest Lecture & Library Assignments | -----                          | -----   | -----            |
| 8           | 12             | Group Discussion/ Workshop/ Visits  | -----                          | -----   | -----            |

**Method of Evaluation**

| Subject     | Internal Evaluation            | External Evaluation             |
|-------------|--------------------------------|---------------------------------|
| FIRST TERM  |                                |                                 |
| Unit – I    | Internal assessment : 30 Marks | Final University exam: 70 Marks |
| Unit – II   |                                |                                 |
| Unit – III  |                                |                                 |
| Unit – IV   |                                |                                 |
| SECOND TERM |                                |                                 |
| Unit – V    | Internal assessment : 30 Marks | Final University exam: 70 Marks |
| Unit – VI   |                                |                                 |
| Unit – VII  |                                |                                 |
| Unit – VIII |                                |                                 |

## References

| Sr. No. | Title of the Book                                                 | Author/s                           | Publication                                  | Place     |
|---------|-------------------------------------------------------------------|------------------------------------|----------------------------------------------|-----------|
| 1.      | A Foundation Course in Human Values and Professional Ethics       | R.R. Gaur, R. Sangal, G.P. Bagaria | Excel Books                                  | New Delhi |
| 2.      | A Textbook on Professional Ethics and Human Values                | R.S. Naagarazan                    | New Age International Pvt Ltd                | New Delhi |
| 3.      | Professional Ethics and Human Values                              | Govindarajan M                     | Prentice Hall India Learning Private Limited | New Delhi |
| 4.      | Ethics, Integrity & Aptitude: For Civil Services Examination 2019 | G. Subba Rao, P.N. Roy Showdhury   | G.K. Pub                                     | New Delhi |
| 5.      | Business Ethics and Corporate Governance                          | A.C. Fernando                      | Pearson                                      | Chennai   |
| 6.      | Making Ethical Decisions                                          | Weeks Louis B.                     | Westminster/John Knox Press,                 | USA       |



**Prof. Dr. Gangadhar V. Kayandepatil**

**Chairman**

Steering Committee

**Savitribai Phule Pune University, Pune**

## Revised Syllabus (2019 Pattern) for three years B.Com Degree Course (CBCS)

**Semester:- I & II**

**Subject:- Foundation Course**

### Syllabus for B.Com Semester- I & II

**Subject Name:- Foundation Course**

**Course Code:- FC (Restructure)**

Objectives: - To make the student acquaint with social, religious, cultural economic aspect and problems of India. The course will also imbibe scientific temper and progress of Indian after Independence.

| UNIT NO.          | TITLE                          | CONTENTS                                                                                                                                                                                                                                                                                                                                                                                                                                        | PURPOSE SKILLS TO BE DEVELOPED                                                    |
|-------------------|--------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| <b>FIRST TERM</b> |                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                   |
| <b>1</b>          | Career Guidance and Counseling | Meaning and importance of career guidance & counseling<br>Preparation for UPSC, MPSC, Banking, Railway, Insurance and other exams planning and discussion<br>Syllabus and Exam pattern of UPSC, MPSC, Banking, Insurance and other exams<br>Preparation for CA, ICWA, CS and other professional exam                                                                                                                                            | To focus on career opportunities available for Commerce students after graduation |
| <b>2</b>          | Social Problems in India       | Meaning, Definition, Nature & Characteristics of Indian Society.<br>Features of Indian Social Structure – Institutions, Valuable & Symbolic<br>Meaning and Definition of Caste, Features of Indian Caste System, Merit and Demerits of Caste System<br>Schedule Caste, Schedule Tribes, Vimukt & Nomadic Tribes, Other Backward Class and Economically Backward Classes and their problems. Various measures to solve the problems. Problems of | To take review of Social Problems in India and find the solution to tackle them   |



|   |                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                         |
|---|----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
|   |                                        | <p>untouchability in India. Effects of Superstitions</p> <p>Educational growth and its impact on Society after Independence</p> <p>Intercaste marriages, migration of various people of different caste to urban &amp; other countries.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                         |
| 3 | Religious and Cultural Aspect of India | <p>Meaning, Definition and Type of Culture, Characteristics of Indian Culture</p> <p>Meaning, Definition and Type of Culture, Characteristics of Religious</p> <p>Religion as General concept, Religious comparison of Indian Population, Role of Religion in society, Importance of Religion in Indian Society. Indian Religious Philosophy and various changes including Liberation Movement</p> <p>Meaning, Definition and Type of Culture, Characteristics of National Integration and factors responsible for binding. Measures for promotion of National Integration. National Integration Committee and Council. Conferences of State Chief Ministers</p> <p>Minorities in India – Jains, Buddhists, Muslims, Sikhs and other minorities. Constitutional Provisions and Minorities Commission and its recommendations</p> | To take review of Religious and Cultural aspects of India from historic time till date  |
| 4 | Economic Problems in India             | <p>Characteristics of Indian Economy</p> <p>Economics equality vs Economic inequality, types of Economics inequality</p> <p>National income – per capita income</p> <p>Extent of inequalities of Income in India</p> <p>Causes of Economic inequality in India</p> <p>Effects of Economic inequality</p> <p>Various schemes and programmes for removing of Economic inequality in India</p> <p>Meaning, Definition, Features, Measurements of Poverty, Poverty Line,</p> <p>Types &amp; Indicators of Poverty, Poverty in India, Causes of Poverty</p>                                                                                                                                                                                                                                                                           | To know and discuss the economic problems in India and probable solution to removing it |

|                    |                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                            |
|--------------------|-----------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|
|                    |                                               | <p>in India, Effects of Poverty, Various schemes &amp; programmes for removal of poverty in India</p> <p>Meaning, Types and Causes of Unemployment, Rural Unemployment and Causes of increasing rural unemployment</p> <p>Urban unemployment, causes of increasing Urban Unemployment, various schemes &amp; programmes for removal of rural &amp; urban unemployment in India</p> <p>Review of 5 year plan and role of Planning Commission (1951-2014) and role of NITI Aayog since 2014</p> <p>Review and impact of LPG (Liberalization, Privatization and Globalization) since 1991</p> |                                                                                            |
| <b>SECOND TERM</b> |                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                            |
| 5                  | Political Science                             | <p>Basic Concepts of Political Science – Constitution, State, Government, Nation, Parliament, Executive, Judiciary, Rule of Law</p> <p>Democracy – a form of Government, Meaning, Definition, Type, Merit and Demerit of Democracy</p> <p>Success &amp; Drawbacks of Democracy in India. Measures to be taken to remove drawbacks of Democracy in India</p> <p>Features and important provisions of Indian Constitution, Significance of Preamble of Indian Constitution</p> <p>Fundamental Rights and Duties of Indian Citizen, Liberty, Equality, Fraternity</p>                         | To know the basic concepts of Political Science and focus on basics of Indian Constitution |
| 6                  | Introduction of Science and Scientific Method | <p>Meaning, Definition, Nature and Characteristics of Science, Objectives, Importance, Presupposition of Science, Classification of Science, Distinction between Natural and Social Sciences</p> <p>Knowledge and Science</p> <p>Limitations of Science</p> <p>Meaning, Definition, Features, Nature of Scientific Method. Sciences and their methods. Steps involved in Scientific Methods</p> <p>Limitations of Scientific Method</p> <p>Difficulties in Social Sciences</p> <p>Meaning, Definition, Characteristics of Hypothesis</p>                                                   | To study Science and Scientific Methods and develop Research Aptitude among the students   |

|   |                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                       |
|---|----------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|
|   |                                              | <p>Some examples of Hypothesis, Construction of Hypothesis</p> <p>Types of Hypothesis</p> <p>Functions and Importance of Hypothesis</p> <p>Use of Hypothesis in Research</p> <p>Meaning of Analogy, Reasoning from Analogy, Analogy and Scientific Induction, Strength of Analogical Reasoning, Misuse of Analogy, False Analogy, Analogy and Model. Critical Experimental Progress</p>                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                       |
| 7 | Development & Impact of Science & Technology | <p>Introduction – Modern Period, Steam Engines, Invention of Aeroplane, Discovery of an atom, Invention of X-Ray, Computers. Space Era. Robot</p> <p>Effects of Science and Technology on Nature of Indian Agriculture – Importance of Agriculture in Indian Economy</p> <p>Effects of Science and Technology on Agriculture, Agriculture Production &amp; Technology, White &amp; Green revolution</p> <p>Population in India – Concept, Size – Growth of Population in India</p> <p>Causes of Rapid growth in population and its effect in Economic Development. Effects of Science and Technology on Population Growth and its control</p> <p>Measures to control the increasing population</p> <p>Effects of Science &amp; Technology on Distribution, Transport, Rural Development, Human Values and Superstitions</p> | To explain the role of Science and Technology for welfare of Humanity |
| 8 | Modernization in India after Independence    | <p>Meaning, Definitions, Types of Modernization</p> <p>Effects of Modernization on Indian Society</p> <p>Meaning and role of Scientific Temper</p> <p>Impact of Education on Modernization</p> <p>Impact of Industrial Revolution, Meaning and Type of Pollution, Impact of Pollution on Society, Various Acts related to control of Pollution</p> <p>Meaning and Importance of Disaster Management</p>                                                                                                                                                                                                                                                                                                                                                                                                                     | To take review of the effects of Modernization on Indian Society      |

### Teaching Methodology for First and Second Term

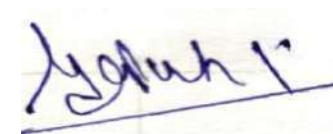
| Unit No.    | Total Lectures | Innovative methods to be used       | Film shows and AV Applications | Project | Expected Outcome |
|-------------|----------------|-------------------------------------|--------------------------------|---------|------------------|
| FIRST TERM  |                |                                     |                                |         |                  |
| 1           | 12             | Guest Lecture and Group Discussion  | -----                          | -----   | -----            |
| 2           | 12             | Guest Lecture                       | -----                          | -----   | -----            |
| 3           | 12             | Guest Lecture & Library Assignments | -----                          | -----   | -----            |
| 4           | 12             | Group Discussion/ Workshop/ Visits  | -----                          | -----   | -----            |
| SECOND TERM |                |                                     |                                |         |                  |
| 5           | 12             | Guest Lecture and Group Discussion  | -----                          | -----   | -----            |
| 6           | 12             | Guest Lecture                       | -----                          | -----   | -----            |
| 7           | 12             | Guest Lecture & Library Assignments | -----                          | -----   | -----            |
| 8           | 12             | Group Discussion/ Workshop/ Visits  | -----                          | -----   | -----            |

**Method of Evaluation**

| Subject     | Internal Evaluation            | External Evaluation             |
|-------------|--------------------------------|---------------------------------|
| FIRST TERM  |                                |                                 |
| Unit – I    | Internal assessment : 30 Marks | Final University exam: 70 Marks |
| Unit – II   |                                |                                 |
| Unit – III  |                                |                                 |
| Unit – IV   |                                |                                 |
| SECOND TERM |                                |                                 |
| Unit – V    | Internal assessment : 30 Marks | Final University exam: 70 Marks |
| Unit – VI   |                                |                                 |
| Unit – VII  |                                |                                 |
| Unit – VIII |                                |                                 |

## References

| Sr. No. | Title of the Book                    | Author/s                         | Publication                          | Place  |
|---------|--------------------------------------|----------------------------------|--------------------------------------|--------|
| 1.      | Introduction to Indian Society       | V.Shrivastva                     | Mahaveer & Sons Publication, (2011)  | Delhi  |
| 2.      | Indian Economy                       | Gaurav Dutt and Ashwini Mahajan  | S.Chand Publications, (2016)         | Delhi  |
| 3.      | Agriculture and Environment in India | Surya Bhushan                    | New Century Publications,(2016)      | Delhi  |
| 4.      | Indian Economy                       | S.K. Mishra and V.K.Puri         | Himalaya Publishing House (2018)     | Mumbai |
| 5.      | Indian Economy                       | Gaurav Dutt and Ashwini Mahajan  | S.Chand Publications, (2016)         | Delhi  |
| 6.      | Indian Economy                       | S.K. Mishra and V.K.Puri         | Himalaya Publishing House, (2018-19) | Mumbai |
| 7.      | Constitution of India                | Agrawal P.K. and K.N.Chaturvedi  | Prabhat Prakashan,(2017),            | Delhi  |
| 8.      | Foundation Course                    | Dr. Gangadhar Kayandepatil & Ors | Chaitanya Publication                | Nashik |



**Prof. Dr. Gangadhar V. Kayandepatil**

**Chairman**

Steering Committee

**Savitribai Phule Pune University, Pune**

**Syllabus for F.Y.B.Com**  
**Semester-II, Paper-II**  
**Subject Name: - Financial Accounting- II**  
**Course Code - 122**

**Objectives of the course**

This course is intended to introduce the basic theory, concepts and practice of financial accounting and to enable students to understand information contained in the published financial statements of companies and other organizations. It includes the preparation of accounting statements, but their uses and limitations will also be emphasized.

Depth of the program – fundamental Knowledge

**Objective of the Program**

1. To impart knowledge of various software used in accounting
2. To impart knowledge about final accounts of charitable trusts
3. To impart knowledge about valuation of intangible assets
4. To impart knowledge about accounting for leases

| Unit No. | Unit Title                  | Contents                                                                                                                                                                                                                                                                                                  | Purpose Skills to be developed                                                                                                                            |
|----------|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1        | Software used in Accounting | <ol style="list-style-type: none"><li>1. Types of Accounting Software</li><li>2. Use of Accounting Software</li><li>3. Installation of Accounting Software</li><li>4. Advantages and disadvantages of Accounting Software</li></ol> <p>Voucher entry and Report Generation including GST transactions</p> | <ul style="list-style-type: none"><li>• Students are expected to acquaint themselves with Computerised accounting, its application and utility.</li></ul> |

|   |                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                          |
|---|------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2 | <b>Final Accounts of Charitable Trust (Clubs, Hospitals, Libraries etc.)</b> | <ol style="list-style-type: none"> <li>1. Meaning and Characteristics</li> <li>2. Accounting Records</li> <li>3. Income and Expenditure Account</li> <li>4. Receipt and Payment Account</li> <li>5. Balance Sheet and Adjustments</li> </ol>                                                                                                                                                                                                 | <ul style="list-style-type: none"> <li>• Understanding the accounting process of accounting of charitable trusts</li> <li>• Recording basic accounting transactions and prepare annual financial statements; and</li> <li>• Analyzing , interpreting and communicating the information contained in basic financial statements and explain the limitations of such statements</li> </ul> |
| 3 | <b>Valuation of Intangibles</b>                                              | <ol style="list-style-type: none"> <li>1. Valuation of Goodwill (Problem)</li> <li>2. Valuation of Brands</li> <li>3. Valuation of Patents, Copyright and Trademark etc.</li> </ol>                                                                                                                                                                                                                                                          | <ul style="list-style-type: none"> <li>• Learning the concept of intangible assets and the methods of their valuation.</li> </ul>                                                                                                                                                                                                                                                        |
| 4 | <b>Accounting for Leases</b>                                                 | <ol style="list-style-type: none"> <li>1. Types of Lease (Finance Lease and Operating Lease)</li> <li>2. Finance Lease (Hire Purchase and installment) (Theory)</li> <li>3. Operating Lease</li> <li>4. Royalty,</li> <li>5. Minimum Rent,</li> <li>6. Short Workings,</li> <li>7. Recoupment Of Short Working,</li> <li>8. Lapse of Short Working</li> </ol> <p>Journal Entries and Ledger Accounts in the Books of Landlord and Lessee</p> | <ul style="list-style-type: none"> <li>• Understanding the process and methods of leasing.</li> </ul>                                                                                                                                                                                                                                                                                    |



Teaching methodology

| Topic No. | Total Lectures | Innovative methods to be used                                    | Film shows and AV Applications | Project                  | Expected Outcome                                    |
|-----------|----------------|------------------------------------------------------------------|--------------------------------|--------------------------|-----------------------------------------------------|
| 1         | 12             | Hands-on experience of using accounting software on computers    | Videos available on YouTube    | Voucher entries in tally | Students will be able to acquire in-depth knowledge |
| 2         | 12             | Visit to charitable trust for collection of relevant information | Videos available on YouTube    | Visit report             | Students will be able to acquire in-depth knowledge |
| 3         | 12             | Case studies on intangible assets and its valuation              | Videos available on YouTube    | Report writing           | Students will be able to acquire in-depth knowledge |
| 4         | 12             | Case studies and expert lectures.                                | Videos available on YouTube    | NA                       | Students will be able to acquire in-depth knowledge |

| Sr. No. | Title of the Book              | Author/s                             | Publication             | Place      |
|---------|--------------------------------|--------------------------------------|-------------------------|------------|
| 1.      | Advanced Accounts              | M.C. Shukla, T.S. Grewal, S.C. Gupta | S. Chand Publication    | New Delhi. |
| 2.      | Financial Accounting for B.Com | CA (Dr.) P.C. Tulsian S.C. Gupta     | S. Chand Publication    | New Delhi. |
| 3.      | Financial Accounting           | Dr. Kishor Jagtap                    | Tech- Max Publications, | Pune       |
| 4.      | Introduction to Accountancy    | S.R.N Pillai & Bhagavathi            | S.Chand & CompanyLtd    | New Delhi  |

|    |                                                 |                                               |                                                 |                      |
|----|-------------------------------------------------|-----------------------------------------------|-------------------------------------------------|----------------------|
| 5. | Corporate Accounting                            | Raj Kumar Sah                                 | Cengage Publications                            | Noida, Uttar Pradesh |
| 6. | Principles of Accountancy                       | Principles of Accountancy                     | S.Chand & CompanyLtd                            | New Delhi            |
| 7. | Advanced Accounting                             | S. N. Maheshwari                              |                                                 |                      |
| 8. | GST Law and Analysis with Conceptual Procedures | Bimal Jain and Isha Bansal (Set of 4 Volumes) | Pooja Law Publishing Company                    | New Delhi            |
| 9. | Guidance Note on GST by ICAI                    | --                                            | The Institute of Chartered Accountants of India | New Delhi            |

### Practical for Semester – II

| Topic                                                                                                | Mode of Practical   |
|------------------------------------------------------------------------------------------------------|---------------------|
| Introduction to Computerised accounting, Accounting software, Features, advantages and disadvantages | Library Assignment  |
| Company creation                                                                                     | Computer Laboratory |
| Groups and ledgers creation                                                                          | Computer Laboratory |
| Voucher entries including GST and Report Generation                                                  | Computer Laboratory |

## Revised syllabi (2019 Pattern) for Three Years B. Com. Degree course (CBCS)

### First Year B. Com Semester-II Course Code - 123

#### Business Economics (Micro) - II

##### Objectives:

1. To understand the basic concepts of micro economics.
2. To understand the tools and theories of economics for solving the problem of decision making by consumers and producers.
3. To understand the problem of scarcity and choices.

Depth of the program – Fundamental Knowledge

##### Objectives of the Program

1. To impart knowledge of business economics
2. To clarify micro economic concepts
3. To analyze and interpret charts and graphs
4. To understand basic theories, concepts of micro economics and their application

| Unit No. | Unit Title              | Contents                                                                                                                                                                                                                                                                                                                                                                                                               | Purpose skills to be developed                                                                                                                                                                                                                                                                                                       |
|----------|-------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1        | <b>Cost and Revenue</b> | 1.1 Concepts and Types of Cost- Economic Cost and Accounting Cost, Private Cost and Social Cost, Actual Cost and Opportunity Cost, Explicit Cost and Implicit Cost, Incremental Cost and Sunk Cost, Fixed Cost and Variable Cost<br>1.2 Relation between Total Cost, Average Cost and Marginal Cost<br>1.3 Cost Curves in Short run and Long run<br>1.4 Concept of Total Revenue, Average Revenue and Marginal Revenue | <ul style="list-style-type: none"><li>• To understand the concept and types of cost</li><li>• To make the students know about short run and long run cost concepts</li><li>• To impart knowledge about types of revenue</li></ul> <p>Skills: Interpretation of cost curves, integrate cost and revenue concepts, draw inferences</p> |

|    |                                                  |                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                   |
|----|--------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2  | <b>Pricing Under Perfect Market Conditions</b>   | 2.1 Pure Competition: Meaning and Features<br>2.2 Features of Perfect Competition<br>2.3 Price Determination in Perfect Competition<br>2.4 Equilibrium of Firm and Industry in Short Run and Long Run                                                                                                                                 | <ul style="list-style-type: none"> <li>To help the students understand the concept of pure and perfect competition</li> <li>To impart knowledge about equilibrium of firm and industry in short and long run.</li> </ul> Skills: Understanding, writing skills, critical thinking |
| 3. | <b>Pricing Under Imperfect Market Conditions</b> | 1.1 Meaning of Imperfect Competition<br>1.2 Monopoly: Features and Equilibrium, Price Discrimination<br>3.3 Monopolistic Competition- Features and Equilibrium.<br>3.4 Oligopoly: Concept and Features<br>3.5 Duopoly: Concept and Features<br>3.6 Comparison of Perfect and Imperfect Competition                                    | <ul style="list-style-type: none"> <li>To develop ability to understand the market structures under imperfect competition</li> <li>Ability to compare perfect and imperfect competition</li> </ul> Skills: Understand complex relations, problem solving skill, analytical skill  |
| 4  | <b>Factor Pricing</b>                            | 4.1 Marginal Productivity Theory of Distribution<br>4.2 Rent- Meaning, Ricardian Theory of Rent, Modern Theory of Rent, Concept of Quasi Rent<br>4.3 Wages-<br>4.3.1 Meaning and Types of Wages-<br>a) Minimum Wages b) Money Wages c) Real Wages d) Subsistence Wages e) Fair Wages<br>4.3.2 Backward Bending Supply Curve of Labour | <ul style="list-style-type: none"> <li>To understand the theory of marginal productivity</li> <li>To understand the concept and theories in factor pricing</li> </ul> Skills: Critical thinking, logical thinking, apply information processing skills                            |

|  |  |                                                                                                                                                                                                                                                                   |  |
|--|--|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
|  |  | 4.3.3 Role of Collective Bargaining in Wage Determination<br><br>4.4 Interest-Meaning, Loanable Fund Theory, Liquidity Preference Theory<br><br>4.5 Profit- Meaning, Risk and Uncertainty Theory of Profit, Dynamic Theory of Profit, Innovation Theory of Profit |  |
|--|--|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|

### Teaching methodology

| Topic No. | Total Lectures | Innovative methods to be used                                                                     | Film shows and AV Applications                                                               | Project                                                                                                                          | Expected Outcome                                                                                                                                                                                                                          |
|-----------|----------------|---------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1         | 8              | <ul style="list-style-type: none"> <li>• Open book discussion,</li> <li>• Case studies</li> </ul> | <ul style="list-style-type: none"> <li>• You tube lectures</li> <li>• Online PPTs</li> </ul> | Types of cost in industries<br><br>Comparison of cost and revenues in industries<br><br>Trends of cost and revenue in industries | <ul style="list-style-type: none"> <li>• Will understand the concept and types of cost</li> <li>• Students will know about short run and long run cost concepts</li> <li>• Students will have knowledge about types of revenue</li> </ul> |
| 2         | 8              | Digital lectures<br><br>Interactive lectures                                                      | <ul style="list-style-type: none"> <li>• You tube lectures</li> <li>• Online PPTs</li> </ul> | Application of perfect competition markets in the markets like that of agricultural products, dairy products etc                 | <ul style="list-style-type: none"> <li>• Students will understand the concept of pure and perfect competition</li> <li>• Students will know about the equilibrium of firm and industry in short and long run.</li> </ul>                  |

|   |    |                                                                                                                                |                                                                                              |                                                                                                                                                                                       |                                                                                                                                                                                                               |
|---|----|--------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 3 | 14 | <ul style="list-style-type: none"> <li>• Game oriented classes</li> <li>• Dramatization</li> <li>• Group discussion</li> </ul> | <ul style="list-style-type: none"> <li>• You tube lectures</li> <li>• Online PPTs</li> </ul> | <ul style="list-style-type: none"> <li>• Study of price and output trends in oligopoly markets</li> <li>• Price and non price competition in monopolistic competition</li> </ul>      | <ul style="list-style-type: none"> <li>• Will develop ability to understand the market structures under imperfect competition</li> <li>• Will be able to compare perfect and imperfect competition</li> </ul> |
| 4 | 18 | <ul style="list-style-type: none"> <li>• Group discussion</li> <li>• Teacher driven power point presentation</li> </ul>        | <ul style="list-style-type: none"> <li>• You tube lectures</li> <li>• Online PPTs</li> </ul> | <ul style="list-style-type: none"> <li>• Application of backward bending supply curve of labor in the market</li> <li>• Study of application of theories of factor pricing</li> </ul> | <ul style="list-style-type: none"> <li>• Will understand the theory of marginal productivity.</li> <li>• Will understand the concept and theories in factor pricing</li> </ul>                                |

## References

| Sr. No. | Title of the Book                                         | Author/s                                         | Publication                                | Place            |
|---------|-----------------------------------------------------------|--------------------------------------------------|--------------------------------------------|------------------|
| 1.      | <b>Advanced Economic Theory, Microeconomic Analysis</b>   | <b>Ahuja H.L</b>                                 | <b>S.Chand and Company</b>                 | <b>New Delhi</b> |
| 2.      | <b>Price Theory and Applications</b>                      | <b>Jack Hirshlifer</b>                           | <b>Prentice Hall of India, Pvt. Ltd</b>    | <b>New Delhi</b> |
| 3.      | <b>Microeconomics,</b>                                    | <b>Paul A. Samuelson and William D. Nordhaus</b> | <b>McGrawhill International Ed</b>         | <b>New York</b>  |
| 4.      | <b>First Principles of Economics,</b>                     | <b>Richard G. Lipsey, Colin Harbury:</b>         | <b>Gerorge Weidenfeld and Nicolon Ltd,</b> | <b>London</b>    |
| 5.      | <b>Consumer Behaviour and Managerial Decision Making,</b> | <b>Frank R. Kardes: Pearson,</b>                 | <b>Prentice Hall,</b>                      | <b>New Delhi</b> |
| 6.      | <b>, Microeconomics</b>                                   | <b>R. Glenn Hubbard, Anthony Patrick O.</b>      | <b>Pearson, Prentice Hall,</b>             | <b>New Delhi</b> |

|           |                                                          |                                    |                                |                  |
|-----------|----------------------------------------------------------|------------------------------------|--------------------------------|------------------|
|           |                                                          | <b>Brien</b>                       |                                |                  |
| <b>7.</b> | <b>Microeconomics: Principles, Application and Tools</b> | <b>O'Sullivan, Sheffrin, Perez</b> | <b>Pearson, Prentice Hall,</b> | <b>New Delhi</b> |
| <b>8.</b> | <b>Priniples of Economics</b>                            | <b>Karl E. Case, Ray C.Fair,</b>   | <b>Pearson,Prentice Hall</b>   | <b>New Delhi</b> |

**Suggested References**  
**Web Reference**

| Sr. No | Lectures                                                                                                                                                                        | Films                                                                                                                                                                                                            | PPTs                                                                                                                                                                                                                                                          | Articles                                                                                                                                                                                                                                  |
|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1      | <a href="https://www.youtube.com/watch?v=oA8kL7OD74o">https://www.youtube.com/watch?v=oA8kL7OD74o</a>                                                                           | <a href="https://www.economicsonline.co.uk/Business_economics/Perfect_competition.html">https://www.economicsonline.co.uk/Business_economics/Perfect_competition.html</a>                                        | <a href="https://www.slideshare.net/zeeshan younas35/perfect-and-imperfect-market-competition-76374490">https://www.slideshare.net/zeeshan younas35/perfect-and-imperfect-market-competition-76374490</a>                                                     | <a href="http://www.scielo.br/scielo.php?script=sci_arttext&amp;pid=S1413-70542016000300337">http://www.scielo.br/scielo.php?script=sci_arttext&amp;pid=S1413-70542016000300337</a>                                                       |
| 2      | <a href="https://www.economicshelp.org/blog/311/markets/monopolistic-competition/">https://www.economicshelp.org/blog/311/markets/monopolistic-competition/</a>                 | <a href="https://www.youtube.com/watch?v=TTJ4kFX6uRM">https://www.youtube.com/watch?v=TTJ4kFX6uRM</a>                                                                                                            | <a href="https://slideplayer.com/slide/6410262/">https://slideplayer.com/slide/6410262/</a>                                                                                                                                                                   | <a href="http://www.economicdiscussion.net/price/factor-pricing-concept-and-theories/3875">http://www.economicdiscussion.net/price/factor-pricing-concept-and-theories/3875</a>                                                           |
| 3      | <a href="http://www.economicdiscussion.net/price/factor-pricing-concept-and-theories/3875">http://www.economicdiscussion.net/price/factor-pricing-concept-and-theories/3875</a> | <a href="https://www.youtube.com/watch?v=66fKCrsl_e_8">https://www.youtube.com/watch?v=66fKCrsl_e_8</a><br><a href="https://www.youtube.com/watch?v=qXmGnQ0WzPM">https://www.youtube.com/watch?v=qXmGnQ0WzPM</a> | <a href="http://delhi.gov.in/wps/wcm/connect/40fd320047adb2d2aa2ff3f47d42062/economics-Rands.pps?MOD=AJPERES&amp;lmod=-277090329">http://delhi.gov.in/wps/wcm/connect/40fd320047adb2d2aa2ff3f47d42062/economics-Rands.pps?MOD=AJPERES&amp;lmod=-277090329</a> | <a href="https://www.investopedia.com/ask/answers/032515/what-difference-between-perfect-and-imperfect-competition.asp">https://www.investopedia.com/ask/answers/032515/what-difference-between-perfect-and-imperfect-competition.asp</a> |

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## Syllabus for B. Com. Semester: - II

### Subject Name: - Business Mathematics and Statistics - II

Course code: - 124 (A)

Depth of the program – Basic Knowledge of Mathematics and Statistics

#### Objective of the Program

1. To introduce the basic concepts in Finance and Business Mathematics and Statistics
2. To familiar the students with applications of Statistics and Mathematics in Business
3. To acquaint students with some basic concepts in Statistics.
4. To learn some elementary statistical methods for analysis of data.
5. The main outcome of this course is that the students are able to analyze the data by using some elementary statistical methods

| Unit No. | Unit Title                                                        | Contents                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Purpose Skills to be developed                                                                                                                                                                                                                                                               |
|----------|-------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1        | <b>Matrices and Determinants (up to order 3 only)</b>             | Definition of a Matrix, Types of Matrices, Algebra of Matrices, Determinants, Adjoint of a Matrix, Inverse of a Matrix via Adjoint Matrix, Homogeneous System of Linear equations, Condition for Consistency of homogeneous system, Solution of Non-homogeneous System of Linear equations (not more than three variables), Applications in Business and Economics, Examples and Problems.                                                                       | <ol style="list-style-type: none"><li>1. To understand the concept of matrices and determinants.</li><li>2. To understand the application of determinant in solving linear equations</li><li>3. To understand applications of matrices and determinants in business and economics.</li></ol> |
| 2        | <b>Linear Programming Problems (LPP) (for two variables only)</b> | Definition and terms in a LPP, formulation of LPP, Solution by Graphical method, Examples and Problems                                                                                                                                                                                                                                                                                                                                                           | <ol style="list-style-type: none"><li>1. To understand the concept of LPP and its application in business and decision making.</li><li>2. To understand graphical method to solve business optimization problems with two variables.</li></ol>                                               |
| 3        | <b>Correlation and Regression</b>                                 | Concept and types of correlation, Scatter diagram, Interpretation with respect to magnitude and direction of relationship.<br>Karl Pearson's coefficient of correlation for ungrouped data.<br>Spearman's rank correlation coefficient. (with tie and without tie)<br>Concept of regression, Lines of regression for ungrouped data, predictions using lines of regression. Regression coefficients and their properties (without proof). Examples and problems. | <ol style="list-style-type: none"><li>1. To use correlation for knowing the relationship between two variables.</li><li>2. To use regression for prediction</li></ol>                                                                                                                        |



|   |                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                               |
|---|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 4 | <b>Index numbers</b> | Concept of index number, price index number, price relatives. Problems in construction of index number. Construction of price index number: Weighted index Number, Laspeyre's, Paasche's and Fisher's method. Cost of living / Consumer price index number: Definition, problems in construction of index number. Methods of construction: Family budget and aggregate expenditure. Inflation, Uses of index numbers, commonly used index numbers. Examples and problems. | <ol style="list-style-type: none"> <li>1. To know different types index numbers and problems in their construction.</li> <li>2. To know the applications of various index numbers.</li> </ol> |
|---|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

### Teaching methodology

| Topic No. | Total Lectures | Innovative methods to be used | Expected Outcome                                                                                                                                                          |
|-----------|----------------|-------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1         | 12             | ICT                           | Students will be able to apply the theory of matrices to solve business and economic problems.                                                                            |
| 2         | 12             | ICT                           | Students will be able represent business and economic optimization problems involving two variables as LPP and solve those problems using graphical method                |
| 3         | 16             | ICT                           | <p>Students will able to predict the type of relationship between bivariate data.</p> <p>Students will be able predict the value of unknown from give bivariate data.</p> |
| 4         | 08             | ICT                           | <p>Students will be able compute different index numbers.</p> <p>Students will be able to compute cost of living.</p>                                                     |

**References:**

| <b>Sr. No.</b> | <b>Title of the Book</b>                                           | <b>Author/s</b>                                  | <b>Publication</b>                       | <b>Place</b>                           |
|----------------|--------------------------------------------------------------------|--------------------------------------------------|------------------------------------------|----------------------------------------|
| 1.             | <b>Practical Business Mathematics</b>                              | <b>S. A. Bari</b>                                | <b>New Literature Publishing Company</b> | <b>New Delhi</b>                       |
| 2.             | <b>Mathematics for Commerce</b>                                    | <b>K. Selvakumar</b>                             | <b>Notion Press</b>                      | <b>Chennai</b>                         |
| 3.             | <b>Business Mathematics with Applications</b>                      | <b>Dinesh Khattar &amp; S. R. Arora</b>          | <b>S. Chand Publishing</b>               | <b>New Delhi</b>                       |
| 4.             | <b>Business Mathematics and Statistics</b>                         | <b>N.G. Das &amp; Dr. J.K. Das</b>               | <b>McFraw Hill</b>                       | <b>New Delhi</b>                       |
| 5.             | <b>Fundamentals of Business Mathematics</b>                        | <b>M. K. Bhowal</b>                              | <b>Asian Books Pvt. Ltd</b>              | <b>New Delhi</b>                       |
| 6.             | <b>Operations Research</b>                                         | <b>P. K. Gupta &amp; D. S. Hira</b>              | <b>S. Chand Publishing</b>               | <b>New Delhi</b>                       |
| 7.             | <b>Mathematics for Economics and Finance: Methods and Modeling</b> | <b>Martin Anthony and Norman Biggs</b>           | <b>Cambridge University Press</b>        | <b>Cambridge</b>                       |
| 8.             | <b>Financial Mathematics and Its Applications</b>                  | <b>Ahmad Nazri Wahidudin</b>                     | <b>Ventus Publishing ApS</b>             | <b>Denmark</b>                         |
| 9.             | <b>Fundamentals of Mathematical Statistics</b>                     | <b>Gupta S. C. and Kapoor V. K.,</b>             | <b>Sultan Chand and Sons</b>             | <b>23, Daryaganj, New Delhi 110002</b> |
| 10.            | <b>Statistical Methods</b>                                         | <b>Gupta S. P.:</b>                              | <b>Sultan Chand and Sons</b>             | <b>23, Daryaganj, New Delhi 110002</b> |
| 11.            | <b>Applied Statistics</b>                                          | <b>Mukhopadhyaya Parimal</b>                     | <b>New Central Book Agency Pvt. Ltd.</b> | <b>Calcutta.</b>                       |
| 12.            | <b>Fundamentals of Statistics</b>                                  | <b>Goon A. M., Gupta, M. K. and Dasgupta, B.</b> | <b>World Press</b>                       | <b>Calcutta.</b>                       |

|     |                                    |                                  |                       |                                    |
|-----|------------------------------------|----------------------------------|-----------------------|------------------------------------|
| 13. | Fundamentals of Applied Statistics | Gupta S. C. and<br>Kapoor V. K.: | Sultan Chand and Sons | 23, Daryaganj, New<br>Delhi 110002 |
|-----|------------------------------------|----------------------------------|-----------------------|------------------------------------|

**Suggested references**  
**Web reference for Semester I & II**

1. [www.freestatistics.tk](http://www.freestatistics.tk)(National Statistical Agencies)
2. [www.psychstat.smsu.edu/sbk00.htm](http://www.psychstat.smsu.edu/sbk00.htm)(Onlinebook)
3. [www.bmj.bmjournals.com/collections/statsbk/index.shtml](http://www.bmj.bmjournals.com/collections/statsbk/index.shtml)
4. [www.statweb.calpoly.edu/bchance/stat-stuff.html](http://www.statweb.calpoly.edu/bchance/stat-stuff.html)
5. [www.amstat.org/publications/jse/jse-data-archive.html](http://www.amstat.org/publications/jse/jse-data-archive.html)(International journal on teaching and learning of statistics)
6. [www.amstat.org/publications/chance](http://www.amstat.org/publications/chance)(Chancemagazine)
7. [www.statsci.org/datasets.html](http://www.statsci.org/datasets.html)(Datasets)
8. [www.math.uah.edu/stat](http://www.math.uah.edu/stat)(Virtual laboratories in Statistics)
9. [www.amstat.org/publications/stats](http://www.amstat.org/publications/stats)(STATS : the magazine for students of Statistics)
10. [www.stat.ucla.edu/cases](http://www.stat.ucla.edu/cases)(Case studies in Statistics).
11. [www.statsoft.com](http://www.statsoft.com)
12. [www.statistics.com](http://www.statistics.com)
13. [www.indiastat.com](http://www.indiastat.com)
14. [www.unstat.un.org](http://www.unstat.un.org)
15. [www.stat.stanford.edu](http://www.stat.stanford.edu)
16. [www.statpages.net](http://www.statpages.net)
17. [www.wto.org](http://www.wto.org)
18. [www.censusindia.gov.in](http://www.censusindia.gov.in)
19. [www.mospi.nic.in](http://www.mospi.nic.in)
20. [www.statisticsofindia.in](http://www.statisticsofindia.in)

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# **Computer Concepts & Applications - II**

**Semester – II**

**Course Code -124 (B)**

## **Unit 1 Introduction to E-commerce Tools**

**[12]**

### **Process of E-Commerce**

Types of E-Commerce; Role of Internet and Web in E-Commerce; Technologies Used in E-Commerce Systems

### **E-Commerce Activities:**

Various Activities of E-Commerce; Various Modes of Operation Associated with E-Commerce; Elements and Resources Impacting E-Commerce and Changes; Types of E-Commerce Providers and Vendors; Opportunity Development for E-Commerce Stages; Development of E-Commerce Business Case; Components and Factors for the Development of the Business Case; Steps to Design and Develop an E-Commerce Website.

## **Unit 2 Introductions to E-Marketing**

**[14]**

### **E-Marketing:**

Traditional Marketing; E-Marketing; Identifying Web Presence Goals – Achieving web presence goals, Uniqueness of the web, Meeting the needs of website visitors, Site Adhesion: Content, format and access; Maintaining a Website; Metrics Defining Internet Units of Measurement; Online Marketing; Advantages of Online Marketing.

### **E-Customer Relationship Management:**

Customer Relationship Management (CRM) – Marketing automation, Enterprise customer management; Customer Relationship Management Areas; CRM Processes; Architectural Components of a CRM Solution – Customer's information repository, Campaign management, Event triggers, business logic and rules repository, Forecasting and planning tools, Electronic Customer Relationship Management; Need, Architecture and Applications of Electronic CRM.

### **Supply Chain Management:**

Supply Chain Management (SCM); Goals of SCM; Functions of SCM; Strategies of SCM; Electronic SCM and its benefits; Components of Electronic SCM; Electronic Logistics and its Implementation.

### **Unit 3 Electronic Payment System**

**[14]**

**Electronic Data Interchange** (Introduction to EDI, EDI Architecture Financial EDI, Overview of the technology involved in EDI

#### **Introduction to EPS**

Application of Online payment system ,Introduction to EFT (Electronic Fund Transfer) Types of EFT ( NEFT, RTGS), E-Payment Systems: Electronic Funds Transfer; Digital Token Based E-Payment Systems; Modern Payment Systems; Steps for Electronic Payment; Payment Security; Net Banking.

Introduction to Digital Signature and Digital Certificates, Stages of SET

Types of Payment System: Digital Cash, Electronic Cheque, Smart Card, Credit/Debit Card

### **Unit 4 Introduction to M-Commerce**

**[8]**

Definition, Need and Scope, Advantages and disadvantages of M-commerce, M-Commerce and its applications.,

Types of M-Commerce. Products and Services of M-Commerce,

Mobile payment application. Difference between E-commerce and M-Commerce.

### Teaching methodology

| Topic No.  | Total Lectures | Innovative methods to be used                        | Film shows and AV Applications            | Project                                                        | Expected Outcome                        |
|------------|----------------|------------------------------------------------------|-------------------------------------------|----------------------------------------------------------------|-----------------------------------------|
| Unit – I   | 12             | Use ICT or presentation on E-commerce Tools          | U–tube Tutorial on E-commerce Tools       | -                                                              | Familiar with E-commerce Tools          |
| Unit – II  | 12             | Use ICT or presentation on E-Marketing               | U–tube Tutorial E-Marketing               | One case study on E-commerce Website                           | Familiar with E-Marketing               |
| Unit – III | 12             | Use ICT or presentation on Electronic Payment System | U–tube Tutorial Electronic Payment System | Handle One E-payment Transition application<br>Bhim, Pay...etc | Familiar with Electronic Payment System |
| Unit – IV  | 12             | Use ICT or presentation on M-Commerce                | U–tube Tutorial M-Commerce                | -                                                              | Familiar with M-Commerce                |

### Reference Books

- [1]. Computer Fundamentals by: Anita Goel, Pearson Education India ISBN: 9788131742136
- [2]. Connecting with Computer Science, by Greg Anderson, David Ferro, Robert Hilton, Course Technology, Cengage Learning, ISBN: 9781439080351
- [3]. Fundamentals of Computer : For undergraduate courses in commerce and management, ITL Education Solutions Limited, Pearson Education, ISBN: 9788131733349
- [4]. Introduction to Computer Science, 2/e, ITL Education Solutions Limited, Pearson Education, ISBN: 9788131760307
- [5]. Frontiers of Electronic Commerce, Ravi Kalakota, Andrew B. Whinston, Pearson Education, ISBN: 9788177583922

- [6]. Internet: The Complete Reference, Margaret Levine Young, Tata McGraw Hill Education Private Limited, ISBN: 9780070486997
- [7]. On the Way to the Web: The Secret History of the Internet and Its Founders, A. Banks, Apress Publication, ISBN: 9781430208693
- [8]. Computers and Commerce: A Study of Technology and Management at Eckert-Mauchly Computer Company, Engineering Research Associates, and Remington, Arthur L. Norberg, MIT Press (MA), ISBN: 9780262140904
- [9]. Essential of E-commerce technology By V. Rajaraman, Prentice Hall India Learning Private Limited ISBN 9788120339378
- [10]. E-commerce Fundamental and Application By Henry Chan, Wiley ISBN: -978126514694
- [11]. Information Technology By Dr. Kishor Jagtap, Tech-Max Publications, Pune

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## **Revised syllabi (2019 Pattern) for three years B.Com. Degree course (CBCS)**

### **Semester : - II**

### **Subject : - Organizational Skill Development- II**

**Course Code - 125 (A)**

#### **Objectives of the course**

1. To imbibe among the students the qualities of a good manager and develop the necessary skill sets
2. To develop the technical skills of the students to keep up with the technological advancements and digitalization
3. To develop the communication skills of students and introducing them to the latest tools in communication
4. To develop writing, presentation, interpersonal skills of the students for effective formal corporate reporting.
5. To educate the students on the recent trends in communication technology and tools of office automation

#### **Depth of the program – Fundamental Knowledge**

| <b>Unit No.</b> | <b>Unit Title</b>                        | <b>Contents</b>                                                                                                                                                                                                                                                                                                                                                                     | <b>Purpose Skills to be developed</b>                                                                                                           |
|-----------------|------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>1</b>        | Office Manager                           | a. Qualities of office manager, skills of office manager - Interpersonal skills, Presentation skills, thinking and Negotiation skills ,Duties and Responsibilities of office manager<br>b. Goal Setting:- Concept, Importance of goals, SMART( Specific, Measurable, Achievable, Realistic and Time Bound)<br>c. Time Management :-Meaning, Techniques, Principles and Significance | 1. Developing the necessary set of managerial skills<br>2. Developing Goal setting and Time management skills in all areas of life              |
| <b>2</b>        | Management Reporting<br>(Office Reports) | a. Meaning, Purpose or Objectives and Classification of Report, Principles of preparation of report, qualities of good report, steps in report presentation, evaluating the report ,follow up of reports<br>b. Office Communication :- Meaning, Significance, Barriers and Recent trends in Communication such as                                                                   | 1. Enhancing the communication skills<br>2. Developing report writing skills for formal reporting<br>3. Usability of latest Communication Media |



|          |                                                     |                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                      |
|----------|-----------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|          |                                                     | E-mail, Video Conferencing, Tele- Conferencing, Internet, Intranet , WWW, etc.,                                                                                                                                                                                                                                |                                                                                                                                                                                                                      |
| <b>3</b> | Work Measurement and standardization of office work | a. Definition, Objects, Importance, steps in work measurement, techniques of work measurement - Time study and Motion study<br>b. Standardization of office work:- Meaning, objects, areas of standardization, types of standards, methods of setting standards, advantages and limitations of standardization | 1. Conceptual Clarity on the concept of need and importance of work measurement<br>2. Developing Technical and analytical skills for performance measurement.<br>3. Skills to develop ideal standards at work place. |
| <b>4</b> | Office Automation                                   | Objects of Mechanization, Advantages of Mechanization, Factors in selecting office machines, Leasing versus Purchasing Office equipment , Types of modern Office Machines                                                                                                                                      | 1. Enhancement of Technical knowledge and developing technical skills to adapt to the technical advancements<br>2. Critical thinking skills and technical skills to overcome the problem of choice among options     |

### Teaching Methodology

| <b>Topic No.</b> | <b>Total Lectures</b> | <b>Innovative methods to be used</b>                                                                 | <b>Film shows and AV Applications</b>                                 | <b>Project</b>                                       | <b>Expected Outcome</b>                                                                    |
|------------------|-----------------------|------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|------------------------------------------------------|--------------------------------------------------------------------------------------------|
| 1                | 12                    | Power Point Presentation<br><br>SMART Goal Setting activity for oneself for 3 yrs<br><br>Role plays  | TV shows on Management                                                | Self SMART Goal Setting Report in Detail for 3 years | Conceptual Clarity Goal Setting and Goal Measurement, Enhancing the Time Management Skills |
| 2                | 12                    | Power Point Presentation<br><br>Online Videos ,Use of Latest communication Media Live in Class Rooms | Use of Latest Communication Technology and Communication Applications | Report writing on Recent trends in Communication     | Enhancing Communication Skills ,Usability of latest communication media                    |
| 3                | 12                    | Guest Lectures by Experts                                                                            |                                                                       |                                                      | Development Technical and analytical skills                                                |
| 4                | 12                    | PPT , Educational Videos                                                                             | Online Videos                                                         | Report on various office automation tools            | Development of Technical skills                                                            |

### **References :**

List of Books Recommended :

- 1. Modern Office Management – By Mills, Geoffrey**
- 2. Office Management – By Dr. R.K. Chopra , Priyanka Gauri**
- 3. Office Management – By R.S.N. Pillai**
- 4. Office Management – By K.L.Maheshwari , R.K . Maheshwari**
- 5. Modern Office Management : Principles and Techniques – By J.N.Jian , P.P.Singh**

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**F.Y B.Com.**

**Optional Paper**

**Subject Name: Banking and Finance**

**Course Code: 125(B)**

**SEMESTER II: FUNDAMENTALS OF BANKING – II**

**Objectives:**

- To develop the working capability of students in banking sector
- To Make the Students aware of Banking Business and practices.
- To enlighten the students regarding the new concepts introduced in the banking system.

**Credit: 04**

**No. of Lectures: 48**

| <b>Unit No.</b> | <b>Topics</b>                                                                                                                                                                                                                                                                                                     | <b>No. of Lectures</b> | <b>Teaching Method</b>                                                                                           |
|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|------------------------------------------------------------------------------------------------------------------|
| <b>1.</b>       | <b>Lending Principles and Balance Sheet of a Bank</b><br><br>Safety, Liquidity, Profitability, Diversification of risks and other Principles of Lending, Conflict between Liquidity, Profitability and Safety<br><br>Customer assessment through CIBIL and other similar agencies<br><br>Balance sheet of a bank. | <b>10</b>              | Lecture, Expert Lecture, PPT/ Poster Presentation, Group Discussion, Library / Home, Assignment, Visit to a bank |
| <b>2.</b>       | <b>Negotiable Instruments</b><br>Definition, meaning and characteristics of Negotiable instruments<br>Definition, meaning and characteristics of Promissory Note, Bill of Exchange and Cheque.<br>Types of Cheques- Bearer, Order and Crossed<br>Types of Crossing- General and Special.<br>Dishonour of Cheque   | <b>12</b>              | Lecture, PPT/ Poster Presentation, Group Discussion, Library /Home Assignment, Visit to a bank                   |

|           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |           |                                                                                                                 |
|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|-----------------------------------------------------------------------------------------------------------------|
| <b>3.</b> | <b>Endorsement</b><br>Definition and meaning of Endorsement<br>Types of Endorsement- Blank, Full or Special, Restrictive, Partial, Conditional, Sans Recourse, Facultative.<br>Effects of Endorsement.                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <b>08</b> | Lecture, PPT/ Poster Presentation, Group Discussion, Library /Home Assignment, Visit to a bank                  |
| <b>4.</b> | <b>Technology in Banking</b><br>Role and Uses of Technology in Banking<br>Automated Teller Machine (ATM) – onsite and offsite ATM, Cash Deposit machine, Cheque Deposit machine, Passbook Printing Machine, Note and Coin counting device, Fake currency detector, Credit card, Debit card –Personal Identification Number ( PIN ) – Use and Safety, Mobile Banking – Mobile Banking Applications - BHIM ( Bharat Interface for Money ) / UPI ( Unified Payments Interface ), Net Banking , Core Banking<br>Online enquiry and update facility, Home Banking- Corporate and Personal.<br>Precautions in using Technology in Banking<br>Current Trends in Banking Technology | <b>18</b> | Lecture, Expert Lecture, PPT/ Poster Presentation, Group Discussion, Library / Home Assignment, Visit to a bank |

#### References:

1. Majumdar N. C., 'Fundamentals of Modern Banking', New Central Book Agency (P) Ltd., New Delhi.
2. Arondekar A.M. & Others, 'Principles of Banking', Macmillan India Pvt. Ltd.
3. Srinivasan D. & Others, 'Principles & Practices of Banking', Macmillan India Pvt. Ltd.
4. Agarwal O.P, (4<sup>th</sup> Edition, 2017), 'Banking and Insurance', Himalaya Publication House.
5. Gopinath M. N., (1<sup>st</sup> Edition, 2008) 'Banking Principles and Operations', Snow White Publications Pvt. Ltd, Mumbai.
6. Gordon E. & Natarajan K., (21<sup>st</sup> Revised Edition), 'Banking – Theory, Law and Practice' ,Himalaya Publication

**House.**

- 7. Kaptan S S & Choubey N S, “E-Indian Banking in Electronic Era”, Sarup & Sons, New Delhi 2003.**
- 8. Padmalatha Suresh, Justin Paul, “Management of Banking and Financial Services” Second Edition, 2013, Published By Dorling Kindersley (Pearson)**

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**F.Y.B.com**

**Optional Paper**

**Subject name: Defense Organization and Management in India**

**COURSE CODE: 125 (D)**

**SEMESTER- II: DEFENCE ORGANISATION AND MANAGEMENT IN INDIA-II**

**Objectives:**

- 1) To understand the Indian intelligence services.
- 2) To know the Evolution of War techniques and Economic warfare.
- 3) To understand Indian internal security.

| <b>Unit No.</b> | <b>Topic</b>                                                                                                                                                                                                                                                                | <b>No. of Lectures</b> | <b>Teaching Method</b>                                                                |
|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|---------------------------------------------------------------------------------------|
| <b>1.</b>       | <b>Indian Intelligence Services</b><br><br>1.1 History & Types of Intelligence.<br>1.2 Process & Principals of Intelligence.<br>1.3 Devices for Collecting Intelligence.<br>1.4 Role of Intelligence.<br>1.5 Counter Intelligence.<br>1.6 Indian Intelligence Organization. | <b>12</b>              | Lecture,<br><br>PPT,<br><br>Group Discussion,<br><br>Library Work,<br><br>Assignment  |
| <b>2.</b>       | <b>Evolution of War Techniques</b><br><br>2.1 Definition of war<br>2.2 Concept of war<br>2.3 Causes of war<br>2.4 Function of war<br>2.5 Elements of war<br>2.6 Resources of war                                                                                            | <b>12</b>              | Lecture,<br><br>PPT,<br><br>Group Discussion,<br><br>Library Work,<br><br>Study Visit |

|           |                                                                                                                                                                                                                                                             |           |                                                                  |
|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|------------------------------------------------------------------|
| <b>3.</b> | <b>Economic Warfare</b><br>3.1 Meaning<br>3.2 War time Economy<br>3.3 Economic Mobilization<br>3.4 Remedy<br>3.5 War Economy & War Effects<br>3.6 Cost of War.                                                                                              | <b>12</b> | Lecture,PPT,<br>Group Discussion,<br>Library Work,               |
| <b>4.</b> | <b>Economic Constraints on Indian Internal Security</b><br>4.1 Economic Diversification in various states of India<br>4.2 Economic Influence on State & Centre Relations<br>4.3 Unemployment and Poverty.<br>4.4 Economic losses due to Natural Calamities. | <b>12</b> | Lecture,PPT,<br>Group Discussion,<br>Library Work,<br>Assignment |
|           | <b>Total</b>                                                                                                                                                                                                                                                | <b>48</b> |                                                                  |

### References:

- 1) C. Lakshmi (1998), Trends in India's' Defense Expenditure," ABC, New Delhi'.
- 2) Venkateshwaram A. L., 'Defense Organisation in India', Sage Publication, New Delhi.
- 3) Chaudhari A. P. 'Hkkjrh; ;qn/k ra=kphmRdkarh,' Prashant Publication, Jalgaon
- 4) Col.(Retd) S. Sandeep, 'Funding for Defense and Development' Sumit enterprises, New Delhi.
- 5) Sali M.L., 'Military Georgraphy' Manas Publication, New Delhi.
- 6) Chaudhari A.P.,';qn/kfoKku&laj{k.k o lkefjd'kkL=' Diamond Publication, Pune.
- 7) Raju G. C. Thomas (1978) – The Defense of India a Budgetary Perspective of Strategy and Politics," Mac Millan Publication, New Delhi.
- 8) L t. Gen. R. K. Jasbir Singh (1999), 'India's Defense Year Books,'Nataraj Publication, Dehradun.
- 9) Jadhav V.Y, Hkkjrkph jk"V^h; lqj{kk, " Snehvardhan Publication , Pune

## **Revised Syllabi (2019 Pattern) for three years B.Com Degree Course (CBCS)**

**Option paper: - Theory and Practice of Co-operation**

**Semester:-F.Y.B.Com -Semester II**

**Course Code - 125 (E)**

**Subject: - -: Theory and Practice of Co-operation- II**

### **Objectives:**

1. To acquaint the students with types of co-operatives.
2. To study the role of Government in Co-operative movement.
3. To Analysis the impact of LPG on Co-operation movement.
4. To study the means of Co-operative education and Training.

### **Depth of Programme: - Fundamental Knowledge**

| <b>Unit No.</b> | <b>Unit Title</b>              | <b>Contents</b>                                                                                                                                                                                                                    | <b>Purpose Skills to be developed</b>                                                                                                                                   |
|-----------------|--------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>1</b>        | Types of Co-operative          | Rural Co-operative and Urban Co-operative<br>Agriculture Co-operative and Non Agriculture Co-operative<br>Credit Co-operative and Non Credit Co-operative<br>Weaker Sections Co-operatives<br>Federation of Co-operatives          | i. To understand the Rural Co-operative and Urban C-operative institution<br>ii. To understand the Credit Co-operative and Non credit Co-operative Society              |
| <b>2</b>        | <b>Co-operative Management</b> | Co-operative Management , Nature and function,<br>The Role of General Body, Management committee Chairman and Managing Director/Secretary,<br>Professional Management Co-operatives ,Role of leadership in Co-operative Management | i. To understand Co-operative Management<br>ii. To understand Role of leadership in Co-operative Management<br>iii. To understand Professional Management Co-operatives |



|          |                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                         |
|----------|-------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>3</b> | <b>Impact of Liberalization ,Privatization and Globalization on Co-operative movement</b> | Impact of Liberalization, Impact of Privatization , Impact of Globalization , Opportunities for Co-operative movement in global era                                                                                                                                                                                                                                                                                                                                           | To understand the Impact of Liberalization, Privatization and Globalization on Co-operative movement                                                                    |
| <b>4</b> | <b>Co-operative Education and Training:.</b>                                              | Co-operative Education and Training, Objectives of Co-operative Education and Training, Role of National Co-operative union of India (NCUI) ,National Council for Co-operative Training (NCCT), Institutional arrangement for co-operative training, State Co-operative Union, Co-operative training, Education and Consultancy in Maharashtra, Regional Institute of Co-operative Management, Vaikunth Mehta National Institute of Co-operative Management Pune, Maharashtra | To understand the Objectives of Co-operative Education and Training, Training arrangement in India<br>To understand Institutional arrangement for co-operative training |

## Teaching Methodology

| <b>Topic No.</b> | <b>Total Lectures</b> | <b>Innovative Methods to be used</b>                                                                             | <b>Film Shows and AV Application</b>                                                    | <b>Project</b>                                                    | <b>Expected Outcome</b>                                           |
|------------------|-----------------------|------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|-------------------------------------------------------------------|-------------------------------------------------------------------|
| <b>1</b>         | 12                    | Documentary, Pre reading, Class discussion, examples from newspapers and internet resources, Article Review, PPT | Short Film Show on Types of Co-operative, AV Application (Audio and Visual Application) | Project Report on Credit Co-operative and Non Credit Co-operative | Understanding of basic knowledge of Types of Co-operative Society |

|   |    |                                                                                                                                                                          |                                                                                                             |                                                                                                          |                                                                                                                              |
|---|----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|
| 2 | 12 | Guest Lectures of eminent personalities, experience sharing, Pre reading, Class discussion, PPT, study visit to Co-operative department offices and Co-operative society | You Tube Video on Co-operative Management                                                                   | Project on Nature and function of Co-operative management                                                | Understanding Co-operative Management                                                                                        |
| 3 | 12 | Organise Seminar/workshop for students, Pre reading, Class discussion, Internet resources, case studies, Survey report                                                   | Use of You tube , review of particular topic                                                                | Project Report on the Impact of Liberalization ,Privatization and Globalization on Co-operative movement | Understanding the Impact of Liberalization ,Privatization and Globalization on Co-operative movement                         |
| 4 | 12 | Pre reading, Class discussion, examples through Newspapers and internet resources, Guest Lectures of eminent personalities ,PPT                                          | Group discussion on Problems and suggestions of education and training programmes of Co-operative Education | Review of education and training programmes of Co-operative Education                                    | Understanding Co-operative Education and Training .<br><br>understanding Institutional arrangement for co-operative training |

### Method of Evaluation

| Subject | Internal Evaluation                                                                | External Evaluation | Suggested Add on Course                           |
|---------|------------------------------------------------------------------------------------|---------------------|---------------------------------------------------|
| Unit-I  | Class participation, Assignment, Library Work, Unit Test, Group Discussion         | Written Examination | Seminar/Workshop on Types of Co-operative Society |
| Unit-II | Class participation, Assignment, Library Work, Unit Test, Power point presentation | Written Examination | study visit to Co-operative Institution           |

|          |                                                                                 |                     |                                                  |
|----------|---------------------------------------------------------------------------------|---------------------|--------------------------------------------------|
| Unit-III | Class participation, Assignment, Library Work, Unit Test, Group Discussion, PPT | Written Examination | Guest Lectures of eminent personalities          |
| Unit-IV  | Class participation, Assignment, Library Work, Unit Test, Class room Discussion | Written Examination | study visit to Co-operative training Institution |

## References

| Sr. No | Title of Book                                                                      | Author/s                                                       | Publication          | Place     |
|--------|------------------------------------------------------------------------------------|----------------------------------------------------------------|----------------------|-----------|
| 1      | Co-operation and Rural Development                                                 | Principal Dr.Nitin Ghorpade                                    | Success              | Pune      |
| 2      | Co-operation- Principles and Practice-                                             | Dr. D.G. Karve                                                 |                      |           |
| 3      | Theory, History and Practice of Co-operation                                       | Dr. R.D. Beddy                                                 |                      |           |
| 4      | Bhartiya Sahkari Chalval- Tatve va Vyavhar ( Marathi )                             | Prof. Jagdish Killol; Prof. Arvind Bondre; Prof. A. C. Bhavsar |                      |           |
| 5      | Sahkari Chalval 1904-2004 (Marathi)                                                | Prof. K. L. F ale                                              |                      |           |
| 6      | New Dimensions of Co-operative Management                                          | G.S. Kamat                                                     | Himalaya Publication | New Delhi |
| 7      | Rural Development in India-Policies and Programme                                  | Abdul Azees NP and S.M. Javed Aktar                            | Kalpaz Publication   |           |
| 8      | Human Resource Management Practices in Co-operative sector                         | Principal Dr.Shaikh Aftab Anwar                                | Idea Publication     | New Delhi |
| 9      | Journal of Commerce and Management Thought(JCMT)                                   |                                                                |                      |           |
| 10     | Journal Co-operative Organization and Management , Journal of Co-operative studies |                                                                |                      |           |

**F.Y.B.Com.**  
**Semester - II**  
**Optional Paper**  
**Subject Name- Managerial Economics- II**  
**Course Code - 125 (F)**

**Objectives:**

1. To aware the students about various pricing practices.
2. The Students learn about the role of profit in business.
3. The Students should realize the importance of the different methods of capital budgeting as tool of project management.
4. To help the students in applying the knowledge so acquired in policy planning and managerial decision making

| Unit No | Unit Title                     | Content                                                                                                                                                                                                                                                    | Purpose Skills to be developed                                                                                                                           |
|---------|--------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1       | Forms of Business Organization | 1.1 Sole Proprietorship - Meaning, features, Merits and Demerits.<br>1.2 Partnership - meaning, features, merits and demerits.<br>1.3 Joint Stock Company- Meaning, features, merits and demerits, Distinction between public company and private company. | 1. To know the fundamental business organization<br>2.To understand the comparative merits and demerits of these organization.                           |
| 2       | Public Enterprises and MNCs    | 2.1 Public Enterprise- Meaning, features, merits and demerits, Types of Public Enterprises.<br>2.2 Public Private Partnership.<br>2.3 Multinational Corporations- Meaning, features, merits and demerits.<br>2.4 Role MNCs in India.                       | 1. To understand the need for public enterprises.<br>2. To know the types of PEs.<br>3. To be familiar with the features and role of MNCs in an economy. |

|   |                                           |                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                             |
|---|-------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|
| 3 | Pricing Practices-                        | <p>3.1 Factor affecting pricing decision</p> <p>3.2 Components in Pricing of the product</p> <p>3.3 Marginal Cost Pricing, mark-up pricing, transfer pricing, product line pricing, price skimming and penetration.</p> <p>3.4 Profit Management, Nature and measurement of profit, The hypothesis of profit maximization and its alternative.</p>                                      | <p>1. To know the various pricing practices</p> <p>2. To know the importance of profit management in pricing practices.</p>                 |
| 4 | Capital Budgeting and Investment Analysis | <p>4.1 Meaning of Capital Budgeting, Need and nature of capital budgeting.</p> <p>4.2 Demand for Capital and Supply of Capital (sources of capital)</p> <p>4.3 Capital Rationing</p> <p>4.4 Methods of Capital Budgeting- Net Present Value (NPV), Internal Rate of Return (IRR), Payback period method, Average Rate of Return.</p> <p>4.5 Apprizing the profitability of project.</p> | <p>1. To know the importance capital in a business.</p> <p>2. To understand various technical concept related with investment decision.</p> |

## Teaching methodology

| Topic No. | Total Lectures | Innovative methods to be used                                           | Film shows and AV Applications                                         | Project                                                                       | Expected Outcome                                                                                                                                                                                                                |
|-----------|----------------|-------------------------------------------------------------------------|------------------------------------------------------------------------|-------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1         | 10             | i. Open book discussion<br>ii. Case studies<br>iii. Group discussion    | i. You tube lectures on different types of business organization.<br>. | i. Study of comparative merits and demerit of different business organisation | Students will learn about the intricacies of the various Business Organizations, their features and their comparative merits and demerits.<br><br>In addition to that the student knows the features and role of MNCs in India. |
| 2         | 10             | i. Case Studies<br>ii. Group discussion<br>iii. Pair learning           | i. You tube lectures on PEs and MNCs.<br>ii. Films                     | i. Study of role of MNCs.<br>ii. Study of problem of PEs.                     | Student should know types of public enterprises and their comparative advantages and disadvantages. In addition to that students should features and role of MNCs in India.                                                     |
| 3         | 14             | i. Case Studies<br>ii. Group discussion.<br>iii. Game oriented Classes. | i. Films.<br>ii. You tube lectures                                     | i. Study of pricing policy followed by a firm in your area.                   | Awareness of students about various pricing practices                                                                                                                                                                           |
| 4         | 14             | i. Case Studies<br>ii. Open book discussion<br>iii. Group discussion.   | i. You tube lectures<br>ii. Films                                      | i. Study of method of capital budgeting.                                      | Students should realize the importance of the different methods of Capital Budgeting and investment as a tool of profit management                                                                                              |

## References

| Sr. No. | Title of the Book                                                      | Author/s                              | Publication                              | Place                                    |
|---------|------------------------------------------------------------------------|---------------------------------------|------------------------------------------|------------------------------------------|
| 1.      | Managerial Economics-<br>Economic Tools for<br>Todays Decision Makers, | Keat Paul G. and<br>Philip K.Y. Young | Prentice Hall                            | Prentice Hall, New<br>Jersey             |
| 2.      | Managerial Economics,                                                  | D.N.Dwivedi D.N                       | Vikas Publishing<br>House                | Delhi                                    |
| 3.      | Managerial Economics in a<br>Global Economy                            | Salvatore D.                          | 8th Edition, Oxford<br>University Press. |                                          |
| 4.      | Managerial Economics,                                                  | Sumitra Paul,                         | Macmillan 2008                           |                                          |
| 5.      | P.L.Mehatha, Managerial                                                | Managerial<br>Economics               | 8th Ed. S.Chand<br>Publishing            | Economics, 8th Ed.<br>S.Chand Publishing |
| 6.      | D.M.Mithani,                                                           | Managerial<br>Economics-2008          | Himalaya<br>Publishing House             | Mumbai                                   |
| 7.      | Shankaran S.                                                           | Managerial<br>Economics               | Margham<br>Publications,                 | Madras                                   |
| 8.      | Thomas Christopher R.<br>and Charles, Maurice S.,                      | Managerial<br>Economics               | McGraw Hill Irwin,                       | Boston                                   |

### **Suggested references Web reference**

<https://nptel.ac.in/courses/110101005/2>

<https://nptel.ac.in/downloads/110101005/>

<http://cec.nic.in/Pages/Home.aspx>

<http://en.wikipedia.org/wiki/Economics>

<http://www.investopedia.com/university/economics/#axzz1XwhFTmtm>

<http://www.tutor2u.net/blog/index.php/economics/>

<http://www.economicshelp.org/>

<https://www.intelligenteconomist.com/economics-blogs/>

<https://www.coursera.org/courses?query=managerial%20economics>

<https://www.edx.org/course/introduction-to-managerial-economics-0>

<https://www.mooc-list.com/tags/managerial-economics>

<https://online.stmary.edu/mba/courses/managerial-economics>

<https://www.tru.ca/distance/courses/econ3041.html>

<https://www.euromba.org/managerial-economics/>

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**Revised Syllabi (2019 Pattern) for three year B. Com. Degree Course (CBCS)**  
**Semester – II**  
**Essentials of E- Commerce**

**Course Code :- 126 A**

**No. of Credits : 03**

**Objectives of the course :-**

1. To acquaint learners with electronic data interchange and its standards
2. To develop knowledge about e-commerce process and payment solution
3. To develop practical knowledge about security of e- commerce transactions
4. To help students understand traditional v/s electronic retailing

**Depth of the programme : Fundamental Knowledge**

| Unit No. | Unit Title                          | Contents                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Skills to be developed                                                                              |
|----------|-------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|
| 1        | Electronic data interchange         | Concept – types- merits-limitations of paper Brand Business, Area groups of business, Essential documents for EDE gawky electronic data interchange simile, Steps to start EDI, EDI standards, Types of EDI files, EDI & internet, Merits of EDI, Bottlenecks & limitations                                                                                                                                                                                                                          | 1. Conceptual understanding of Electronic Data Interchange, documentation and merits of EDI.        |
| 2        | Commerce Process & Payment solution | Concept of payment solution – need, internet access solution- Areas of solution – solution provider , online commerce solution – essentials of good solution technology, standards for e-commerce, e-service, e-solution, e-business solution. Shopping cart – shopping cart software, Merchant account – Features –digital receipts for online payment, Payment system & devices, Cyber cash, features –utility, Credit card, smart card, features, utility, trades & securities, Internet currency | 1. Awareness about payment solutions, various payment methods and modern modes of digital payments. |

| Unit No. | Unit Title                   | Contents                                                                                                                                                                                                                                                                                                                                                                                               | Skills to be developed                                                                                                    |
|----------|------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|
| 3        | E-commerce – security        | Need of E-Commerce security, cybercrimes- resources of privacy- tampering – proxy server system, Encryption – types of security – security precautions – cryptogram – data encryption standards & certificate authority, Ensuring electronic security – e-locking services, Security caution in e-commerce – public key – infrastructure firewall – secure socket layer secure electronic transactions | 1. Understanding of E-Commerce security, precautions while using E-Commerce and methods & Process of E-Commerce security. |
| 4        | Business oriented E-Commerce | Features of B2B e-commerce, Business models, E-procedure, Virtual Market, Collaborative supply chain management, Intercompany integration, B2B e-commerce communication                                                                                                                                                                                                                                | 1. Technical knowledge about virtual market and other business to business e-commerce communication.                      |

### Teaching Methodology:

| Topic No. | Total Lectures | Teaching Methods                                                              | Film Shows and AV Applications              |
|-----------|----------------|-------------------------------------------------------------------------------|---------------------------------------------|
| 1         | 10             | Lecture method ,Computer Laboratory demonstrations, Power Point Presentations | Online educational videos on related topics |
| 2         | 12             | Lecture method ,Computer Laboratory demonstrations, Power Point Presentations | Online educational videos on related topics |
| 3         | 12             | Lecture method ,Computer Laboratory demonstrations, Power Point Presentations | Online educational videos on related topics |
| 4         | 14             | Lecture method ,Computer Laboratory demonstrations, Power Point Presentations | Online educational videos on related topics |

**References:**

1. E-Commerce – Henry chan willey, India
2. E-Commerce- P.T. Joseph P. H. I.
3. Understanding e-commerce, J. K. Shim A. A. Quareshi infinity books
4. E-commerce- P. W. Mann MJP publishers
5. E-commerce- C. S. Rayudu, Himalaya publishing house
6. E-commerce-K. K. Bajaj-D. Nag T. M. G. H.

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## **F.Y. B.Com.**

### **Optional Paper**

**Subject Name : Insurance and Transport - II**

**Course Code: 126 (B)**

**SEMESTER II - TRANSPORT**

### **Objectives :**

1. To acquaint students with the concepts of transport.
2. To create awareness regarding basic knowledge about transportation system in India.
3. To make the students aware of career opportunities in the field of transport.

**No. of Lectures : 48**

| <b>Unit No.</b> | <b>Topic</b>                                                                                                                                                                                                                                                                        | <b>No. of Lectures</b> | <b>Teaching Method</b>                                               |
|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|----------------------------------------------------------------------|
| <b>1.</b>       | <b>Introduction to Transport</b><br>1.1 Meaning<br>1.2 Importance of Transport<br>1.3 Types of Transport<br>1.4 Benefits of Transport<br>1.5 Problems of Transport Development in India<br>1.6 Measures to solve Transport Problems<br>1.7 Career opportunities in Transport Sector | <b>12</b>              | Lecture,<br>PPT,<br>Group Discussion,<br>Library Work,<br>Assignment |

|           |                                                                                                                                                                                                                                                                                                                                                                                                                     |           |                                                                      |
|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|----------------------------------------------------------------------|
| <b>2.</b> | <b>Road Transport</b><br>2.1 Meaning and Characteristics of Road Transport<br>2.2 Importance of Road Transport in India<br>2.3 Development of Road Transport in India since 1951<br>2.4 Problems and Issues in Road Development<br>2.5 Measures for Improvement in Road Transport                                                                                                                                   | <b>12</b> | Lecture,<br>PPT,<br>Group Discussion,<br>Library Work, Assignment    |
| <b>3.</b> | <b>Railway Transport</b><br>3.1 Meaning and Features of Railway transport<br>3.2 Significance of Railway transport<br>3.2 Monorail and Metrorail<br>3.3 Gauge of a railway track-Meaning and Classification<br>3.4 Advantages and Limitations of Railway transport<br>3.5 Progress of Railway Transport in India since 1951<br>3.6 Problems of Indian Railways<br>3.7 Measures to solve problems of Indian Railways | <b>12</b> | Lecture,<br>PPT,<br>Group Discussion,<br>Library Work,<br>Assignment |
| <b>4.</b> | <b>Water and Air Transport</b><br><b>4.1 Water Transport:</b><br>4.1.1 Meaning and Significance of Water Transport<br>4.1.2 Inland Water Transport and Coastal or Marine Transport<br>4.1.3 Indian Shipping Growth and Problems<br>4.1.4 Prospects of Water Transport in India                                                                                                                                      | <b>12</b> | Lecture,<br>PPT,<br>Group Discussion,<br>Library Work,<br>Assignment |

|  |                                                                                                                                                                                                                                                    |           |  |
|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|--|
|  | 4.1.4 Limitations of Water Transport<br><b>4.2 Air Transport:</b><br>4.2.1 Meaning and Features of Air Transport<br>4.2.2 Importance of Air Transport<br>4.2.5 Progress of Air Transport in India<br>4.2.4 Problems and Prospects of Air Transport |           |  |
|  | <b>Total</b>                                                                                                                                                                                                                                       | <b>48</b> |  |

### References:

1. Misra S.K. and Puri V.K (2014) Indian Economy, Himalaya Publishing House, Mumbai.
2. India 2015, Ministry of Information and Broadcasting, Government of India.
3. Datt Gaurav and Mahajan Ashwani (2014) Datt and Sundharam Indian Economy, S. Chand and Company Ltd. New Delhi.
4. Agarwal A.N. (2001) Indian Economy, Problems of Development and Planning, WishwaPrakashan, New Delhi.
5. Shukla M.B. (2012) Indian Economy, Taxmann Publications(P)Ltd., New Delhi.
6. Government of India, Economic Survey various Issues
7. Reserve Bank of India, Annual Report various issues
8. [http://www.indianrailways.gov.in/railwayboard/uploads/directorate/stat\\_econ/IRSP\\_2016-17/Facts\\_Figure/Fact\\_Figures%20English%202016-17.pdf](http://www.indianrailways.gov.in/railwayboard/uploads/directorate/stat_econ/IRSP_2016-17/Facts_Figure/Fact_Figures%20English%202016-17.pdf)
9. <http://www.ncert.nic.in/NCERTS/l/legy210.pdf>
10. [http://planningcommission.nic.in/reports/genrep/NTDPC\\_Vol\\_01.pdf](http://planningcommission.nic.in/reports/genrep/NTDPC_Vol_01.pdf)
11. [http://www.nwda.gov.in/upload/uploadfiles/files/NWDA\\_Annual\\_Report\\_English\\_2016-17-low.pdf](http://www.nwda.gov.in/upload/uploadfiles/files/NWDA_Annual_Report_English_2016-17-low.pdf)
12. [https://www.epw.in/system/files/pdf/1956\\_8/16/progress\\_of\\_indian\\_railways.pdf](https://www.epw.in/system/files/pdf/1956_8/16/progress_of_indian_railways.pdf)
13. [https://www.cs.mcgill.ca/~rwest/wikispeedia/wpcd/wp/r/Rail\\_transport\\_in\\_India.htm](https://www.cs.mcgill.ca/~rwest/wikispeedia/wpcd/wp/r/Rail_transport_in_India.htm)[https://www.cs.mcgill.ca/~rwest/wikispeedia/wpcd/wp/r/Rail\\_transport\\_in\\_India.htm](https://www.cs.mcgill.ca/~rwest/wikispeedia/wpcd/wp/r/Rail_transport_in_India.htm)

**Revised syllabi (2019 Pattern) for three years B.com Degree course (CBCS)**

**FY B Com Semester : II**

**Course Code - 126 (C)**

**Subject : Marketing and Salesmanship- Fundamental of Marketing- II**

**1. Objective of the Course**

1. To introduce the concept of Salesmanship.
2. To give insight about various techniques required for the salesman.
3. To inculcate the importance of Rural Marketing.
4. To acquaint the students with recent trends in marketing and social media marketing.

**Depth of the Program** - Fundamental Knowledge

**Objectives of the Program**

1. To help the students to prepare themselves for opportunities in marketing field.
2. To study elaborately the process of salesmanship.
3. To know about Rural Marketing which is an important sector in modern competitive Indian Scenario.
4. To educate the students about the sources and relevance of Recent trends in Marketing.

| UNIT NO. | UNIT TITLE   | CONTENTS                                                                                                                                                                                                                                           | PURPOSE SKILLS TO BE DEVELOPED                                          |
|----------|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------|
| 1        | Salesmanship | 1.1 Meaning and Definition of Salesmanship<br>1.2 Features of Salesmanship<br>1.3 Scope of Salesmanship<br>1.4 Modern Concept of Salesmanship<br>1.5 Utility of Salesmanship<br>1.6 Elements of Salesmanship<br>1.7 Salesmanship : Arts or Science | Students will get the knowledge of Salesmanship and various approaches. |

|          |                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                               |
|----------|-----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------|
|          |                                   | <b>1.8</b> Salesmanship – a Profession<br><b>1.9</b> Qualities of Salesman                                                                                                                                                                                                                                                                                                                                                                         |                                                               |
| <b>2</b> | <b>Process of Selling</b>         | <b>2.1</b> Psychology of Salesmanship – Attracting Attention, Awakening Interest, Creating Desire and Action<br><b>2.2</b> Stages in Process of Selling – <ul style="list-style-type: none"> <li>(i) Pre-Sale Preparations</li> <li>(ii) Prospecting</li> <li>(iii) Pre-Approach</li> <li>(iv) Approach</li> <li>(v) Sales Presentation</li> <li>(vi) Handling of Objections</li> <li>(vii) Close</li> <li>(viii) After Sales Follow-up</li> </ul> | Techniques of salesmanship skills will be developed.          |
| <b>3</b> | <b>Rural Marketing</b>            | <b>3.1</b> Rural Marketing <ul style="list-style-type: none"> <li>3.1.1 Introduction</li> <li>3.1.2 Definition of Rural Marketing</li> <li>3.1.3 Features of Rural Marketing</li> <li>3.1.4 Importance of Rural Marketing</li> <li>3.1.5 Present Scenario of Rural Market</li> <li>3.1.6 Challenges and Opportunities in Rural Marketing</li> </ul>                                                                                                | Awareness and importance of Rural Marketing amongst students. |
| <b>4</b> | <b>Recent Trends in Marketing</b> | <b>4.1</b> Digital Marketing<br><b>4.2</b> Green Marketing<br><b>4.3</b> Niche Marketing<br><b>4.4</b> E-marketing<br><b>4.5</b> Social Media Marketing- Challenges and Opportunities                                                                                                                                                                                                                                                              | Skills of Modern Marketing will be developed.                 |



### Teaching Methodology

| <b>Topic No.</b> | <b>Total Lectures</b> | <b>Innovative Methods to be used</b>                                    | <b>Film shows and AV Applications</b>            | <b>Project</b> | <b>Expected Outcome</b>                                                                                                                                                |
|------------------|-----------------------|-------------------------------------------------------------------------|--------------------------------------------------|----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>1</b>         | <b>14</b>             | Class Test, Group Discussion, Presentation, Case Study, Home Assignment | Short Film<br>AV Application                     |                | Students will get knowledge of the basics of salesmanship which is a vital aspect of marketing.                                                                        |
| <b>2</b>         | <b>14</b>             | Class Test, Group Discussion, Presentation, Case Study, Home Assignment | Short Film<br>AV Application                     |                | It will help the students to implement this knowledge in practicality by enhancing their skills in the field of marketing by using various techniques of salesmanship. |
| <b>3</b>         | <b>12</b>             | Class Test, Group Discussion, Presentation, Case Study, Home Assignment | AV Application                                   |                | It will help the students to gain insights about Rural Marketing and its uniqueness.                                                                                   |
| <b>4</b>         | <b>08</b>             | Class Test, Group Discussion, Presentation, Case Study, Home Assignment | Short Film,<br>AV Application<br>Use of You Tube |                | It will help the students to gain the insights about recent trends in marketing field.                                                                                 |

**Methods of Evaluation**

| <b>Subject</b> | <b>Internal Evaluation</b>                                                 | <b>External Evaluation</b> | <b>Suggested Add on Course</b> |
|----------------|----------------------------------------------------------------------------|----------------------------|--------------------------------|
| Unit - I       | Class Test, Group Discussion, Presentation,<br>Case Study, Home Assignment | Written Examination        | Marketing Management Course    |
| Unit - II      | Class Test, Group Discussion, Presentation,<br>Case Study, Home Assignment | Written Examination        | Sales Marketing Management     |
| Unit - III     | Class Test, Group Discussion, Presentation,<br>Case Study, Home Assignment | Written Examination        | Rural Marketing Online Course  |
| Unit - IV      | Class Test, Group Discussion, Presentation,<br>Case Study, Home Assignment | Written Examination        | Online Marketing Course        |

## References

| Sr. No. | Title of the Book               | Author/s                                 | Publication             | Place |
|---------|---------------------------------|------------------------------------------|-------------------------|-------|
| 1       | Marketing Management            | Philip Kotler                            | Pearson Publication     |       |
| 2       | Marketing Management            | Rajan Saxena                             | McGraw Hill Education   |       |
| 3       | Principles of Marketing         | Philip Kotler & Gary Armstrong           | Pearson Publication     |       |
| 4       | Sales & Distribution Management | Tapan K Panda                            | Oxford Publication      |       |
| 5       | Advertising Management          | Rajiv Batra                              | Pearson Publication     |       |
| 6       | Retail Management               | Swapna Pradhan                           | McGraw Hill Publication |       |
| 7       | Retail Management               | Gibson Vedamani                          | Jayco Publication       |       |
| 8       | Marketing Management            | V. S. Ramaswamy & S. Namakumari          | Macmillan Publication   |       |
| 9       | Supply Chain Management         | Sunil Chopra, Peter Meindl & D. V. Karla | Pearson Publication     |       |

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**Syllabus for B. Com. Semester –II**  
**Subject Name: - Business Ethics - II**  
**Course code:- 126 (D)**

**Depth of the program – Fundamental Knowledge**

**Objective of the Program**

1. To enhance students' general awareness of ethical dilemmas at work.
2. To understand differing perceptions of interests in business-related situations
3. To introduce the concept of Corporate Social Responsibility, corporate Governance and explore its relevance to ethical business activity
4. To examine whether ethics set any boundaries on Accounting, marketing, IT, Social Media and workplace.
5. To prepare students to play a constructive role in improving the sustainable development with which they may become involved.

| Unit No | Unit Title             | Contents                                                                                                                                                                                                                                                                        | Purpose Skills to be developed                                                                                                                                         |
|---------|------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1       | <b>Business Ethics</b> | Business ethics–Meaning, definitions, scope , objectives, need and Principles.<br>Human values and moral –meaning, formation and importance.<br>Professional Ethics-meaning and significance, management and ethics<br>Gandhian approach in Ethics.<br>Global Trends in Ethics. | 1. Equip the students with a skills to resolve the business problems with ethical norms.<br>2. Recognize the inherent conflict of interest in many business decisions. |

|    |                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                       |
|----|-------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| 2  | <b>Corporate Social Responsibility</b>          | <p>CSR – concept, scope, forms of CSR, dimensions of CSR, legal and ethical foundation for CSR, steps to attain CSR,</p> <p>International Approach to CSR</p> <p>CSR Activities in-</p> <ol style="list-style-type: none"> <li>Social welfare,</li> <li>Healthcare,</li> <li>Education and</li> <li>Infrastructure</li> </ol>                                                                                                                                        | <p>Understanding the scope CSR and it's scope</p> <p>2. To know the global trends</p> |
| 3. | <b>Corporate Governance and Business ethics</b> | <p>Corporate Governance- concept, objectives, features, core principles of good corporate governance, advantages, system of corporate governance and SEBI's guideline</p> <p>Whistle Blowing- Meaning causes and types.</p> <p>Current issues of Business ethics in-</p> <ol style="list-style-type: none"> <li>Accounting,</li> <li>Social Media,</li> <li>IT,</li> <li>Marketing and Advertisement</li> <li>Harassments and discrimination at workplace</li> </ol> | <p>Acquaint the students with corporate governance and global business ethics.</p>    |

|    |                                           |                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                       |
|----|-------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|
| 4. | <b>Sustainable Development and Ethics</b> | <p>Sustainable Development- concept, need principles and importance, Goals of sustainable development and challenges to achieve SD.</p> <p>Achievements of Sustainable Development in India- clean water, clean energy, no poverty, zero hunger, Good Health, quality education, climates action and Industry innovations infrastructure.</p> <p>Ethics and sustainable development,</p> | Identify various facts of sustainable development Apply the knowledge of sustainable development for people education |
|----|-------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|

### Teaching methodology

| Topic No. | Total Lectures | Innovative methods to be used                     | Film shows and AV Applications | Project | Expected Outcome                                                  |
|-----------|----------------|---------------------------------------------------|--------------------------------|---------|-------------------------------------------------------------------|
| 1         | 12             | Article Review, Group Discussion, Quize           | Documentary                    | -       | Acquaint knowledge and maturity to understand the Business Ethics |
| 2         | 12             | Survey report. Poster presentation, Guest lecture | Short film                     | -       | Application of CSR in various sector                              |
| 3         | 12             | Interview, Game, PPT, Narrating                   | Documentary                    | -       | To analyze corporate governance in India                          |
| 4         | 12             | Project making, Street play, jingles m            | Short Film                     | Project | To understand and achieve sustainable development                 |

### Method of Evaluation

| Subject    | Internal Evaluation  | External Evaluation | Suggested Add on Course                     |
|------------|----------------------|---------------------|---------------------------------------------|
| Unit – I   | Continuous Evolution | Written Exam        | Related Short Term Course/ Seminar/Workshop |
| Unit – II  | Continuous Evolution | Written Exam        | Related Short Term Course/ Seminar/Workshop |
| Unit – III | Continuous Evolution | Written Exam        | Related Short Term Course/ Seminar/Workshop |
| Unit – IV  | Continuous Evolution | Written Exam        | Related Short Term Course/ Seminar/Workshop |

## References

| Sr. No. | Title of the Book                                        | Author/s                                               | Publication                | Place     |
|---------|----------------------------------------------------------|--------------------------------------------------------|----------------------------|-----------|
| 1.      | Ethics in Management                                     | S.A. Sherlekar ,                                       | Himalaya Publication       | New Delhi |
| 2.      | Business Ethics and corporate Governance                 | S S Khanka                                             | S. Chand Publication       | Mumbai    |
| 3.      | Business Ethics and Corporate Governance                 | S. K. Bhatia                                           | Deep and Deep sons         | New Delhi |
| 4.      | Corporate Governance : Principle, Policies and Practices | Bob Tricker                                            | Oxford University Press    | New Delhi |
| 5.      | Management by Values                                     | S.K.Chakraborti ,                                      | Oxford University Press    | Mumbai    |
| 6.      | Business Ethics And Corporate Governance                 | A. C. Fernando                                         | Dorling Kindersly          | Mumbai    |
| 7.      | E Commerce - A Study in Business Ethics                  | Rituparna Raj                                          | Himalaya Publication       | New Delhi |
| 8.      | E-Commerce and It' Applications                          | Dr. U. S. Pandey, Rahul Srivastava and Saurabh Shukla. | S. Chand & Company,        | New Delhi |
| 9.      | The sustainable development goals                        | United Nations                                         | United Nations Publication | UN        |



|     |                                                                                |                                  |                           |        |
|-----|--------------------------------------------------------------------------------|----------------------------------|---------------------------|--------|
| 10. | Atlas of Sustainable Development Goals 2017: from World Development Indicators | World Bank                       | World Bank Publication    | -      |
| 11. | Business Ethics And Corporate Governance                                       | A. C. Fernando                   | Dorling Kindersly         | Mumbai |
| 12. | The age of sustainable development goals                                       | Jeffery D Saches and Ki Moon Ban | Columbia University Press | - -    |

#### Suggested References -Web Reference

| Sr. No |                                                                                                                                                                                                                                                                     |
|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1      | <a href="http://www.mca.gov.in/MinistryV2/csrdatasummary.html">http://www.mca.gov.in/MinistryV2/csrdatasummary.html</a>                                                                                                                                             |
| 2      | <a href="http://Csr.gov.in">Csr.gov.in</a>                                                                                                                                                                                                                          |
| 3      | <a href="https://www.acclimited.com/sustainable/corporate-social-responsibility">https://www.acclimited.com/sustainable/corporate-social-responsibility</a>                                                                                                         |
| 4      | <a href="https://www.youtube.com/watch?v=FN0kRR985l8">https://www.youtube.com/watch?v=FN0kRR985l8</a>                                                                                                                                                               |
| 5      | <a href="https://sustainabledevelopment.un.org/?menu=1300">https://sustainabledevelopment.un.org/?menu=1300</a>                                                                                                                                                     |
| 6      | <a href="https://www.toppr.com/guides/business-communication-and-ethics/business-ethics/meaning-and-ethical-principles-in-business/">https://www.toppr.com/guides/business-communication-and-ethics/business-ethics/meaning-and-ethical-principles-in-business/</a> |

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## **Syllabus for F.Y.B.Com**

**Semester-II, Paper-II**

**Subject Name: - Business Environment & Entrepreneurship - II**

**Course Code:-126 (E)**

**Depth of Programme: - Fundamental Knowledge**

| <b>Unit No.</b> | <b>Unit Title</b>                                          | <b>Contents</b>                                                                                                                                                                                                                                                                                   | <b>Purpose Skills to be developed</b>                                                                                                                                                                                 |
|-----------------|------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>1</b>        | <b>Entrepreneurial Behaviour</b>                           | Nature- Comparison between entrepreneurial and non-entrepreneurial, Personality-Habits of Entrepreneurs – Dynamics of Motivation                                                                                                                                                                  | Understanding the difference between entrepreneurial and non-entrepreneurial, personality, Habits of Entrepreneurs<br>Skill-developing entrepreneurial personality and developing habits of entrepreneurs in students |
| <b>2</b>        | <b>Entrepreneurship</b>                                    | Concept- Need and Importance of Entrepreneurship - Economic Development and Industrialization - Role of Entrepreneurship in economy- Entrepreneur as a catalyst                                                                                                                                   | Providing knowledge and significance of entrepreneurship<br>Skill-Realising role of entrepreneurship in economy                                                                                                       |
| <b>3</b>        | <b>Institutions working for promoting entrepreneurship</b> | 1) Entrepreneurship Development Institute of India (EDII)<br>2) Maharashtra Centre for Entrepreneurship Development (MCED)<br>3) District Industries Centre ( DIC)<br>4) Maharashtra Chamber of Commerce, Industries and Agriculture(MCCIA)<br>5) Role of local NGO in promoting Entrepreneurship | Gaining knowledge of various institutions promoting entrepreneurship<br>Skill-Acquaintance with these institutions                                                                                                    |

|          |                               |                                                                                                                                                            |                                                                                                                                          |
|----------|-------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|
| <b>4</b> | <b>Study of entrepreneurs</b> | <b>1)</b> Hanumant Gaikwad ( BVG)<br><b>2)</b> Kiran Mazumdar Shaw<br><b>3)</b> Suwasini Kirloskar<br><b>4)</b> Any successful Entrepreneur from your area | Getting inspiration from the entrepreneurs<br>Skill-Developing entrepreneurial personality by getting inspiration from the entrepreneurs |
|----------|-------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|

### Teaching Methodology- F.Y.B.Com Semester-II, Paper-II

| Topic No. | Total Lectures | Innovative Methods to be used                                                                                   | Film Shows and A.V. Application                                                                           | Project                                                                                                                                                                                                                                       | Expected Outcome                                                                                                                                                        |
|-----------|----------------|-----------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>1</b>  | 12             | Study of entrepreneurial and non-entrepreneurial personalities with the help of properly designed questionnaire | Related videos and PPT, Film 'Entrepreneurship' produced by Asian Centre for Research and Training (Pune) | A group of 3 to 5 students to interview entrepreneurial and non-entrepreneurial personalities and note the difference among them, also study habits of entrepreneurs, Shadow Training, Work experience, Entrepreneurship and Management Games | Understanding the difference between entrepreneurial and non-entrepreneurial personalities and thereby getting inspiration to make students personality entrepreneurial |
| <b>2</b>  | 12             | Study of contribution of entrepreneurship in economic development (Study of selected advanced nations)          | Film 'Entrepreneurship' produced by Asian Centre for Research and Training (Pune)                         | Form a group of 3 to 5 students to search role of entrepreneurship in economy, visit to exhibitions to get insight of entrepreneurship                                                                                                        | Understanding the significance of entrepreneurship in economy thereby getting inspiration to become entrepreneur                                                        |
| <b>3</b>  | 12             | Visit website of related institutions working for promoting entrepreneurship                                    | Acquire CDs of related institutions working for promoting entrepreneurship                                | Visit to offices/regional offices of related institutions working for promoting entrepreneurship                                                                                                                                              | Knowing the functions of related institutions                                                                                                                           |
| <b>4</b>  | 12             | Study of Biographies of entrepreneurs and presenting in students group                                          | Films on lives of Entrepreneurs                                                                           | A group of students to interview entrepreneurs                                                                                                                                                                                                | Inspiration from study of Biographies to become entrepreneurs                                                                                                           |

### Method of Evaluation: F.Y.B.Com Semester-II, Paper-II

| Subject  | Internal Evaluation                                                          | External Evaluation                                                          | Suggested Add on Course                                             |
|----------|------------------------------------------------------------------------------|------------------------------------------------------------------------------|---------------------------------------------------------------------|
| Unit-I   | Class participation, Assignment, Library Work, Unit Test, Case Studies       | Semester Examination-10% MCQ<br>70% Descriptive Questions<br>20% Short Notes | Study of Entrepreneurial and Non-entrepreneurial Behaviour          |
| Unit-II  | Seminar, Class participation Assignment, Library Work, Unit Test             | Semester Examination-10% MCQ<br>70% Descriptive Questions<br>20% Short Notes | Entrepreneurship Development                                        |
| Unit-III | Seminar, Class participation Assignment, Library Work, Unit Test             | Semester Examination-10% MCQ<br>70% Descriptive Questions<br>20% Short Notes | Introduction to institutions working for promoting entrepreneurship |
| Unit-IV  | Seminar, Class participation Assignment, Library Work, Unit Test, Field Work | Semester Examination-10% MCQ<br>70% Descriptive Questions<br>20% Short Notes | Inspiring Entrepreneurship                                          |

### References

| Sr. No | Title of Book                                           | Author/s                      | Publication               | Place     |
|--------|---------------------------------------------------------|-------------------------------|---------------------------|-----------|
| 1      | Business Environment                                    | Francis Cherunilam            | Himalaya Publishing House | New Delhi |
| 3      | Dynamics of Entrepreneurship Development and Management | Desai Vasant                  | Himalaya Publishing House | New Delhi |
| 4      | Entrepreneurial Development                             | Khanka S.S.                   | S. Chand                  | New Delhi |
| 5      | Entrepreneurial Development                             | Gupta, Shrinivasan            | S. Chand                  | New Delhi |
| 6      | Udyog                                                   | --                            | Udyog Sanchalaya          | Mumbai    |
| 7      | Indian Economy                                          | Ruddar Datt, K.P.M. Sundharam | S. Chand                  | New Delhi |

## Revised syllabi (2019 Pattern) for three years B.Com. Degree course (CBCS)

Semester : - II ( F.Y.B.Com)

Course Code - 126 (F)

Subject : - **Foundation Course in Commerce**

### 1. Preamble

It is essential for every student of commerce to have understating on the recent improvements and innovations in commerce. The Current commerce industry has seen a major shift from Physical to Digital , with significant emphasis on the service sector form the previous era of manufacturing , from Business to Entrepreneurship.

The students of Commerce need to develop an understanding on the importance of Management and Administration in the early years to develop the skills required for a successful future

### Objectives of the course

1. To introduce the students to the Concept of Entrepreneurship
2. To improve the understanding of the students on E- Commerce
3. To improve the knowledge of students on recent trends in Retail Sector
4. To introduce the students to the concept of Management and Administration

Depth of the program – Fundamental Knowledge

| Unit No. | Unit Title       | Contents                                                                                                                                                                                                                        | Skills to be developed                                                                                                                                       |
|----------|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1        | Entrepreneurship | Entrepreneurship : Introduction , difference between Business and Entrepreneurship , Qualities of an Entrepreneur<br><br>Role of Entrepreneur in Social and Economical Development of the Country<br><br>Types of Entrepreneurs | 1. Conceptual Understanding on Entrepreneurship ,<br>2. Motivate the students develop Entrepreneurship Skills<br>3. Develop Innovative entrepreneurial ideas |

|   |                                      |                                                                                                                                                                                                                                                                                             |                                                                                                                                                                        |
|---|--------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2 | <b>E-Commerce</b>                    | <p>Introduction- Meaning, Features, Functions and Scope of E-Commerce-Importance and Limitations of E-Commerce.</p> <p>Types of E-Commerce: B2B, B2C, C2B, C2C,B2G, C2G, B2A, C2A and P2P, B2B service provider.</p>                                                                        | <ol style="list-style-type: none"> <li>1. Understanding e- Commerce and its future prospectus</li> <li>2. Awareness on the various forms of e-commerce</li> </ol>      |
| 3 | <b>Retailing</b>                     | <p>Introduction, Concept of Organized and Unorganized Retailing, Trends in Retailing, Innovations in Retailing in India , Growth of Organized Retailing in India, Measures adopted by Unorganized Retailers for Survival, FDI in Retail in India.</p> <p>Digital Retailing and Overview</p> | <ol style="list-style-type: none"> <li>1. Introduction to the Recent trend in Retailing</li> <li>2. To develop conceptual understating on Digital Retailing</li> </ol> |
| 4 | <b>Management and Administration</b> | <ol style="list-style-type: none"> <li>a) Management: Concept and Features</li> <li>b) Administration: Concept and Features</li> <li>c) Difference between and Management and Administration</li> <li>d) Scope of Management</li> </ol>                                                     | <ol style="list-style-type: none"> <li>1. Conceptual understating on Management and Administration</li> </ol>                                                          |

## Teaching Methodology

| Topic No. | Total Lectures | Innovative methods to be used                                                                                                   | Film shows and AV Applications                                                    | Project                                                                                                                                  | Expected Outcome                                                                                                                   |
|-----------|----------------|---------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|
| 1         | 12             | PPT , Success Stories , Organizing Entrepreneurship Fairs al College Level , Guest Lectures by Successful Entrepreneurs         | Interview videos and Documentaries and Motivation Videos of Eminent Entrepreneurs | Project on Innovative entrepreneurial Ideas                                                                                              | Developing Entrepreneurial Spirit among the students                                                                               |
| 2         | 12             | Guest Lectures by subject Experts / Industry Expert , Internet Assignments , Case Study Discussion on Real Life success stories | Educational Videos, Videos on Real Life success stories                           | Case analysis and Discussions,                                                                                                           | Conceptual Clarity and Awareness on Latest trends in e-commerce                                                                    |
| 3         | 12             | PPT and Internet Research , Field visit to Organized and Unorganized Retail Sector.                                             | Online Videos, Live demonstration on Online Retail e.g. Amazon, Big Basket etc.   | Interview of Retailers and Managers in Organized and Unorganized Retail Sector / Project on a Retail Outlet in Organized and Unorganized | Understanding on the recent changes and innovations in the Retail Sector                                                           |
| 4         | 12             | PPT , Guest Lectures                                                                                                            | Educational Videos                                                                | Project Report                                                                                                                           | Conceptual understanding on Management and Administration<br><br>Understanding on Difference between Management and Administration |

### Method of Evaluation

| Subject    | Internal Evaluation                           | External Evaluation     | Suggested Add on Course                                  |
|------------|-----------------------------------------------|-------------------------|----------------------------------------------------------|
| Unit – I   | MCQ / PPT / Written Test                      | As per University norms | Entrepreneurship Development Workshop with Certification |
| Unit – II  | Chart Presentation / MCQ/ Written Test        | As per University norms | Certificate Course E- Commerce                           |
| Unit – III | Written Test / Open Book Examination          | As per University norms | Diploma Course on Retail Management                      |
| Unit – IV  | PPT/ MCQ/Written Test/ Field Visit and Report | As per University norms | Workshop on Leadership Development                       |

### References :

#### List of Books Recommended :-

- Introduction To E – Commerce, Dhawan, Nidhi, International Book House
- E- Commerce - Rajaraman
- Business Organisation Management Maheshwari, Rajendra P ,Mahajan, J. P . International Book House
- Business Organization and Principles of Management by Dutta Chowdury, Central Education
- Retailing Management, Levy Michael., Weitz Barton A,Tata Mcgraw Hill
- Strategic Management, David,Fred R., Phi Leraning
- Government Policies on FDI in Retail.
- Retail Management - S.C. Bhatia Atlantic Publishers & Dist, 2008
- Retail Survival of the Fittest: 7 Ways to Future-Proof Your Retail Store by Francesca Nicasio
- Retail Management : Rajnish Tuli , Nidhi Varma Srivastava , Paperback
- Entrepreneurial Development by Khanka S.S , S.Chand
- Innovation and Entrepreneurship by Peter F. Drucker
- The Oxford Handbook of Entrepreneurship Edited by Anuradha Basu, Mark Casson, Nigel Wadeson, and Bernard Yeun

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# SAVITRIBAI PHULE PUNE UNIVERSITY

## Revised Syllabus of Master of Commerce (M.Com.) Semester Pattern with Credit System with effect from June 2019

The M. Com. Syllabus for regular students is being revised from the academic year 2019-20.  
The course structure is as below:-

### 1. Objectives :

- To equip and train Post Graduate students to accept the challenges of business world by providing opportunities for study and analysis of advanced commercial and business methods and processes.
- To develop independent logical thinking and facilitate personality development.
- To equip the students to seek suitable careers in management and entrepreneurship.
- To acquaint students with significance of research in business.
- To impart skills regarding methods of data collection and their interpretations.
- To develop communication and analytical skills among students.

### 2. Duration :

The M.Com. Course will be of Two Years duration consisting of two part. I.e. Part I and Part II. Each part is having Two Semesters.

Thus, the M.Com. Course is of Four Semesters. For each Semester, there will be Four Papers of 100 marks each. M.Com. Degree will be of 1600 marks in aggregate.

### 3. Duration and Structure of Programme:

The M.Com (Semester pattern with Credit System) degree Programme shall be of 2 years' duration divided into two parts, Part I and Part II, and 4 semesters.

### 4. Eligibility :

The student who has passed any Bachelors degree of this University or any other recognized University shall be held eligible to be admitted to M.Com. Course.

### 5. Course Structure:

The M.Com. degree course will be of two year duration consisting of four semesters and of minimum 64 credits as below:

| Sr. No. | Semester           | Total Credits |
|---------|--------------------|---------------|
| 1       | Semester I         | 16            |
| 2       | Semester II        | 16            |
| 3       | Semester III       | 16            |
| 4       | Semester IV        | 16            |
|         | <b>Grand Total</b> | <b>64</b>     |

Four extra credits for project work at 4<sup>th</sup> Semester (This will include credits for fieldwork, data presentation and report writing)

In each Semester, there will be four papers of 100 marks each out of which **40 marks will be for Internal Assessment** (attendance, home assignments, class tests, long term papers, classroom presentation and **60 marks for University Examination**. Thus M.Com. degree examination, four Semesters shall be of 1600 marks.

**In addition to the above, students are required to secure following ten credits. These credits are compulsory in nature.**

| Semester             | Human Rights     | Introduction to cyber security / information security | Skill development | Total Credits     |
|----------------------|------------------|-------------------------------------------------------|-------------------|-------------------|
| I                    | 1 credit         | 1 credit                                              | --                | 2 credits         |
| II                   | 1 credit         | 1 credit                                              | --                | 2 credits         |
| III                  | --               | 1 credit                                              | 2 credits         | 3 credits         |
| IV                   | --               | 1 credit                                              | 2 credits         | 3 credits         |
| <b>Total Credits</b> | <b>2 credits</b> | <b>4 credits</b>                                      | <b>4 credits</b>  | <b>10 credits</b> |

- Syllabus and other details regarding 'Human Rights' has been displayed on the home page of the university website.
- Syllabus and other details regarding '**Introduction to cyber security / information security**' has been displayed on the 'syllabi' page of the university website.

**6. The Scheme of Papers:** The following will be the Scheme of papers:

**The List of Courses**

**Semester I**

| Semester   | Subject Types                                      | Course Code                                                 | Title of the Paper                                            | Hrs/ Week | Credit | Exam. Hours | Maximum Marks |       |       |
|------------|----------------------------------------------------|-------------------------------------------------------------|---------------------------------------------------------------|-----------|--------|-------------|---------------|-------|-------|
|            |                                                    |                                                             |                                                               |           |        |             | Internal      | Univ. | Total |
| Semester I | Core Compulsory                                    | 101                                                         | Management Accounting                                         | 04        | 04     | 03          | 40            | 60    | 100   |
|            |                                                    | 102                                                         | Strategic Management                                          | 04        | 04     | 03          | 40            | 60    | 100   |
|            | Core Elective/ Optional Subjects/ Special Subjects | <b>To choose any one Group of the following</b>             |                                                               |           |        |             |               |       |       |
|            |                                                    | <b>Group A (Advanced Accounting &amp; Taxation)</b>         |                                                               |           |        |             |               |       |       |
|            |                                                    | 103                                                         | Advanced Accounting                                           | 04        | 04     | 03          | 40            | 60    | 100   |
|            |                                                    | 104                                                         | Income Tax                                                    | 04        | 04     | 03          | 40            | 60    | 100   |
|            |                                                    | <b>Group B (Commercial Laws &amp; Practices)</b>            |                                                               |           |        |             |               |       |       |
|            |                                                    | 105                                                         | Information system and E-Commerce Practices                   | 04        | 04     | 03          | 40            | 60    | 100   |
|            |                                                    | 106                                                         | Intellectual Property Laws                                    | 04        | 04     | 03          | 40            | 60    | 100   |
|            |                                                    | <b>Group C (Advanced Cost Accounting &amp; Cost system)</b> |                                                               |           |        |             |               |       |       |
|            |                                                    | 107                                                         | Advanced Cost Accounting                                      | 04        | 04     | 03          | 40            | 60    | 100   |
|            |                                                    | 108                                                         | Costing Technique Examination s and Responsibility Accounting | 04        | 04     | 03          | 40            | 60    | 100   |
|            |                                                    | <b>Group D (Co-operation &amp; Rural Development)</b>       |                                                               |           |        |             |               |       |       |
|            |                                                    | 109                                                         | Co-operative Movement in India                                | 04        | 04     | 03          | 40            | 60    | 100   |
|            |                                                    | 110                                                         | Rural Development                                             | 04        | 04     | 03          | 40            | 60    | 100   |
|            |                                                    | <b>Group E (Business Practices &amp; Environment)</b>       |                                                               |           |        |             |               |       |       |
|            |                                                    | 111                                                         | Organized Traders and Markets                                 | 04        | 04     | 03          | 40            | 60    | 100   |
|            |                                                    | 112                                                         | Business Environment and Policy                               | 04        | 04     | 03          | 40            | 60    | 100   |
|            |                                                    | <b>Group F (Business Administration)</b>                    |                                                               |           |        |             |               |       |       |
|            |                                                    | 113                                                         | Production and Operation Management                           | 04        | 04     | 03          | 40            | 60    | 100   |
|            |                                                    | 114                                                         | Financial Management                                          | 04        | 04     | 03          | 40            | 60    | 100   |
|            |                                                    | <b>Group G (Advanced Banking &amp; Finance)</b>             |                                                               |           |        |             |               |       |       |
|            |                                                    | 115                                                         | Legal Framework of Banking                                    | 04        | 04     | 03          | 40            | 60    | 100   |
|            |                                                    | 116                                                         | Central Banking                                               | 04        | 04     | 03          | 40            | 60    | 100   |
|            |                                                    | <b>Group H (Advanced Marketing)</b>                         |                                                               |           |        |             |               |       |       |
|            |                                                    | 117                                                         | Marketing Techniques                                          | 04        | 04     | 03          | 40            | 60    | 100   |
|            |                                                    | 118                                                         | Consumer Behaviour                                            | 04        | 04     | 03          | 40            | 60    | 100   |

## Semester II

| Semester    | Subject Types                                            | Course Code                                                 | Title of the Paper                                                    | Hrs/ Week | Credit | Exam. Hours | Maximum Marks |       |       |
|-------------|----------------------------------------------------------|-------------------------------------------------------------|-----------------------------------------------------------------------|-----------|--------|-------------|---------------|-------|-------|
|             |                                                          |                                                             |                                                                       |           |        |             | Internal      | Univ. | Total |
| Semester II | Core Compulsory                                          | 201                                                         | Financial Analysis and Control/<br>Principals of Financial Accounting | 04        | 04     | 03          | 40            | 60    | 100   |
|             |                                                          | 202                                                         | A. Industrial Economics<br>B. Business Statistics                     | 04        | 04     | 03          | 40            | 60    | 100   |
|             | Core Elective/<br>Optional Subjects/<br>Special Subjects | <i>To choose any one Group of the following</i>             |                                                                       |           |        |             |               |       |       |
|             |                                                          | <b>Group A (Advanced Accounting &amp; Taxation)</b>         |                                                                       |           |        |             |               |       |       |
|             |                                                          | 203                                                         | Specialized Areas in Accounting                                       | 04        | 04     | 03          | 40            | 60    | 100   |
|             |                                                          | 204                                                         | Business Tax Assessment & Planning                                    | 04        | 04     | 03          | 40            | 60    | 100   |
|             |                                                          | <b>Group B (Commercial Laws &amp; Practices)</b>            |                                                                       |           |        |             |               |       |       |
|             |                                                          | 205                                                         | E- Security & Cyber Laws                                              | 04        | 04     | 03          | 40            | 60    | 100   |
|             |                                                          | 206                                                         | Laws Regulating to Copyrights & Design                                | 04        | 04     | 03          | 40            | 60    | 100   |
|             |                                                          | <b>Group C (Advanced Cost Accounting &amp; Cost system)</b> |                                                                       |           |        |             |               |       |       |
|             |                                                          | 207                                                         | Application Cost Accounting                                           | 04        | 04     | 03          | 40            | 60    | 100   |
|             |                                                          | 208                                                         | Cost Control & Cost System                                            | 04        | 04     | 03          | 40            | 60    | 100   |
|             |                                                          | <b>Group D (Co-operation &amp; Rural Development)</b>       |                                                                       |           |        |             |               |       |       |
|             |                                                          | 209                                                         | International Co-operative Movement                                   | 04        | 04     | 03          | 40            | 60    | 100   |
|             |                                                          | 210                                                         | Management of Co-operative Business                                   | 04        | 04     | 03          | 40            | 60    | 100   |
|             |                                                          | <b>Group E (Business Practices &amp; Environment)</b>       |                                                                       |           |        |             |               |       |       |
|             |                                                          | 211                                                         | Modern Business Practices                                             | 04        | 04     | 03          | 40            | 60    | 100   |
|             |                                                          | 212                                                         | Business Environment Analysis                                         | 04        | 04     | 03          | 40            | 60    | 100   |
|             |                                                          | <b>Group F (Business Administration)</b>                    |                                                                       |           |        |             |               |       |       |
|             |                                                          | 213                                                         | Business Ethics & Professional Value                                  | 04        | 04     | 03          | 40            | 60    | 100   |
|             |                                                          | 214                                                         | Elements of Knowledge Management                                      | 04        | 04     | 03          | 40            | 60    | 100   |
|             |                                                          | <b>Group G (Advanced Banking &amp; Finance)</b>             |                                                                       |           |        |             |               |       |       |
|             |                                                          | 215                                                         | Banking Law & Practices                                               | 04        | 04     | 03          | 40            | 60    | 100   |
|             |                                                          | 216                                                         | Monetary Policy                                                       | 04        | 04     | 03          | 40            | 60    | 100   |
|             |                                                          | <b>Group H (Advanced Marketing)</b>                         |                                                                       |           |        |             |               |       |       |
|             |                                                          | 217                                                         | Customer Relationship Management & Retailing                          | 04        | 04     | 03          | 40            | 60    | 100   |
|             |                                                          | 218                                                         | Services Marketing                                                    | 04        | 04     | 03          | 40            | 60    | 100   |

### Semester III

| Semester     | Subject Types                                      | Course Code                                                 | Title of the Paper                      | Hrs/ Week | Credit | Exam. Hours | Maximum Marks |       |       |
|--------------|----------------------------------------------------|-------------------------------------------------------------|-----------------------------------------|-----------|--------|-------------|---------------|-------|-------|
|              |                                                    |                                                             |                                         |           |        |             | Internal      | Univ. | Total |
|              | Core                                               | 301                                                         | Business Finance                        | 04        | 04     | 03          | 40            | 60    | 100   |
| Semester III | Compulsory                                         | 302                                                         | Research Methodology for Business       | 04        | 04     | 03          | 40            | 60    | 100   |
|              | Core Elective/ Optional Subjects/ Special Subjects | <b>To choose any one Group of the following</b>             |                                         |           |        |             |               |       |       |
|              |                                                    | <b>Group A (Advanced Accounting &amp; Taxation)</b>         |                                         |           |        |             |               |       |       |
|              |                                                    | 303                                                         | Advanced Auditing                       | 04        | 04     | 03          | 40            | 60    | 100   |
|              |                                                    | 304                                                         | Specialized Auditing                    | 04        | 04     | 03          | 40            | 60    | 100   |
|              |                                                    | <b>Group B (Commercial Laws &amp; Practices)</b>            |                                         |           |        |             |               |       |       |
|              |                                                    | 305                                                         | Laws Relating to International Business | 04        | 04     | 03          | 40            | 60    | 100   |
|              |                                                    | 306                                                         | WTO – Norms & Practices                 | 04        | 04     | 03          | 40            | 60    | 100   |
|              |                                                    | <b>Group C (Advanced Cost Accounting &amp; Cost system)</b> |                                         |           |        |             |               |       |       |
|              |                                                    | 307                                                         | Cost Audit                              | 04        | 04     | 03          | 40            | 60    | 100   |
|              |                                                    | 308                                                         | Management Audit                        | 04        | 04     | 03          | 40            | 60    | 100   |
|              |                                                    | <b>Group D (Co-operation &amp; Rural Development)</b>       |                                         |           |        |             |               |       |       |
|              |                                                    | 309                                                         | Co-operative Credit System              | 04        | 04     | 03          | 40            | 60    | 100   |
|              |                                                    | 310                                                         | Co-operative Banking System             | 04        | 04     | 03          | 40            | 60    | 100   |
|              |                                                    | <b>Group E (Business Practices &amp; Environment)</b>       |                                         |           |        |             |               |       |       |
|              |                                                    | 311                                                         | Entrepreneurial Behaviour               | 04        | 04     | 03          | 40            | 60    | 100   |
|              |                                                    | 312                                                         | Entrepreneurship                        | 04        | 04     | 03          | 40            | 60    | 100   |
|              |                                                    | <b>Group F (Business Administration)</b>                    |                                         |           |        |             |               |       |       |
|              |                                                    | 313                                                         | Human Resource Management               | 04        | 04     | 03          | 40            | 60    | 100   |
|              |                                                    | 314                                                         | Organizational Behaviour                | 04        | 04     | 03          | 40            | 60    | 100   |
|              |                                                    | <b>Group G (Advanced Banking &amp; Finance)</b>             |                                         |           |        |             |               |       |       |
|              |                                                    | 315                                                         | Foreign Exchange                        | 04        | 04     | 03          | 40            | 60    | 100   |
|              |                                                    | 316                                                         | International Finance                   | 04        | 04     | 03          | 40            | 60    | 100   |
|              |                                                    | <b>Group H (Advanced Marketing)</b>                         |                                         |           |        |             |               |       |       |
|              |                                                    | 317                                                         | International Marketing                 | 04        | 04     | 03          | 40            | 60    | 100   |
|              |                                                    | 318                                                         | Marketing Research                      | 04        | 04     | 03          | 40            | 60    | 100   |

### Semester IV

| Semester    | Subject Type                                       | Course Code                                                 | Title of the Paper                                             | Hrs/ Week | Credit | Exam. Hours | Maximum Marks |    |     |
|-------------|----------------------------------------------------|-------------------------------------------------------------|----------------------------------------------------------------|-----------|--------|-------------|---------------|----|-----|
| Semester IV | Core Compulsory                                    | 401                                                         | Capital Market and Financial Services                          | 04        | 04     | 03          | 40            | 60 | 100 |
|             |                                                    | 402                                                         | Industrial Economic Environment (OR) Operations Research       | 04        | 04     | 03          | 40            | 60 | 100 |
|             | Core Elective/ Optional Subjects/ Special Subjects | <b>To choose any one Group of the following</b>             |                                                                |           |        |             |               |    |     |
|             |                                                    | <b>Group A (Advanced Accounting &amp; Taxation)</b>         |                                                                |           |        |             |               |    |     |
|             |                                                    | 403                                                         | Recent Advances in Accounting, Taxation, Taxation and Auditing | 04        | 04     | 03          | 40            | 60 | 100 |
|             |                                                    | 404                                                         | Project Work/ Case Studies                                     | 04        | 04     | 03          | 40            | 60 | 100 |
|             |                                                    | <b>Group B (Commercial Laws &amp; Practices)</b>            |                                                                |           |        |             |               |    |     |
|             |                                                    | 405                                                         | Recent Advances in Commercial Laws and Practices               | 04        | 04     | 03          | 40            | 60 | 100 |
|             |                                                    | 406                                                         | Project Work/Case Studies                                      | 04        | 04     | 03          | 40            | 60 | 100 |
|             |                                                    | <b>Group C (Advanced Cost Accounting &amp; Cost system)</b> |                                                                |           |        |             |               |    |     |
|             |                                                    | 407                                                         | Recent Advances in Cost Auditing and Cost System               | 04        | 04     | 03          | 40            | 60 | 100 |
|             |                                                    | 408                                                         | Project Work/Case Studies                                      | 04        | 04     | 03          | 40            | 60 | 100 |
|             |                                                    | <b>Group D (Co-operation &amp; Rural Development)</b>       |                                                                |           |        |             |               |    |     |
|             |                                                    | 409                                                         | Recent Advances in Co-operative and Rural Development          | 04        | 04     | 03          | 40            | 60 | 100 |
|             |                                                    | 410                                                         | Project Work/Case Studies                                      | 04        | 04     | 03          | 40            | 60 | 100 |
|             |                                                    | <b>Group E (Business Practices &amp; Environment)</b>       |                                                                |           |        |             |               |    |     |
|             |                                                    | 411                                                         | Recent Advances in Business Practices and Environment          | 04        | 04     | 03          | 40            | 60 | 100 |
|             |                                                    | 412                                                         | Project Work/Case Studies                                      | 04        | 04     | 03          | 40            | 60 | 100 |
|             |                                                    | <b>Group F (Business Administration)</b>                    |                                                                |           |        |             |               |    |     |
|             |                                                    | 413                                                         | Recent Advances in Business Administration                     | 04        | 04     | 03          | 40            | 60 | 100 |
|             |                                                    | 414                                                         | Project Work/Case Studies                                      | 04        | 04     | 03          | 40            | 60 | 100 |
|             |                                                    | <b>Group G (Advanced Banking &amp; Finance)</b>             |                                                                |           |        |             |               |    |     |
|             |                                                    | 415                                                         | Recent Advances in Banking and Finance                         | 04        | 04     | 03          | 40            | 60 | 100 |
|             |                                                    | 416                                                         | Project Work/Case Studies                                      | 04        | 04     | 03          | 40            | 60 | 100 |
|             |                                                    | <b>Group H (Advanced Marketing)</b>                         |                                                                |           |        |             |               |    |     |
|             |                                                    | 417                                                         | Recent Advances in Marketing                                   | 04        | 04     | 03          | 40            | 60 | 100 |
|             |                                                    | 418                                                         | Project Work/Case Studies                                      | 04        | 04     | 03          | 40            | 60 | 100 |

## 7. Scheme of Examination:

The examination of regular students of M.Com. degree course of the University of Pune admitted in the academic session 2019-20 and after shall be based on:

- (a) Semester Examination
- (b) Continuous Assessment
- (c) Choice Based Credit System, and
- (d) Semester Grade Point Average and Cumulative Grade Point Average System

**For each paper of 100 marks, there will be an Internal Assessment (1A) of 40 marks and the University Examination (UE) of 60 marks/ 3 hours duration at the end of each semester.** A candidate who will secure at least 40% marks allotted to each paper will be given 4 credits. A candidate who does not pass the examination in any subject or subjects in one semester will be permitted to appear in such failed subject or subjects along with the papers of following semesters.

**The Internal Assessment for each paper will be 40 marks**, which will be carried out by the department during the term. The Internal Assessment may be in the forms of written test, seminars, term papers, presentations, assignments, orals or any such others. The distribution of internal assessment marks shall be as follows:

|                                |    |
|--------------------------------|----|
| Midterm Test                   | 20 |
| Presentation/Role Play         | 10 |
| Case studies/ Group Discussion | 10 |

There shall be four semester examinations: first semester examination at the middle of the first academic year and the second semester examination at the end of the first academic year. Similarly, the third and fourth semester examinations shall be held at the middle and the end of the second academic year, respectively.

The candidates shall be permitted to proceed from the first semester up to final semester irrespective of their failure in any of the semester examinations subject to the condition that the candidates should register for all the arrear subjects of earlier semesters along with current (Subsequent) semester subjects.

## 8. Research project work:

There will be a Research Project to be prepared by a student during the fourth semester. The objective of the project work is to introduce students to research methodology in the subject and prepare them for pursuing research in theoretical or experimental or computational areas of the subject. The project work is to be undertaken under guidance of a teacher allotted to a student by the department.

| Division of marks                                        | Marks    |
|----------------------------------------------------------|----------|
| Synopsis with working bibliography (Internal Assessment) | 40 marks |
| A full project Report (Minimum 50-80 pages)              | 40 marks |
| Viva Voce                                                | 20 marks |

|       |           |
|-------|-----------|
| Total | 100 marks |
|-------|-----------|

As the Research Project is based on the self-study done by the candidate and evaluated for 100 marks altogether, having four credits. The project may be evaluated by two examiners one internal and one external, selected from the panel of PG examiners of the University. The Viva voce must be conducted by the teachers selected out of the panel of PG examiners maintained by the University.

The candidates have to submit the project 15 days before the commencement of the fourth semester university examination. The project report shall be type-written and submitted in duplicate. A candidate who fails to submit the project may resubmit the same in the subsequent semester examination for evaluation. The project work activities must be duly supported by documentary evidence to be endorsed by the Head or Guide.

### 9. Standard of passing:

A candidate shall be declared to have passed in the paper provided he/she has secured minimum GP of 4.5 in the UNIVERSITY EXAMINATION and GRADE POINT AVERAGE of 4.0 in aggregate of UNIVERSITY GRADE and INTERNAL ASSESSMENT taken together.

### 10. Classification of successful candidates:

Candidates who secured not less than 60% of aggregate marks (INTERNAL ASSESSMENT +UNIVERSITY EXAMINATION ) in the whole examination shall be declared to have passed the examination in the first class. All other successful candidates shall be declared to have passed in second class. Candidates who obtain 70% of the marks in the aggregate (INTERNAL ASSESSMENT +UNIVERSITY EXAMINATION) shall be deemed to have passed the examination in first class with distinction.

A student who passes in all the courses will be declared to have passed the M.Com. degree with the following honors.

|                       |                                |
|-----------------------|--------------------------------|
| CGPA in (4.00, 4.99)  | - Pass Class                   |
| CGPA in (5.00, 5.49)  | - Second Class                 |
| CGPA in (5.50, 5.99)  | - Higher Second Class          |
| CGPA in (6.00, 7.99)  | - First Class                  |
| CGPA in (8.00, 10.00) | - First Class with Distinction |

### 11. Scheme of Credits:

**Sixty (60) hours of teaching will lead to four credits** (which mean four hours per week teaching in one semester) and long term paper as well as presentation will carry one credit. Each semester shall offer 16 credits or more.

### 12. Grade Points Scheme:

The term grading system indicates a 10 – points scale of evaluation of the performance of students in terms of marks obtained in the Internal and External Examination, grade points and letter grade. The total performance within a semester and continuous performance starting from the first semester are indicated respectively by Grade Point



Average (GPA) and Cumulative Grade Point Average (CGPA). Candidates who pass all the examinations prescribed for the course in the first appearance itself alone are eligible for Ranking.

The 10-point scale would be used to convert marks out of 100 to grades and grade points according to the following table:

| Marks as Percentage | Grade | Grade Point |
|---------------------|-------|-------------|
| [75.0, 100]         | O     | 10.0        |
| [70.0, 74.9]        | A+    | 9.0         |
| [65.0, 69.9]        | A     | 8.0         |
| [60.0, 64.9]        | B+    | 7.0         |
| [55.0, 59.9]        | B     | 6.0         |
| [50.0, 54.9]        | C+    | 5.5         |
| [45.0, 49.9]        | C     | 5.0         |
| [40.0, 44.9]        | D     | 4.5         |
| [00.0, 39.9]        | F     | 0.0         |

### 13. Structure of Transcript:

At the end of each semester, student will be given a transcript showing the performance and result in each course. The transcript shows, for each course the title of the course, credit values, grade in UNIVERSITY EXAMINATION , grade in INTERNAL ASSESSMENT , grade point index, result as pass or fail. Also, the semester grade point average (SGPA) and cumulative grade point average (CPGA) will be shown. Further the equivalent percentage of marks corresponding to SGPG or CGPA to equivalent percentage is given by:

$$\text{Equivalent percentage marks} = \begin{cases} 10 \times \text{CGPA} & \text{if CGPA / SGPA is in } [4.00, 6.00] \\ 05 \times \text{CGPA} + 30 & \text{if CGPA / SGPA is in } [6.00, 9.00] \\ 25 \times \text{CGPA} - 150 & \text{if CGPA / SGPA is in } [9.00, 10.00] \end{cases}$$

The above formula computes to the following table:

| Range in % of Marks | Range of CGRADE POINT AVERAGE | Letter Grade | Division                     |
|---------------------|-------------------------------|--------------|------------------------------|
| [75.0, 100]         | [9.00, 10.00]                 | O            | First Class with Distinction |
| [70.0, 74.9]        | [8.00, 8.99]                  | A+           |                              |
| [65.0, 67.9]        | [7.00, 7.99]                  | A            |                              |
| [60.0, 64.9]        | [6.00, 6.99]                  | B+           | First Class                  |
| [55.0, 59.9]        | [5.50, 5.99]                  | B            |                              |
| [50.0, 54.9]        | [5.00, 5.49]                  | C+           | Higher Second Class          |
| [45.0, 49.9]        | [4.50, 4.99]                  | C            | Second Class                 |
| [40.0, 44.9]        | [4.00, 4.49]                  | D            |                              |
| [00.0, 39.9]        | [0.00, 3.99]                  | F            | Pass Class                   |
|                     |                               |              | Fail                         |

Thus the percentage of Marks can be obtained by using the following table:

| <b>CGRADE<br/>POINT<br/>AVERAGE</b> | <b>% of<br/>Marks</b> | <b>CGRADE<br/>POINT<br/>AVERAGE</b> | <b>% of<br/>Marks</b> | <b>CGRADE<br/>POINT<br/>AVERAGE</b> | <b>% of<br/>Marks</b> | <b>CGRADE<br/>POINT<br/>AVERAGE</b> | <b>% of<br/>Marks</b> |
|-------------------------------------|-----------------------|-------------------------------------|-----------------------|-------------------------------------|-----------------------|-------------------------------------|-----------------------|
| 4.0                                 | 40.0                  | 5.5                                 | 55.0                  | 7.0                                 | 65.0                  | 8.5                                 | 72.5                  |
| 4.1                                 | 41.0                  | 5.6                                 | 56.0                  | 7.1                                 | 65.0                  | 8.6                                 | 73.0                  |
| 4.2                                 | 42.0                  | 5.7                                 | 57.0                  | 7.2                                 | 66.0                  | 8.7                                 | 73.5                  |
| 4.3                                 | 43.0                  | 5.8                                 | 58.0                  | 7.3                                 | 66.0                  | 8.8                                 | 74.0                  |
| 4.4                                 | 44.0                  | 5.9                                 | 59.0                  | 7.4                                 | 67.0                  | 8.9                                 | 74.5                  |
| 4.5                                 | 45.0                  | 6.0                                 | 60.0                  | 7.5                                 | 67.0                  | 9.0                                 | 75.0                  |
| 4.6                                 | 46.0                  | 6.1                                 | 60.0                  | 7.6                                 | 68.0                  | 9.1                                 | 77.5                  |
| 4.7                                 | 47.0                  | 6.2                                 | 61.0                  | 7.7                                 | 68.0                  | 9.2                                 | 80.0                  |
| 4.8                                 | 48.0                  | 6.3                                 | 61.0                  | 7.8                                 | 69.0                  | 9.3                                 | 82.5                  |
| 4.9                                 | 49.0                  | 6.4                                 | 62.0                  | 7.9                                 | 69.5                  | 9.4                                 | 85.5                  |
| 5.0                                 | 50.0                  | 6.5                                 | 62.0                  | 8.0                                 | 70.0                  | 9.5                                 | 87.5                  |
| 5.1                                 | 51.0                  | 6.6                                 | 63.0                  | 8.1                                 | 70.0                  | 9.6                                 | 90.0                  |
| 5.2                                 | 52.0                  | 6.7                                 | 63.0                  | 8.2                                 | 71.5                  | 9.7                                 | 92.5                  |
| 5.3                                 | 53.0                  | 6.8                                 | 64.0                  | 8.3                                 | 71.0                  | 9.8                                 | 95.0                  |
| 5.4                                 | 54.0                  | 6.9                                 | 64.0                  | 8.4                                 | 72.0                  | 9.9                                 | 97.5                  |
|                                     |                       |                                     |                       |                                     |                       | 10.0                                | 100.0                 |

#### 14. Distribution of Periods:

There shall be 60 periods for each subject to cover the entire teaching of 4 credits. This will be distributed as follows:

| <b>Particulars</b>             | <b>Periods</b> |
|--------------------------------|----------------|
| Teaching session per programme | 48             |
| Assignment/ Test               | 04             |
| Role play/ Group Discussion    | 04             |
| Case studies and presentation  | 04             |
| <b>Total</b>                   | <b>60</b>      |

#### 15. Standard of Passing.

Regular students: - A candidate is required to obtain 40% marks in each of course in both Mid Semesters and Semester end. It means passing separately at Mid-Semester and semester Examinations is compulsory.

#### 16. Award of Class.

- The class in respect of M.Com. Examination will be awarded on the basis of aggregate marks obtained by the candidates in all the sixteen papers at the Semester I, II, III, and IV together.

The Award of class shall be as under:-

| <b>Marks Obtained</b>           | <b>Class</b>                  |
|---------------------------------|-------------------------------|
| 70% and above                   | First Class with Distinction. |
| 60% and above but less than 70% | First Class.                  |
| 55% and above but less than 60% | Higher Second Class.          |

|                                 |               |
|---------------------------------|---------------|
| 50% and above but less than 55% | Second Class. |
| 40% and above but less than 50% | Pass Class.   |
| Less than 40%                   | Fail.         |

- b. Improvement: - A candidate having passed M.Com. Examination will be allowed to improve the performance. The same is termed as 'Class Improvement Scheme' under which improvement of performance shall be allowed only at the Semester end Examination.
- c. A candidate after passing M.Com. Examination will be allowed to appear in the additional Special Subject after keeping necessary terms in the concerned special subject only, for which a passing certificate will be issued.

#### 17. Medium of Instruction :

The use of Marathi is allowed for writing answers in the examination except for following courses:

- a. Management Accounting
- b. Financial Analysis & Control
- c. Business Statistics,
- d. Advanced Accounting and Taxation
- e. Advanced Cost Accounting and Cost Systems.

#### 18. Qualification of the Teachers :

The Teachers recognized to teach the subjects as per Old Course shall be deemed to be recognized in the corresponding equivalent subjects under Revised Course.

In case of: A) Business Statistics, B) Industrial Economics, C) Co-operation and Rural Development, D) Advanced Banking and Finance and E) Research Methodology and Project Work- Paper-IV of each Special Subject, the following qualifications be made applicable.

- A. Business Statistics :** M.Com, M.Phil with Statistics or Research Methodology as one of the Papers at M.Com /B.Com /M. Phil examination with 5 years degree teaching experience or M.A./M.Sc. With Statistics having 5 years degree teaching experience.
- B. Industrial Economics:** M.Com., M. Phil with Business Economics/Economics of Industries or Economics as one of the papers at B. Com/ M.Com Examination with 5 years degree teaching experience or M.A. Economics with 5 years degree teaching experience.
- C. Co-operation and Rural Development:** M. Com, M. Phil. With 5 years degree teaching experience or M.A. Economics (with Co-operation Rural Economics)
- D. Advanced Banking and Finance:** M. Com., M. Phil., with Banking as one of the papers at B.Com/M.Com examination 5 years degree teaching experience.
- E. Research Methodology and Project Work:** M.Com. M.A (Eco.) M.Phil./Ph.D. with 5 years degree teaching experience.
- F.** Similarly all the changes in qualification as per U.G.C norms and guidelines shall also be applicable as and when the changes come into force (If applicable)

**Revised syllabi (2019 Pattern) for two years M. Com. Course (CBCS)**

**Semester: I**

**Subject: Management Accounting**

**Course Code: 101**

**Depth of the programme:** Basic Knowledge with recent advancement and its applicability

**Objectives of the Programme:**

1. To enhance the abilities of learners to develop the concept of management accounting and its significance in the business.
2. To enhance the abilities of learners to analyze the financial statements.
3. To enable the learners to understand, develop and apply the techniques of management accounting in the financial decision making in the business corporates.
4. To make the students develop competence with their usage in managerial decision making and control.

| <b>Unit No.</b> | <b>Unit Title</b>                                      | <b>Contents</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <b>Purpose Skills to be developed</b>                                                                                                                                                                            |
|-----------------|--------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>1</b>        | <b>Accounting for Emerging Sectors</b>                 | <ol style="list-style-type: none"><li>1. Limitations of conventional Financial Accounting</li><li>2. Emergence of Management Accounting and Cost Accounting</li><li>3. Advantages of Management Accounting and Cost Accounting</li><li>4. Distinction between Management Accounting and Cost Accounting</li><li>5. Management Accounting as a decision making tool</li></ol>                                                                                                                                               | To understand the concept of Financial Accounting and its limitations, emergence of Management Accounting and Cost Accounting, its advantages and distinction between Management Accounting and Cost Accounting. |
| <b>2</b>        | <b>Application of Management Accounting Techniques</b> | <ol style="list-style-type: none"><li>1. Marginal Costing and Cost-Volume Profit (CVP) Analysis, Key Factors</li><li>2. Decision Making through Managerial Cost Accounting (Make or Buy Decision) Purchasing and Leasing</li><li>3. Techniques and Managerial Cost Accounting</li><li>4. Standardization of Accounting System<ol style="list-style-type: none"><li>a. Fixed and Variable Cost Analysis</li><li>b. Application of Fixed and Variable Cost Analysis technique in decision making process</li></ol></li></ol> | To understand the concept of Marginal Costing, its applications, different techniques of managerial cost accounting and Fixed and Variable Cost Analysis in decision making process.                             |

|           |                                              |                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                            |
|-----------|----------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>3.</b> | <b>Budgets as a tool for Decision Making</b> | <ol style="list-style-type: none"> <li>1. Budget Manual</li> <li>2. Budget Committee and Budgetary Control</li> <li>3. Preparation of Budget</li> <li>4. Master Budget</li> <li>5. Purchase and Sales Budgets</li> <li>6. Fixed and Flexible Budget</li> <li>7. Cash Budget</li> </ol>                                              | To understand the concept of budget and budgetary control, types of budgets and preparation of functional budgets in an organization.                                      |
| <b>4.</b> | <b>Working Capital Management</b>            | <ol style="list-style-type: none"> <li>1. Concept and definition of working capital,</li> <li>2. Determination of Working capital, Assessment of Working</li> <li>3. Capital needs - Study of components of working capital such as cash management</li> <li>4. Accounts receivable management and inventory management.</li> </ol> | To understand the concept of Working Capital Management, determination of working capital, components of working capital and accounts receivable and inventory management. |

## References

| <b>Sr. No.</b> | <b>Title of the Book</b> | <b>Author/s</b>                     | <b>Publication</b>                  | <b>Place</b> |
|----------------|--------------------------|-------------------------------------|-------------------------------------|--------------|
| 1.             | Management Accounting    | P.C. Tulsian                        | Tata McGraw Hill Publishing Company | New Delhi    |
| 2.             | Management Accounting    | A.Mukharji & M. Hanif               | Tata McGraw Hill Publishing Company | New Delhi    |
| 3.             | Management Accounting    | S. N. Maheshwari & S.K. Maheshawari | Vikas Publishing House Pvt. Ltd.    | New Delhi    |
| 4.             | Advanced Accounting      | M. C. Shukla & S.P. Gerwal          | S. Chand and Co. Ltd.               | New Delhi    |
| 5.             | Advanced Accountancy     | S.P. Jain & K.N. Narang             | Kalyani Publishers                  | New Delhi    |

|     |                                     |                            |                                  |           |
|-----|-------------------------------------|----------------------------|----------------------------------|-----------|
| 6.  | Advanced Accountancy                | R.L. Gupta & M. Radhaswamy | S. Chand and Co. Ltd.            | New Delhi |
| 7.  | Advanced Accounting                 | Dr. Sadashiv Sirgave       | Success Publications             | Pune      |
| 8.  | Principles of Management Accounting | S. N. Maheshwari           | Vikas Publishing House Pvt. Ltd. | New Delhi |
| 9.  | Management Accounting               | I.M. Pandey                | Vikas Publishing House Pvt. Ltd. | New Delhi |
| 10. | Advanced Management Accounting      | Ravi Kishore               | Taxman                           | New Delhi |
| 11. | Management Accounting               | Dr. Arun Gaikwad           | Success Publications             | Pune      |
| 12. | Management Accounting               | Dr. Yashodhan Mithare      | Success Publications             | Pune      |

### Suggested references

#### Web reference

| Sr. No | Lectures                                                                     | PPTs                                                                        | Articles                                                                                                                                                                                                                                                                                    |
|--------|------------------------------------------------------------------------------|-----------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1      | Introduction to Cost & Management Accounting: CA Raj K. Agarwal (On youtube) | Management Accounting: An Introduction to concept and Methods: Igor Baranov | How do managers react to a Peer's situation? The influence of environmental similarity on budgetary reporting: James N. Cannon<br>( <a href="https://www.sciencedirect.com/science/article/pii/S1044500518300659">https://www.sciencedirect.com/science/article/pii/S1044500518300659</a> ) |
| 2      | Decision Making                                                              | Management                                                                  | The role of cognitive frames in combined decisions about risk and effort: Karla Oblak, Mina Liden and others ( <a href="https://www.sciencedirect.com/science/article/pii/S1044500517300239">https://www.sciencedirect.com/science/article/pii/S1044500517300239</a> )                      |

|   |                                                                   |                                                 |                                                                                                                                                                                                                                                                                                                            |
|---|-------------------------------------------------------------------|-------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   | in Cost and Management Accounting: CA Naresh Agarwal (On youtube) | Accounting: James T. Mocky and Others           |                                                                                                                                                                                                                                                                                                                            |
| 3 | Budget and Budgetary Control: CA Naresh Agarwal (On youtube)      | Managerial Accounting: Maher, Stickney and Weil | Identity conflict and the paradox of embedded agency in the management accounting profession: Adding a new piece to the theoretical jigsaw: Kate E. Horton<br>( <a href="https://www.sciencedirect.com/science/article/pii/S1044500516300245">https://www.sciencedirect.com/science/article/pii/S1044500516300245</a> )    |
| 4 | Working Capital Management: Shivansh Sharama (On youtube)         | Study Material PPT: ICMAI,                      | Regulation and adaptation of management accounting innovations: The case of economic value added in Thai state-owned enterprises: Pimsiri Chiwamit and others<br>( <a href="https://www.sciencedirect.com/science/article/pii/S1044500517300100">https://www.sciencedirect.com/science/article/pii/S1044500517300100</a> ) |

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**Revised syllabi (2019 Pattern) for two years M.Com. Degree course (CBCS)**

**Semester : - I (M.Com Part – I)**

**Subject : - Strategic Management**

**Course Code - 102**

**Objectives of the course**

- To introduce the students to the emerging changes in the modern business environment
- To develop the analytical , technical and managerial skills of students in the various areas of Business Administration
- To empower to students with necessary skill to become effective future managers and leaders
- To develop Technical skills among the students for designing and developing effective Functional strategies for growth and sustainability of business

**Depth of the program – Fundamental Knowledge**

| <b>Unit No.</b> | <b>Unit Title</b>                                    | <b>Contents</b>                                                                                                                                                                                                                                                                                                 | <b>Purpose Skills to be developed</b>                                                                     |
|-----------------|------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|
| <b>1</b>        | <b>Introduction to Strategic Management</b>          | Strategy - Concept and its evolution<br>Strategic Management Characteristics , dimensions and Approaches to strategic Decision Making<br>Strategic Management Process<br>Components of Strategic Management<br>Model – Policies , Role of Top Management<br>Strategic implications of Social and Ethical Issues | Understanding of the concept of Strategic management<br>To understand the process of Strategic Management |
| <b>2</b>        | <b>Strategy Formulation , Strategic Analysis and</b> | Organizational Goals, Mission and Social Responsibility                                                                                                                                                                                                                                                         | Understanding the External and Internal Business Environment for effective Strategy                       |



|          |                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                    |
|----------|----------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|          | <b>Strategic Planning</b>                                | Analysis of Business Environment<br>Internal analysis for Strategic Advantage –<br>Strategic Planning – meaning, steps,<br>alternatives, advantages and Disadvantages.<br>Designing an effective Strategic Plan                                                                                                                                                                                                | formulation<br><br>Development of Strategic<br>analytical skills<br><br>Skills to design an effective<br>Strategic Plan                                                                                            |
| <b>3</b> | <b>Strategic Choices and<br/>Strategy Implementation</b> | Generating Strategic Alternatives for<br>Stability, Growth and Sustainable Strategies<br>Evaluation of Strategic Alternatives for<br>developing Product portfolio Models and<br>selection of Suitable Corporate Strategy<br>Implementation issues<br>Planning and allocation of resources<br>Organizational Structures – factors affecting<br>the choice , Degree of Flexibility and<br>Autonomy               | Development of Applicability skills for effective plan<br>implementation<br>Developing Technical skills for evaluation of<br>alternatives and analytical skills for choice among<br>alternatives                   |
| <b>4</b> | <b>Functional Strategy and<br/>Strategic Review</b>      | Knowledge and Formulation of Functional<br>Strategy for<br>Marketing<br>Environment Sustainability<br>CSR ( Corporate Social Responsibility)<br>Human Resource<br>Finance<br>Logistics<br>Evaluation of Strategic Performance –<br>Criteria and Problems<br>Concept of Corporate Restructuring<br>,Business Process Reengineering ,<br>Benchmarking , TQM and Six Sigma<br>Chankyaniti - A Case study approach | Development of Technical and Analytical abilities for<br>formulation of sound functional Strategy in various<br>areas of business<br>Development of Analytical and Managerial Abilities<br>for critical evaluation |

### Teaching Methodology

| Topic No. | Total Lectures | Innovative methods to be used            | Film shows and AV Applications | Project        | Expected Outcome                                                                                      |
|-----------|----------------|------------------------------------------|--------------------------------|----------------|-------------------------------------------------------------------------------------------------------|
| 1         | 12             | Power Point Presentation                 | PPT<br>Online Videos           | Report writing | Conceptual Clarity on Strategic management                                                            |
| 2         | 12             | PPT and Case Study                       | Case Study of any Organization | Report writing | Development effective Strategy formulation and analytical ability and Skills to design Strategic Plan |
| 3         | 12             | Guest Lectures by Experts from corporate | --                             | --             | Development of Applicability skills and<br>Technical skills                                           |
| 4         | 12             | PPT , Educational Videos                 | Online Videos                  | --             | Development of Technical and Analytical abilities                                                     |

### References :

#### List of Books Recommended :-

1. Strategic Management : the Indian Context – By R.Srivivasan
2. Strategic Management – By Dinesh Madan
3. Concepts in Strategic Management and Business Policy – By Thomas L. Wheelen, J. David Hunger, Alan Hoffman, Charles E. Bamford
4. Strategic Management – By Fred R. David , Forest R. David
5. Strategic Management – By Dr.C.B.Gupta
6. Introduction to Strategic Management – Dr. Arun Ingale, Success Publications.

**Revised syllabus (2019 Pattern) for M. Com. Course (CBCS)**  
**Syllabus for M. Com. Semester –I**  
**Grope – A (Advanced Accounting and Taxation)**  
**Subject Name :- Advanced Accounting & Taxation Special Paper I**  
**Subject Title - Advanced Accounting**  
**Course Code :- 103**

Depth of the program – Advanced Knowledge

**Objectives of the course**

1. To lay a theoretical foundation of Accounting & Accounting Standards.
2. To gain ability to solve problems relating to Corporate Accounting.

| <b>Unit No.</b> | <b>Unit Title</b>                         | <b>Contents</b>                                                                                                                                                                                                                                                                                                                                                                                  | <b>Purpose Skills to be developed</b>                                                                   | <b>Total Lectures</b> |
|-----------------|-------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|-----------------------|
| 1               | <b>Basic Concepts:</b>                    | Conceptual framework of Accounting - Accounting environment<br>- Concept of accounting theory - Role of accounting theory<br>- Classification of accounting theory - Approaches to accounting theory - Accounting Standards - Generally Accepted Accounting Principles - Selection of Accounting Principles<br>- Professional Development of Accounting in India. Introduction to IFRS & IND-AS. | Getting familiar with the Advanced Concepts                                                             | 10                    |
| 2               | <b>Consolidated Financial Statements:</b> | Consolidated Accounts of Holding and two Consolidated Profit & Loss Accounts - subsidiary Companies Consolidation - Inter Company transactions - Issue of Bonus Shares - Revaluation of Fixed Assets - Debentures and Preference Shares of subsidiary Company- Dividend - (Holding company with two subsidiaries Only to be studied). AS.21.                                                     | Understanding the Consolidation of Financial Statements of Holding Companies & two Subsidiary Companies | 18                    |

|    |                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                  |           |
|----|------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|-----------|
| 3. | <b>Liquidation of Company:</b>           | Preparation of Statement of affairs including deficiency /surplus account.                                                                                                                                                                                                                                                                                                                                                                                                                       | To Prepare Statement of Affairs of the Companies in Liquidation                                                  | 10        |
| 4. | <b>Valuation of Shares And Goodwill:</b> | <p><b>A. Valuation of Shares</b> - Need for valuation - Methods of valuation of shares- Net Asserts method, Dividend yield method, Earning yield method, Return on Capital method, Price/Earning method and Fair value method &amp; DCF Method (Discounted Cash Flow Method).</p> <p><b>B. Valuation of Goodwill</b> - Need for valuation - Methods of valuing Goodwill - Number of Years purchase of average profits method, Capitalization method - Annuity method - Super profits method.</p> | In the today's competitive Corporate World to understand the needs and methods of valuation of Goodwill & Shares | 10        |
|    |                                          | <b>Total Lectures</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                  | <b>48</b> |

## References

| Sr. No. | Title of the Book            | Author/s                                          | Publication                      | Place    |
|---------|------------------------------|---------------------------------------------------|----------------------------------|----------|
| 1.      | Advanced Accounts            | Shukla and Grewal                                 | S. Chand & Co Ltd. New Delhi     | Delhi    |
| 2.      | Advanced Accounts            | Jain and Narang                                   | Kalyani Publishers, Ludhiana     | Ludhiana |
| 3.      | Accountancy, Volume-I and II | Sr. K. Paul                                       | New Central Book Agency, Kolkata | Kolkata  |
| 4.      | Accounting Theory            | Dr. L. S. Porwal                                  | Tata McGraw Hill                 |          |
| 5.      | Accounting Text & Cases      | Robert Anthony,<br>D.F.Hawkins & K.A.<br>Merchant | Tata McGraw Hill                 |          |

|           |                      |                       |                                             |           |
|-----------|----------------------|-----------------------|---------------------------------------------|-----------|
| <b>6.</b> | Corporate Accounting | Dr.S.N. Maheshwari:   | Viakas Publishing House Pvt. Ltd. New Delhi | New Delhi |
| <b>7.</b> | Advanced Accounting  | Dr. Sadashiv Shirgave | Success Publications                        | Pune      |

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**Revised syllabus (2019 Pattern) for M. Com. Course (CBCS)**  
**Syllabus for M. Com. (Semester – I)**  
**Grope – A (Advanced Accounting and Taxation)**  
**Subject Name: - Advanced Accounting & Taxation Special Paper II**  
**Subject Title - Income Tax**  
**Course Code: - 104**

**Objective of the Program**

- i. To gain knowledge of the provisions of Income - tax including Rules pertaining there to, relating to the following topics.
- ii. To develop ability to calculate taxable Income of 'Individual', 'Hindu Undivided Family' and 'Company' assesses.

**Depth of the program – Advanced Knowledge**

| <b>Unit No.</b> | <b>Unit Title</b>              | <b>Contents</b>                                                                                                                                                                                                                                                                                                         | <b>Purpose Skills to be developed</b>                                                    |
|-----------------|--------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|
| 1               | <b>Concepts and Definition</b> | History of Income Tax in India - Introduction, Features, Difference between direct and Indirect Taxes - Fundamental Concepts and definitions under Income Tax Act, 1961 - Rates of taxes - Basis of charge - Residential status and scope of total income -Income Exempt from tax - Capital & Revenue<br><br>( Theory ) | To provide the basic knowledge of Income Tax Act. 1961                                   |
| 2               | <b>Heads of Income</b>         | <b>a) Income From Salary :</b><br>Chargeability -Allowances and Taxability - Perquisites - Valuation of perquisites - Provident Funds -                                                                                                                                                                                 | To understand the concepts of Heads of Income and to compute the income under each head. |

|    |                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                           |
|----|-------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|
|    |                                     | <p>Deduction from salaries</p> <p><b>b) Income from House Property:</b></p> <p>Annual Value-Self occupied property and let out property -deemed to be let out property - Permissible deductions.</p> <p><b>c) Income From Business Or Profession :</b></p> <p>Meaning of Business, Profession and Vocation-deductions expressly allowed Depreciation -Specific disallowances - Method of accounting - Maintenance of Books of Account - Audit of Accounts</p> <p><b>d)Capital Gains:</b></p> <p>Meaning, Types and Exemptions</p> <p><b>e) Income from Other Sources:</b></p> <p>Chargeability - Deductions - Amounts not deductible.</p> <p><b>(Theory &amp; Advanced Problems)</b></p> |                                                                           |
| 3. | <b>Deductions Under Chapter VIA</b> | <p>Permissible deductions U/s.80 of the Income Tax Act.</p> <p>Rebate U/s. 87A</p> <p>Relief U/s. 89</p> <p><b>( Theory )</b></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | To understand the concept of deductions and provisions of Sec. 80C to 80U |

|    |                                                                      |                                                                                                                                                  |                                                                                        |
|----|----------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|
| 4. | <b>Computation Of Gross Total Income And Assessment Af Companies</b> | Computation of Total Taxable income of an Individual and Hindu Undivided Family and Assessment of Companies.<br><br><b>( Advanced Problems )</b> | To Compute the taxable income of an Individual , Hindu Undivided Family and Companies. |
|----|----------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|

### Method of Evaluation

| Subject           | Internal Evaluation                                                     | External Evaluation                      | Suggested Add on Course                                                                                                                     |
|-------------------|-------------------------------------------------------------------------|------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Unit – I</b>   | Assignments, Tutorials, Group Discussions and Power Point Presentations | Orals, Project VIVA, Theory Examinations | Preparation and Submission of compulsory project by collecting data from minimum 10 assesses of an individual or HUF or minimum one company |
| <b>Unit – II</b>  | Assignments, Tutorials, Group Discussions and Power Point Presentations | Orals, Project VIVA, Theory Examinations |                                                                                                                                             |
| <b>Unit – III</b> | Assignments, Tutorials, Group Discussions and Power Point Presentations | Orals, Project VIVA, Theory Examinations |                                                                                                                                             |
| <b>Unit – IV</b>  | Assignments, Tutorials, Group Discussions and Power Point Presentations | Orals, Project VIVA, Theory Examinations |                                                                                                                                             |



## References

| Sr. No. | Title of the Book                   | Author/s                          | Publication                | Place      |
|---------|-------------------------------------|-----------------------------------|----------------------------|------------|
| 8.      | Direct Taxes, Law and Practice,     | Dr. Vinod Singhania:              | Taxman Publication,        | New Delhi  |
| 9.      | Direct Taxes                        | Dr. Bhagawati Prasad:             |                            |            |
| 10.     | Direct Taxes,                       | Girish Ahuja and Ravi Gupta:      | Bharat Law House,          | New Delhi. |
| 11.     | Direct Taxes                        | Gaur V.P. & Narang D.B.           | Kalyani Publications       | New Delhi  |
| 12.     | Income Tax ( Law & Practice )       | Dr. H.C. Mehrotra & Dr. S.P.Goyal | Sahitya Bhavan Publication | Agra       |
| 13.     | Income Tax ( Problems & Solutions ) | Dr. H.C. Mehrotra & Dr. S.P.Goyal | Sahitya Bhavan Publication | Agra       |
| 14.     | Income Tax Act.                     | Dr. Vinod Singhania:              | Taxman Publication,        | New Delhi  |
| 15.     | Income Tax Rules                    | Dr. Vinod Singhania:              | Taxman Publication,        | New Delhi  |

## Notes:

1. Amendments made prior to commencement of Academic Year in the relevant act should be considered & studied.
2. The breakup of questions in the Examination will be as under:
  - a. Theory questions will carry 30% marks.
  - b. Problems will carry 70% marks.

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**Revised syllabus (2019 Pattern) for M. Com. Course (CBCS)**

**Semester: - I (Special Paper I)**

**Group – B (Commercial Laws & Practices)**

**Subject Name - Commercial Laws & Practices Paper - I**

**Subject Title: - Information System and E-Commerce Practices**

**Course Code - 105**

**Objectives of the course**

- a. To equip and train the students to accept the challenges of emerging Business World with advanced information Systems and emerging E-Commerce by practices.
- b. To analyze the advanced Commercial and business methods and processes in E-Commerce transactions.
- b. To develop independent logical thinking and facilitate personality development with the help of new information systems.
- c. To equip the students for seeking suitable emerging careers in management, entrepreneurship and E-Commerce activities.
- d. To study methods of Data collection and their interpretations.
- e. To develop among students Communication, Study and Analytical and interpretation skills.

**Depth of the Programme:** – Basic Knowledge with recent advancements and its applicability

**Objective of the Programme:**

- 1. To equip and train the students to accept the challenges of Business World by providing opportunities for study and analysis of advanced Commercial and business methods and processes.
- 2. To develop independent logical thinking and facilitate personality development of the business persons.
- 3. To equip the students for seeking suitable careers in management and entrepreneurship and E-Commerce transactions..
- 4. To study methods of Data collection and their interpretations in the field of E-Commerce practices.
- 5. To develop among students Communication, Study and Analytical skills with critical thinking.

| <b>Unit No.</b> | <b>Unit Title</b>                                            | <b>Contents</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <b>Purpose Skills to be developed</b>                                                                                                                                                                                                           |
|-----------------|--------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1               | <b>Introduction to Information Systems</b>                   | System Concepts, Information Systems Architecture, Definition of a system, Basic Components of a system, Elements and types of a systems, General Model of a system, The model of a Business system. Information systems supporting major business functions. Four major types of systems – Transaction Processing Systems, Management Information systems, Decision Support Systems and Executive Support systems                                                                                                          | To understand the fundamentals/ Concept of Information systems and their components, hardware, software, communications networks, and data resources that collects data, transforms it, and disseminates information in a business environment. |
| 2               | <b>Introduction to E-Commerce</b>                            | Meaning and Definition of E-commerce, Benefits of E-Commerce to Businesses, Consumers and Society, Limitations of E-Commerce, Drivers of E-Commerce. Categories of e-Commerce- B2B, B2C, C2C, B2G and G2B. B2B applications, B2C applications and C2C applications.                                                                                                                                                                                                                                                         | To understand the concept in relation to business application like Document automation in supply chain and logistics, Enterprise content management, Conversational commerce: e-commerce via chat.                                              |
| 3.              | <b>Inter organizational Information Systems and Internet</b> | Internet, Intranet and Extranet, Introduction, Role, benefits and structure of Inter organizational systems. Introduction to Electronic Data Interchange (EDI), Definition, benefits of EDI. EDI transactions and EDI Applications. Electronic Fund transfer. Introduction to Internet, Definition of Internet, Components of Internet, Services offered by Internet. Introduction to Intranet, Definition, advantages and disadvantages of intranet. Introduction to extranet and definition and applications of Extranet. | To understand the inter-organizational information system for managing inter-organizational activities of virtual organizations, extended enterprises, and trans-enterprise systems.                                                            |

|    |                                        |                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                |
|----|----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 4. | <b>E-Commerce Supporting functions</b> | Purchase and sale Procedures, Supply Chain management, Value Chains in E-Commerce. Electronic Payment Systems, Authentication of payment, Mode of Payments E-Commerce Security. Security Requirements. Security Mechanisms-Encryption, Digital Signature, E-Certificate, Secure electronic transaction protocol. Problems in Taxing of E-Commerce | To equip the students with various E-Commerce functions, electronic payment systems and security mechanism to be followed while completing E-Transactions. Making students aware of significance of digital signatures and security mechanism. |
|----|----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

**\*All Acts are to be studied with recent amendments**

#### Teaching methodology:

| Topic No. | Total Lectures | Expected Outcome                                                                                                                                                                                            |
|-----------|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.        | 12             | To understand Transaction Processing Systems, Management Information systems, Decision Support Systems and Executive Support systems                                                                        |
| 2         | 12             | To understand the concept of E-Commerce in relation to various business applications such as Document automation in supply chain and logistics, Enterprise content management, Conversational commerce etc. |
| 3         | 12             | To get knowledge of the inter-organizational information system for managing inter-organizational activities of virtual organizations, extended enterprises, and trans-enterprise systems.                  |
| 4         | 12             | To understand various e-Commerce functions along with electronic payment systems-Security measures and mechanism of Digital signature.                                                                      |

#### Method of Evaluation

| Subject  | Internal Evaluation                        | External Evaluation  | Suggested Add on Course          |
|----------|--------------------------------------------|----------------------|----------------------------------|
| Unit – I | Continuous Evaluation (Written tests etc.) | Written Examinations | Certificate Course in E-Commerce |

|            |                                                         |                      |                                  |
|------------|---------------------------------------------------------|----------------------|----------------------------------|
| Unit – II  | Continuous Evaluation [Class Presentations (PPT) etc.]  | Written Examinations | Certificate Course in E-Banking  |
| Unit – III | Continuous Evaluation (Seminar /Group discussions etc.) | Written Examinations | Diploma in Digital Marketing     |
| Unit – IV  | Continuous Evaluation (Viva-Voce etc.)                  | Written Examinations | Certificate Course in E-Security |

## References

| Sr. No. | Title of the Book                         | Author/s               | Publication                  |
|---------|-------------------------------------------|------------------------|------------------------------|
| 1.      | E-commerce                                | Devid Whiteley         | McGraw Hill                  |
| 2.      | E-commerce                                | P.Joseph               | PHI                          |
| 3.      | E-commerce – The cutting edge of business | K.Bajaj and Nog        | TMH                          |
| 4.      | Text book on Intellectual property rights | N.K. Acharya           | Asia Law House,              |
| 5.      | Guide to Cyber Laws                       | Rohnay D. Ryder        | Wadhwa, Nagpur               |
| 6.      | Cyber Laws                                | Justice Yatindra Singh | Universal Law Publishing Co. |

### Suggested references Web reference

| Sr. no | PPTs                                                                                                                                                                                                                                                                                  | Others                                                                                                                                                                                                                                                                                                                                    |
|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1      | <p><u>PPT – Presentation On Electronic Security PowerPoint presentation ...</u></p> <p><u><a href="https://www.powershow.com/.../Presentation_On_Electronic_Security_powerpoint_pp...">https://www.powershow.com/.../Presentation On Electronic Security powerpoint pp...</a></u></p> | <p><u><a href="https://economictimes.indiatimes.com/industry/services/retail/indian-e-commerce-market-to-touch-usd-84-billion-in-2021-report/articleshow/68169239.cms">https://economictimes.indiatimes.com/industry/services/retail/indian-e-commerce-market-to-touch-usd-84-billion-in-2021-report/articleshow/68169239.cms</a></u></p> |
| 2      | <p><u>Seminar ppt on digital signature - SlideShare</u></p> <p><u><a href="https://www.slideshare.net/jolly9293/seminar-ppt-on-digital-signature">https://www.slideshare.net/jolly9293/seminar-ppt-on-digital-signature</a></u></p>                                                   | <p><u><a href="https://www.ibef.org/industry/ecommerce.aspx">https://www.ibef.org/industry/ecommerce.aspx</a></u></p>                                                                                                                                                                                                                     |
| 3      | <p><b>E-Security:</b><u><a href="https://slideplayer.com/slide/5139575/">https://slideplayer.com/slide/5139575/</a></u></p>                                                                                                                                                           | <p><u><a href="https://www.thebalancesmb.com/electronic-data-interchange-edi-2221329">https://www.thebalancesmb.com/electronic-data-interchange-edi-2221329</a></u></p>                                                                                                                                                                   |
| 4      | —                                                                                                                                                                                                                                                                                     | <p>UP: What Is Electronic Data Interchange?</p> <p><u><a href="https://www.up.com/suppliers/order_inv/edi/what_is_edi/">https://www.up.com/suppliers/order inv/edi/what is edi/</a></u></p>                                                                                                                                               |

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**Revised syllabus (2019 Pattern) for M. Com. Course (CBCS)**

**Semester: - I (Special Paper II)**

**Group – B (Commercial Laws & Practices)**

**Subject Name - Commercial Laws & Practices Paper - II**

**Subject Title: - Intellectual Property Laws: Patents, Trade Marks & Biodiversity**

**Course Code - 106**

**1. Objectives of the Course:**

- a. To equip the students to deal with the challenges of Contemporary Business World with recent knowledge.
- b. To develop independent logical thinking and problem solving skills.
- c. To sensitise the students regarding suitable careers in management and regulation of IPRs.
- d. To acquaint the students with the methods of Data collection and their interpretations.
- e. To develop among students Analytical and interpretation skills.

**Depth of the program:** Fundamental Knowledge, Principles and provisions of relevant Statutes and understanding of its applicability

**Objectives of the Program:**

1. To equip and train the students to accept the challenges of existing business environment.
2. To develop independent logical thinking and facilitate students to enhance their personality.
3. To equip the students for seeking suitable careers in management and entrepreneurship in the field of IPRs.
4. To study methods of Data collection and its interpretations.
5. To develop among students Communication and critical thinking skills.

| Unit No. | Unit Title            | Contents                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Purpose Skills to be developed                                                                                                                                                       |
|----------|-----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1        | Intellectual Property | Intellectual Property Rights (IPR): Origin and Concept, Commercial and cultural dimensions, types of IPR,<br><br>International Conventions and Organizations;<br><br>WTO, WIPO, GATT, TRIPS Paris Convention, PCT, Budapest Treaty                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <ul style="list-style-type: none"> <li>Acquainting students with historical aspects of IPR and International Conventions and organizations regarding IPRs.</li> </ul>                |
| 2        | Patents               | <p><b>Patents:</b> Definition, concept, types, patentable &amp; non-patentable inventions, Applications for patents, complete procedure for obtaining patents. (Chapters 1 to 8 of Patents Act, 1970 as amended), Patents of Additions, surrender &amp; revocation of patents. Working of Patents, Compulsory licenses and revocation, use of patents for government purposes and acquisition of patents, Infringement of patents - acts of Infringement and defenses, remedies for Infringement - suits, appeals.</p> <p>Offenses and penalties [Chapters 16 to 20 of Patents Act, 1970 as amended]</p> <p>Patents Offices, establishment, Controller of Patents: functions and powers, Patent Agents, International arrangement [Chapters 14 &amp; 21, 22 of the Act ], Issues and concerns in patent regime</p> <p>Important Judgments To Be Studied:</p> <p><b>1) <i>Bajaj Auto Limited v. TVS Motor Company Limited</i> JT 2009 (12) SC 103</b></p> <p><b>2) <i>Novartis v. Union of India</i> (2013) 6 SCC 1</b></p> <p><b>3) <i>Dr Snehlata C. Gupte v. Union of India &amp; Ors</i> [W.P. (C) No 3516 and 3517 of 2007] Delhi HC</b></p> <p><b>4) <i>Bayer Corporation v. Union of India</i> 162(2009) DLT 371</b></p> | <ul style="list-style-type: none"> <li>Acquiring conceptual and procedural know-how of Patents, Patents office and Remedial measures in case of infringements of patents.</li> </ul> |



|   |                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                |
|---|-------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 3 | <b>Trade Marks</b>            | <p><b>Trade Marks:</b> Definition, concept, types, Registration of Trade Marks - Procedure, duration, effect.</p> <p>Appellate Board - Establishment, Composition, qualifications, procedure and powers, disposal of appeals.</p> <p>Assignments and Transmission of Trade Marks, Provisions relating to collective &amp; certification Trade Marks, textile goods, Infringement of Trade Marks and remedies, Offenses and Penalties.</p> <p>Important Judgments To Be Studied :</p> <p>1) <i>The Coca-Cola Company v. Bisleri International Pvt. Ltd</i> Manu/DE/2698/2009</p> <p>2) <i>Clinique Laboratories LLC and Anr. v. Gufic Limited and Anr.</i> MANU/DE/0797/2009</p> <p>3) <b><i>Yahoo!, Inc. v. Akash Arora &amp; Anr</i> [1999 (19) PTC 201 (Del)]</b></p> <p>4) <b><i>Cadila Health Care v. Cadila Pharmaceutica Ltd.</i> [2001 PTC (SC) 561]</b></p> | <ul style="list-style-type: none"> <li>Acquiring conceptual and procedural knowledge of Trade mark and its registration. Appellate Board, Remedial measures in case of infringements of Trade mark.</li> </ul> |
| 4 | <b>Biodiversity Act, 2002</b> | <p>Important relevant definitions of the terms like Biodiversity, Biological Resources, Benefit Claims, Commercial Utilization, Fair &amp; Equitable Benefit Sharing, Sustainable Use—Regulation of Access to Biodiversity [ Ss 3 to 7], Functions &amp; Powers of National Biodiversity Authority &amp; State Biodiversity Board [ Ss 18 to 25]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <ul style="list-style-type: none"> <li>Identifying need and Significance Biodiversity along with its regulatory framework .</li> </ul>                                                                         |

**\*All Acts are to be studied with recent amendments**

**Method of Evaluation:**

| <b>Subject</b> | <b>Internal Evaluation</b>                           | <b>External Evaluation</b> | <b>Suggested Add on Course</b>   |
|----------------|------------------------------------------------------|----------------------------|----------------------------------|
| Unit – I       | Continuous Evaluation (Written Test etc.)            | Written Examination        | Diploma in IPR                   |
| Unit – II      | Continuous Evaluation [Class Presentation (PPT)etc.] | Written Examination        | Diploma in Patents               |
| Unit – III     | Continuous Evaluation (Seminar/Workshops etc)        | Written Examination        | Diploma in Trade Marks           |
| Unit – IV      | Continuous Evaluation (Viva-Voce etc.)               | Written Examination        | Online Courses of WIPO,Moocs etc |

**References:**

| <b>Sr. No.</b> | <b>Title of the Book</b>                  | <b>Author/s</b>        | <b>Publication</b>           | <b>Place</b> |
|----------------|-------------------------------------------|------------------------|------------------------------|--------------|
| 1.             | Intellectual Property Law                 | P. Narayan             | Eastern Law House.           | New Delhi    |
| 2.             | Text book on Intellectual Property Rights | N.K. Acharya           | Asia Law House               | Hyderabad    |
| 3.             | Law Relating to Intellectual Property     | Dr. B.L. Waderha       | Universal Law Publishing Co. | New Delhi    |
| 4.             | Intellectual Property Rights, (2011)      | Dr. Sreenivasulu N. S. | Regal Publications           | New Delhi    |

|    |                                                                                         |                        |                                   |           |
|----|-----------------------------------------------------------------------------------------|------------------------|-----------------------------------|-----------|
| 5. | Intellectual Property Law in India (2006)                                               | Justice P. S. Narayana | Goigia Law Agency                 | Hyderabad |
| 6. | Law of Intellectual Property                                                            | Dr. S. R. Mynei        | Asia Law House                    | Hyderabad |
| 7. | Intellectual Property Rights – Heritage, Science & Society Under International Treaties | A.Subbian              | Deep & Deep Publications Pvt. Ltd | New Delhi |
| 8. | Intellectual Property Laws                                                              | Bextly & Sherman,      | Asia Law House                    | Hyderabad |

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**Revised syllabus (2019 Pattern) for M. Com. Course (CBCS)**  
**Semester: - I**  
**Group – C (Advanced Cost Accounting and Cost Systems)**  
**Subject Name - Advanced Cost Accounting and Cost Systems Special Paper I**  
**Subject Title: - Advanced Cost Accounting**  
**Course Code: 107**

**Objectives:**

1. To prepare learners to understand the Scope of Cost Accounting in any business activity.
2. To learn the Cost Accounting treatment in relation to Material Cost Accounting, employee cost and overheads.
3. To develop the learners to establish the interface between Cost Accounting Standards and the various elements of Cost.
4. To enable students to learn application of different methods of costing in Manufacturing and Service industries.

| Unit No. | Unit Title                          | Contents                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Skills to be developed                                                                                                                                                                                                                                                                              |
|----------|-------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.       | Nature and Scope of Cost Accounting | <p>a) Introduction, Meaning, Definitions and Objectives of Cost Accounting, Cost Centres and Cost unit.</p> <p>b) Elements of Cost: Material, Labour and Overheads.</p> <p><b>Material:</b> Concept, Procurement of Material, Concept of Landed cost of Material in major currencies with special reference to Dollar, Euro, and Pound only</p> <p>c) Preparation of Cost Sheet</p> <p>d.) Storage and Inventory Control Techniques - Perpetual Inventory system, ABC Analysis, Inventory Turnover ratios, Just In Time, Economic Order Quantity. Fixation of inventory Levels.</p> <p>e) Study of CAS 1 (Classification of Cost ) and CAS 6 (Material Cost)</p> | <ol style="list-style-type: none"> <li>1. Ability to understand the classification of costs.</li> <li>2. Trace the cost to cost centers</li> <li>3. To be able to prepare cost sheet in various situations</li> <li>4. To understand the inventory related treatments in Cost Accounting</li> </ol> |
| 2.       | Employee                            | a. Meaning, Definitions and Significance of Labour Cost                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 1. To understand the concept of Employee Cost and its relevance in the total cost of                                                                                                                                                                                                                |

|    |                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                            |
|----|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|
|    | Cost                 | <p>b. Classification of Labour Cost</p> <p>c. Methods of Remuneration-Performance Based Remuneration</p> <p>d. Labour Cost –</p> <ul style="list-style-type: none"> <li>• Idle time-causes and Accounting treatment</li> <li>• Overtime premium-Accounting Treatment &amp; its Control</li> <li>• Treatment of special Labour Cost –Fringe benefits, Bonus, Employees Welfare Costs</li> </ul> <p>e. Labour Turnover – concept, causes, Measurement &amp; Cost of Labour Turnover.</p> <p>f.Study of CAS – 7 relating to Employees Cost</p> | <p>product or services.</p> <p>2. To develop Performance Linked Employee Remuneration Systems.</p> <p>3. To relate the CAS 7 to Employee Cost Concepts</p> |
| 3. | Overheads Accounting | <p>a. Meaning &amp; Classification of Overheads, b.Allocation, Apportionment &amp; reapportionment ( Repeated distribution Methods &amp; Simultaneous Equations Method) of Overheads</p> <p>c.Absorption of Overheads-Methods, Over and under absorption of overheads</p> <p>d.CAS – 3 ( Overheads)</p>                                                                                                                                                                                                                                     | <p>1. To understand the stages in the process of Accounting of Overheads.</p> <p>2. To study CAS 3 in relation to Overheads.</p>                           |
| 4  | Methods of Costing   | <p>a. Job Costing and Contract Costing.</p> <p>b. Process Costing</p> <p>c. Operating Costing in Transport, Hospitals &amp; Hotel undertakings.</p>                                                                                                                                                                                                                                                                                                                                                                                         | <p>To develop ability to ascertain cost in different industries.</p>                                                                                       |

## Teaching Methodology

| Unit No. | Total Lectures | Innovative Methods to be used                                                                                                                                                                                                                                                               | Films Shows and AV Applications                                                                       | Project                                                                                                     | Expected Outcome                                                                          |
|----------|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|
| 1        | 12             | Use of Published Annual Reports of listed companies to classify various cost elements.                                                                                                                                                                                                      | You Tube clippings of cost elements of various industries.                                            | Visit to small industries to develop understanding about various cost inputs                                | Development of overall outlook of Cost Accounting                                         |
| 2        | 12             | Find out the ratio to employee cost to turnover as evidenced from the published data.                                                                                                                                                                                                       | View TV Channels- Sony BBC Earth where the process of manufacturing in various industries is shooted. | Visit to such industries where employee cost is prominent in the total cost of product/service              | Understanding the related weightage of employee cost in the total cost of product/service |
| 3        | 12             | Ascertain various items of Overheads from Annual Reports                                                                                                                                                                                                                                    | Classroom Discussion                                                                                  | Visit small units and make a list of overheads of the respective units.                                     | Understand the significance of overheads in the total cost of product/service             |
| 4        | 12             | Invite the tour operators, Accountant of Hotels & Hospitals in the class room to provide the practical exposure to ascertain the cost thereof.<br><br>Study of process costing by visiting Bakeries, Papad Rolling Units, Chapati Making on mass scale for supplying to industrial canteens | You Tube clippings of various industries                                                              | Visit to Transport, Hospital & Hotel undertakings to find out the methodology applied in cost ascertainment | Understand formats of cost sheets as per Industry Specifications                          |

## References

| Sr. No | Title of the Book                                | Author                           | Publisher                        | Place     |
|--------|--------------------------------------------------|----------------------------------|----------------------------------|-----------|
| 01     | Cost Accounting-Principles & Practices           | Jawahar Lal & Seema Shrivastawa  | Tata Mcgraw Hill                 | New Delhi |
| 02     | Advanced Cost Accounting And Cost Systems        | Ravi M Kishor:                   | Taxmann                          | New Delhi |
| 03     | Cost Accounting Theory And Problems              | S. N. Maheshwari                 | Mittal Shree Mahavir Book Depot. | New Delhi |
| 04     | Advanced Cost Accounting                         | Jain and Narang                  | Kalyani Publication              | New Delhi |
| 05.    | Horngren's Cost Accounting-A Managerial Emphasis | Srikant M Datar & Madhav V Rajan | Pearson                          | Noida Up  |
| 06     | Cost Accounting-Principles & Practices           | Dr.M.N. Arora                    | Vikas Publishing House           | New Delhi |
| 07     | Cost Accounting                                  | Dr. Eknath Khedkar               | Success Publications             | Pune      |
| 08     | Principles and Practices of Cost Accounting      | Dr. Sunita Pokharna              | Success Publications             | Pune      |

## Web References

| Sr. No             | Lectures                                                                                                                        | Films                                                                                  | PPTs                                                                                                                         | Articles                                                                                                                                                                              | Others                                          |
|--------------------|---------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|
| For all the units. | Guest Lectures by Field Persons such as working executives from industries and of Practicing Cost and Management Accountants. . | You Tube films showing working of different industries.<br><br>Discovery Turbo Channel | Cost & Its Classification<br>vmouonline<br><br>•Classification & Types of cost,method of costing part 1<br><br>Commerce Guru | Articles from the Professional Journals such as , The Management Accountant, The Chartered Accountant, The Chartered Secretary, The Institute of Chartered Financial Analyst of India | <a href="https://icmai.in">https://icmai.in</a> |

**Notes: The breakup of marks in the Examination will be as follows:**

- 30 % of marks for Theory & 70 % of marks for Practical.Problems
  - Areas of practical problems:
    1. Preparation of Cost Sheet
    2. Inventory turnover ratios
    3. EOQ
    4. Labour Turnover
    5. Primary and Secondary Distribution of Overheads – Repeated Distribution and Simultaneous Equation Method
    6. Methods of Absorption.
    7. Contract Costing, Process Costing and Operating Costing.
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**Revised syllabus (2019 Pattern) for M. Com. Course (CBCS)**

**Semester: - I**

**Group – C (Advanced Cost Accounting and Cost Systems)**

**Subject Name – Advanced Cost Accounting and Cost Systems Special Paper II**

**Subject Title: - Costing Techniques and Responsibility Accounting**

**Course Code: 108**

**Objectives:**

- 1 To enhance the abilities of learners to develop the concept of Cost and Management Accounting and its significance in the business
- 2 To enable the learners to understand, develop and apply the techniques of costing in the decision making in the corporate world.
- 3 To equip the students with knowledge and skill to design and implement Cost Control through Costing Techniques.

| <b>Unit No.</b> | <b>Unit Title</b>                         | <b>Contents</b>                                                                                                                                                                                                                                                                        | <b>Skills to be developed</b>                                                                              |
|-----------------|-------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|
| 1.              | Budgetary Control                         | a. Concept of Budget and pre-requisites of preparing budget.<br>b. Types of Budgets<br>c. Process of preparing Budgets – Flexible Budget, Cash Budget<br>Production Cost ,Quantity Budget & Sales Budget<br><br>d. Limiting Factors in preparing Budgets<br>e. ZBB (Zero Based Budget) | Students are expected to understand the role of Budget in the process of Cost Control and Decision Making. |
| 2.              | Standard Costing                          | a. Concept of Standard Cost<br>b. Setting of Standards<br>c. Variance Analysis – Material, Labour, Overhead, Sales and Profit Variances.                                                                                                                                               | Skills in computation and analysis of various variances                                                    |
| 3.              | Uniform Costing and Inter-firm Comparison | a) Reasons for differences in Cost and Costing Practices.<br>b)The application , Advantages and Limitations of Uniform Costing.<br>c)Inter- firm comparison –Meaning, Advantages and Disadvantages                                                                                     | Understand the concepts of Uniform Costing and Inter                                                       |

|   |                                         |                                                                                                                                                                                                                                                                        |                                                                                                        |
|---|-----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|
|   |                                         |                                                                                                                                                                                                                                                                        | firm Comparison                                                                                        |
| 4 | Responsibility Accounting and Reporting | a)Definition, Meaning, Principles, controllable and Non-controllable Costs.<br>b)Centers of control, Cost Centers, Revenue Center, Investment Center, Profit Center<br>c)Performance Measurement of Business Centers.<br>d)Reporting to different levels of Management | Understand the relevance of Cost Accounting Data as a part of monitoring various segments of business. |

### Teaching Methodology

| Unit No. | Total Lectures | Innovative Methods to be used                                                        | Films Shows and AV Applications  | Project                                                                              | Expected Outcome                                                                        |
|----------|----------------|--------------------------------------------------------------------------------------|----------------------------------|--------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1        | 15             | Start with discussion on Family Budget and extend the principles to Business Budgets | Browse You Tubes on these topics | Preparation of Cash Budget                                                           | Understand Budget Preparation Process                                                   |
| 2        | 15             | Invite experts from industries and discuss the process of setting the standards.     |                                  | Analysis of variances                                                                | Understand the impact of adverse and favourable variances on cost of a product/service. |
| 3        | 06             | Classroom Discussion                                                                 |                                  | Compare Cost Ratios of different companies in the same sector( e.g Tyre – SEAT, MRF) | Understand the industry specific cost ratios.                                           |
| 4        | 12             | Responsibility Accounting and Reporting                                              |                                  | Performance measurement of Business Centres                                          | To understand the importance of various tools to evaluate the business centers.         |

### Method of Evaluation

| Subject  | Internal Evaluation                                                                        | External Evaluation | Suggested AD-On Course                              |
|----------|--------------------------------------------------------------------------------------------|---------------------|-----------------------------------------------------|
| Unit I   | Multiple Choice Questions, Written Test, Internal Examination, PPT based presentation etc. | SPPU                | Visit to industries and make a report on the visit. |
| Unit II  |                                                                                            |                     |                                                     |
| Unit III |                                                                                            |                     |                                                     |
| Unit IV  |                                                                                            |                     |                                                     |

### References

| Sr. No | Title of the Book                         | Author                           | Publisher                        | Place     |
|--------|-------------------------------------------|----------------------------------|----------------------------------|-----------|
| 01     | Cost Accounting- Principles & Practices   | Jawahar Lal & Seema Shrivastawa  | Tata Mcgraw Hill                 | New Delhi |
| 02     | Advanced Cost Accounting And Cost Systems | Ravi M Kishor:                   | Taxmann                          | New Delhi |
| 03     | Cost Accounting Theory And Problems       | S. N. Maheshwari                 | Mittal Shree Mahavir Book Depot. | New Delhi |
| 04     | Advanced Cost Accounting                  | Jain and Narang                  | Kalyani Publication              | New Delhi |
| 05.    | Horngren's Cost Accounting-A              | Srikant M Datar & Madhav V Rajan | Pearson                          | Noida Up  |

|    |                                                |                     |                             |           |
|----|------------------------------------------------|---------------------|-----------------------------|-----------|
|    | Managerial Emphasis                            |                     |                             |           |
| 06 | Cost Accounting-<br>Principles & Practices     | Dr.M.N. Arora       | Vikas Publishing<br>House , | New Delhi |
| 07 | Cost Accounting                                | Dr. Eknath Khedkar  | Success<br>Publications     | Pune      |
| 08 | Principles and Practices<br>of Cost Accounting | Dr. Sunita Pokharna | Success<br>Publications     | Pune      |

**Web References:**

| Sr. No             | Lectures                                                                                                                        | Films                                                                                  | PPTs                                                                                                                                                                                                 | Articles                                                                                                                                                                        | Others                                          |
|--------------------|---------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|
| For all the units. | Guest Lectures by Field Persons such as working executives from industries and of Practicing Cost and Management Accountants. . | You Tube films showing working of different industries.<br><br>Discovery Turbo Channel | Responsibility Accounting  Dr. Shuchi Singhal<br><br>vmouonline,<br><br>Standard Costing Revision<br><br>CA Praveen Khatod<br><br>Budgetary Control and Responsibility Accounting,<br><br>Cori Crews | Articles from the Professional Journal like The Management Accountant, The Chartered Accountant, The Chartered Secretary, The Institute of Chartered Financial Analyst of India | <a href="https://icmai.in">https://icmai.in</a> |

Notes: The breakup of marks in the Examination will be as follows:

- 30 % of marks for Theory & 70 % of marks for Practical Problems .
- Area of practical problems:
  1. Cash Budget
  2. Flexible Budget
  3. Material, Labour , Overhead and Sales Variances
  4. Performance Measurement of Business Centers
  5. Responsibility Accounting

**Revised syllabus (2019 Pattern) for M. Com. Course (CBCS)**

**Semester: - I**

**Group – D (Co-operation & Rural Development)**

**Subject Name - Co-operation & Rural Development Special Paper I**

**Subject Title: - Co-operative Movement in Indian**

**Course Code: 109**

**Objectives of the course:**

1. To acquaint the students with the Co-operative Movement of India
2. To aware the role of State and Central Govt. in development of co-operative sector.
3. To give basic knowledge about formation of Co-operative society and its administration.

**Depth of Programme: - Fundamental Knowledge**

| Unit No. | Unit Title                                         | Contents                                                                                                                                                                                                                                            | Purpose Skills to be developed                                                                                                                                                                                                                                                      |
|----------|----------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1        | <b>Co-operative Movement in India:</b>             | Evolution of Co-operative Movement in India- Pre and Post Independence, Recent scenario in Co-operative Movement in India , Problems and Challenges of Co-operative movement in India                                                               | <ul style="list-style-type: none"><li>• To understand the Evolution of Co-operative Movement in India</li><li>• To understand the Recent scenario in Co-operative Movement in India</li><li>• To understand the Problems and Challenges of Co-operative movement in India</li></ul> |
| 2        | <b>Study of Co-operative legislations in India</b> | Study of Maharashtra State Co-operative Societies Act 1960 and rules 1961 with updated amendments regarding :-<br>a. Registration b. Members and their Rights.<br>c. Properties and Funds Management.<br>e. Audit Enquiry Inspection & Supervision. | <ul style="list-style-type: none"><li>• To understand the Maharashtra State Co-operative Societies Act 1960</li><li>• To understand the registration process of Co-operative Society</li><li>• To understand the Members and their Rights of Co-operative Society</li></ul>         |

|          |                                                                                |                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                       |
|----------|--------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|          |                                                                                | f. Settlement of Disputes. E.g. Liquidation<br>h. Appeal Revision & Reviews<br>I. 97 <sup>th</sup> Amendment in co-operative act.                                                                                                                                                        | <ul style="list-style-type: none"> <li>To understand the Management of Co-operative Society</li> <li>To understand 97<sup>th</sup> Amendment in co-operative act.</li> </ul>                                          |
| <b>3</b> | <b>Structure of Co-operatives Department</b>                                   | (a) State Level (b) Divisional Level (c) District Level<br>(d) Rights, Duties and Responsibilities of Registrar of Co-operative Societies                                                                                                                                                | <ul style="list-style-type: none"> <li>To understand structure of co-operative department.</li> <li>To understand the Rights, Duties and Responsibilities of Registrar of Co-operative Societies</li> </ul>           |
| <b>4</b> | <b>Support of Various Committees and Institutional to Cooperative Movement</b> | (a) All India Rural Credit Survey Committee (AIRCS), Rural Credit Review ,<br>Report Committee on Inauguration of Co-operative Credit CRAFICAD ,<br>Report of Vaidyanthan Committee,<br>Report of Narsimham Committee<br>(b)NABARD & NCDC support to Co-operatives, Co-operative courses | <ul style="list-style-type: none"> <li>To understand the Support of various committees and institutional to co-operative movement</li> <li>To study the Role of NABARD &amp; NCDC support to Co-operatives</li> </ul> |

### Teaching Methodology

| Topic No. | Total Lectures | Innovative Methods to be used                                                                                                                                                                                                                            | Film Shows and AV Application                                                             | Project                                                                                                                      | Expected Outcome                                                                                                                                  |
|-----------|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>1</b>  | 12             | Pre reading, Class discussion, examples from real life through newspapers and internet resources. Case studies of Co-operative Societies for understand Recent scenario in Co-operative Movement, Debate on Challenges of Co-operative movement in India | Short Film Show on Co-operative Movement, A.V. Application (Audio and Visual Application) | Project on Co-operative Movement in India- Pre and Post Independence                                                         | Understanding of basic knowledge of Co-operative Movement in India<br>Understanding the Problems and Challenges of Co-operative movement in India |
| <b>2</b>  | 12             | Guest Lectures of eminent personalities in co-operative sector, experience sharing, Pre reading, Class discussion, examples from real life                                                                                                               | You Tube Video on Indian Co-operative Movement                                            | Project Report on Amendment of Co-operative Societies Act. Project Report on 97 <sup>th</sup> Amendment in co-operative act. | Understanding of Study of Co-operative legislations in Maharashtra.<br>Learning functioning of                                                    |

|   |    |                                                                                                                                                                                            |                                                                                                                                     |                                                                                       |                                                                                                     |
|---|----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|
|   |    | through newspapers and internet resources, case studies, PPT                                                                                                                               |                                                                                                                                     |                                                                                       | Co-operative Society.                                                                               |
| 3 | 12 | Organise workshop for students, Pre reading, Class discussion, examples from real life through newspapers and internet resources. case studies, Field visit to Co-operative Societies, PPT | Presentation on structure of co-operative department and Rights, Duties and Responsibilities of Registrar of Co-operative Societies | Project on Rights, Duties and Responsibilities of Registrar of Co-operative Societies | Understanding the structure of co-operative department.                                             |
| 4 | 12 | Pre reading, Class discussion, examples from real life through newspapers and internet resources, Guest Lectures of eminent personalities                                                  | Presentation on Support of various committees and institutional to co-operative movement                                            | Project on Role of NABARD & NCDC support to Co-operatives                             | Understanding the role of various committees and institutional for support to co-operative movement |

### Method of Evaluation

| Subject  | Internal Evaluation                                                                              | External Evaluation                                                          | Suggested Add on Course                                                              |
|----------|--------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| Unit-I   | Class participation, Assignment, Library Work, Unit Test, Mid-Semester Examination               | Semester Examination-10% MCQ<br>70% Descriptive Questions<br>20% Short Notes | Seminar on Co-operative Movement in India:                                           |
| Unit-II  | Seminar, Assignment, Library Work, Unit Test, Mid-Semester Examination                           | Semester Examination-10% MCQ<br>70% Descriptive Questions<br>20% Short Notes | Study visit to Co-operative Society                                                  |
| Unit-III | Class participation, Assignment, Library Work, Unit Test, Mid-Semester Examination               | Semester Examination-10% MCQ<br>70% Descriptive Questions<br>20% Short Notes | To Organize guest lecture of Co-operative department officer                         |
| Unit-IV  | Class participation, Case Studies, Assignment, Library Work, Unit Test, Mid-Semester Examination | Semester Examination-10% MCQ<br>70% Descriptive Questions<br>20% Short Notes | Workshop on Support of various committees and institutional to co-operative movement |

## References

| Sr. No | Title of Book                                                                      | Author/s                             | Publication          | Place     |
|--------|------------------------------------------------------------------------------------|--------------------------------------|----------------------|-----------|
| 1      | Co-operation and Rural Development                                                 | Principal Dr.Nitin Ghorpade          | Success              | Pune      |
| 2      | New Dimensions of Co-operative Management                                          | G.S. Kamat                           | Himalaya Publication | New Delhi |
| 3      | Cases in Co-operative Management                                                   | G.S. Kamat                           | Himalaya Publication | New Delhi |
| 6      | Consumer Co-operation in India                                                     | G.S. Kamat                           |                      |           |
| 7      | Co-operation                                                                       | Prof L.P. Wakale and Dr. G.H.Barhate | Sheth Publishing     | Mumbai    |
| 8      | Journal of Commerce and Management Thought(JCMT)                                   |                                      |                      |           |
| 9      | Journal Co-operative Organization and Management , Journal of Co-operative studies |                                      |                      |           |

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**Revised syllabus (2019 Pattern) for M. Com. Course (CBCS)**

**Semester: - I**

**Group – D (Co-operation & Rural Development)**

**Subject Name - Co-operation & Rural Development Special Paper II**

**Subject Title: - Rural Development**

**Course Code: 110**

**Objectives of the course:**

1. To acquaint the students with the Rural Development
2. To study the problems of rural development
3. To study the solution for rural development

**Depth of Programme: - Fundamental and deep Knowledge**

| <b>Unit No.</b> | <b>Unit Title</b>                       | <b>Contents</b>                                                                                                                                                                                                                                            | <b>Purpose Skills to be developed</b>                                                                                                                                                                                                                                                                          |
|-----------------|-----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>1</b>        | <b>Introduction - Rural development</b> | concept of rural development, Importance of Rural development in Maharashtra, Need of Rural development in Maharashtra, The problems and challenges of rural development in India                                                                          | <ul style="list-style-type: none"><li>• To understand the Importance of Rural development</li><li>• To understand the Need of Rural development in Maharashtra</li><li>• To understand the Problems and Challenges of rural development in India</li></ul>                                                     |
| <b>2</b>        | <b>Rural development in Maharashtra</b> | Introduction ,Current scenario of Rural development of Maharashtra, Government schemes and programme for Rural development in Maharashtra<br>The problems of rural development in Maharashtra, The Role of government for Rural development in Maharashtra | <ul style="list-style-type: none"><li>• To understand the Current scenario of Rural development of Maharashtra</li><li>• To understand the Government schemes and programme for Rural development in Maharashtra</li><li>• To understand the Role of government for Rural development in Maharashtra</li></ul> |

|          |                                                  |                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                        |
|----------|--------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|          |                                                  |                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                        |
| <b>3</b> | <b>Rural development in India</b>                | Introduction ,Current scenario of Rural development of India, Central Government schemes and programme for Rural development in India, The problems and Challenges for rural development in India ,The Role of government for Rural development                                                                                                                                                     | i. To understand the Current scenario of Rural development of India<br>ii. To understand the Government schemes and programme for Rural development in India<br>iii. To understand the Role of government for Rural development in India               |
| <b>4</b> | <b>Rural Development Planning and Management</b> | Concepts, Principles and Approaches: Concept of development: Indicators of development; Conceptual framework, Strategies; Rural development in India: A retrospective; Policies, Programs: Techniques of planning: Detail steps in district and block level planning: Area Development Planning: Definition, purpose, Area development plans, The Role of Management function for Rural development | <ul style="list-style-type: none"> <li>• To understand the Principles and Approaches of rural development</li> <li>• To study the Rural development in India</li> <li>• To understand the Role of Management function for Rural development</li> </ul> |

### Teaching Methodology

| Topic No. | Total Lectures | Innovative Methods to be used                                                                                                                                                                    | Film Shows and AV Application                                       | Project                                                   | Expected Outcome                                                                                                                                      |
|-----------|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|-----------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>1</b>  | 12             | Pre reading, Class discussion, examples from real life through newspapers and internet resources. Debate on The problems and challenges of rural development in Maharashtra, Poster presentation | Short Film Show on Rural Development e.g. Hivre Bazar Village video | Project on Importance of Rural development in Maharashtra | Understanding of basic knowledge of Rural development in Maharashtra<br>Understanding The problems and challenges of rural development in Maharashtra |

|          |    |                                                                                                                                                                                                                       |                                                                                         |                                                                                                            |                                                                                                                             |
|----------|----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|
| <b>2</b> | 12 | Guest Lectures of eminent personalities in Rural Development , experience sharing, Pre reading, Class discussion, examples from real life through newspapers and internet resources, case studies, PPT, Survey report | You Tube Video on rural development in Maharashtra and India                            | Project Report on Government schemes and programme for Rural development in Maharashtra                    | Understanding rural development in Maharashtra and India.<br>Understanding the problems of rural development in Maharashtra |
| <b>3</b> | 12 | Organise workshop for students, Pre reading, Class discussion, examples of Various developed Villages, Internet resources. case studies, Field visit ,street play                                                     | Presentation on Central Government schemes and programme for Rural development in India | Project on Current scenario of Rural development of India,<br>The Role of government for Rural development | Understanding the problems and Challenges for rural development in India and the Role of government for Rural development   |
| <b>4</b> | 12 | Pre reading, Class discussion, examples of Villages through Newspapers and internet resources, Guest Lectures of eminent personalities ,PPT                                                                           | Group discussion on Rural Development Planning and Management                           | Project on Conceptual framework and Strategies for Rural development                                       | Understanding Rural Development Planning and Management                                                                     |

### Method of Evaluation

| Subject  | Internal Evaluation                                                                              | External Evaluation                                                          | Suggested Add on Course                                                                                  |
|----------|--------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|
| Unit-I   | Class participation, Assignment, Library Work, Unit Test, Mid-Semester Examination ,G.D          | Semester Examination-10% MCQ<br>70% Descriptive Questions<br>20% Short Notes | Seminar/Workshop on Rural development                                                                    |
| Unit-II  | Seminar, Assignment, Library Work, Unit Test, Mid-Semester Examination                           | Semester Examination-10% MCQ<br>70% Descriptive Questions<br>20% Short Notes | Awareness Programme on the problems of rural development in Maharashtra                                  |
| Unit-III | Class participation, Assignment, Library Work, Unit Test, Mid-Semester Examination, Presentation | Semester Examination-10% MCQ<br>70% Descriptive Questions<br>20% Short Notes | Group discussion on Central Government schemes and programme for Rural development in India ,Field visit |
| Unit-IV  | Class participation, Case Studies, Assignment, field visit , Unit Test, Mid-Semester Examination | Semester Examination-10% MCQ<br>70% Descriptive Questions<br>20% Short Notes | Visit to Panchat Committee/ Z.P office for understanding the scheme of Rural Development                 |

### References

| Sr. No | Title of Book                                              | Author/s                            | Publication          | Place     |
|--------|------------------------------------------------------------|-------------------------------------|----------------------|-----------|
| 1      | Co-operation and Rural Development                         | Principal Dr.Nitin Ghorpade         | Success              | Pune      |
| 2      | Human Resource Management Practices in Co-operative sector | Principal Dr. Shaikh Aftab Anwar    | Idea Publication     | New Delhi |
| 3      | Rural development –Principles –Policies and Management     | Katar Singh                         | Sage Publication     | New Delhi |
| 4      | Rural Society and development                              | Sambhaji Desai                      | Prashant Publication |           |
| 5      | Rural Development in India-Policies and Programme          | Abdul Azees NP and S.M. Javed Aktar | Kalpaz Publication   |           |
| 6      | Journal of Rural Development                               |                                     |                      |           |
| 7      | Journal of commerce and Management                         |                                     |                      |           |

**Revised syllabus (2019 Pattern) for M. Com. Course (CBCS)**

**Semester: - I**

**Group – E (Business Practices & Environment)**

**Subject Name - Business Practices & Environment Special Paper I**

**Subject Title: - Organized Trades and Markets**

**Course Code: 111**

**Objectives of the course:**

- 1) To understand the concepts of organized trade and markets, community markets, regulated markets and business.
- 2) To understand service sector and its role.
- 3) To know about FDI
- 4) To understand cooperative marketing.

**Depth of Programme: - Fundamental Knowledge**

| <b>Unit No.</b> | <b>Unit Title</b>                      | <b>Contents</b>                                                                                                                                                                                                                                                                              | <b>Purpose Skills to be developed</b>                                                                                                                                                                                                                                                                                                                |
|-----------------|----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>1</b>        | <b>Organized Trade &amp; Markets :</b> | Introduction , Meaning and importance - Features of Organized Commodity Markets and Regulated Markets Business-concept - Objectives - Nature and scope of Business in the modern context – Study of various policies with illustrations – Product Buying, Selling Price and Credit Policies. | <ul style="list-style-type: none"><li>• To understand the nature and scope of modern business</li><li>• To understand the relevance and working of different types of organised markets, reasons for regulating them and challenges associated with the same.</li><li>• To understand various types of business policies in modern context</li></ul> |
| <b>2</b>        | <b>Service Sector:</b>                 | Meaning, Characteristics, Types of services, Role, Importance and development of Service Sector in India - Business Practices with reference to E-Commerce.                                                                                                                                  | <ul style="list-style-type: none"><li>• To understand the nature, role and importance, progress and contribution of service sector in India</li><li>• To understand the concept of E-Commerce and its need in today's business world</li></ul>                                                                                                       |
| <b>3</b>        | <b>State in Trade</b>                  | FDI – Meaning, importance & objectives, Role of FDI in retail trade with illustrations. Arguments for and against FDI. Concept of State Trading -                                                                                                                                            | <ul style="list-style-type: none"><li>• To gain the fundamental knowledge about FDI and its role in retail trade</li><li>• To evaluate the performance of FDI in</li></ul>                                                                                                                                                                           |

|          |                               |                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                   |
|----------|-------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|          |                               | Arguments for and against State Trading - Role of State, Trading Corporation (STC) - State and privatization of trading Activities. Mall administration & organization – Super Markets.                                                                                               | development of business sector in India <ul style="list-style-type: none"> <li>To understand the role of State and Trading Corporations in modern trading activities</li> </ul>                                                                                                                                                                   |
| <b>4</b> | <b>Co-operative Marketing</b> | Objectives:, Need - Features – Structure - Functions – Advantages and Role of co-operative marketing with illustrations in rural areas - Direct Marketing for farmers, Self Help Group ,Rural Development Policy, Central Mall, D Mart, Reliance Mart, Innovative Marketing practices | <ul style="list-style-type: none"> <li>To understand the fundamental knowledge regarding nature and role of cooperative marketing in rural areas</li> <li>To study the need of direct marketing, Self Help Group in context of rural areas</li> <li>To gain fundamental knowledge about Innovative marketing practice and Mall Culture</li> </ul> |

### Teaching Methodology

| Topic No. | Total Lectures | Innovative Methods to be used                                                                                                                                                                 | Film Shows and A.V. Application                                                   | Project                                                                                                                                     | Expected Outcome                                                                                                                                                   |
|-----------|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>1</b>  | 12             | Pre reading, Class discussion, examples from real life through newspapers and internet resources. Case studies of prominent Businessmen in India and World                                    | Film Show on Types of Markets<br>Film on Nature of Business and Business Policies | Project on Business Policies<br>Project on Organised Commodity market and Regulated markets                                                 | Understanding of basic knowledge of Modern Business and how to start a new business<br>Understanding various markets and its relation in framing business policies |
| <b>2</b>  | 12             | Guest Lectures of eminent personalities in service sector, experience sharing, Pre reading, Class discussion, examples from real life through newspapers and internet resources, case studies | You Tube Video on Service Sector and E-Commerce                                   | Project Report on Role and Development of Service Sector in India<br>Project Report on Advantages of E-Commerce in modern business context. | Learning the concept of E-Commerce and its practical application in business world<br>Learning functioning of Service Sector and its growth in India               |
| <b>3</b>  | 12             | Debate on Burning and real life economical issues such as FDI, Role of State etc., Pre reading, Class discussion, examples from real life                                                     | Presentation on FDI and its positive and negative aspects                         | Project on FDI with illustration and case studies                                                                                           | Evaluate the performance of FDI in development of business sector in India<br>Understanding the role of                                                            |

|          |    |                                                                                                                                      |                                                                      |                                                                             |                                                                                                  |
|----------|----|--------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------|-----------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|
|          |    | through newspapers and internet resources.                                                                                           |                                                                      |                                                                             | trading corporations in India                                                                    |
| <b>4</b> | 12 | Pre reading, Class discussion, examples from real life through newspapers and internet resources, case studies, Field visit to Malls | Presentation on Cooperative Marketing, Direct Marketing Mall Culture | Project on Self Help Groups<br>Project report on Mall Culture, Case studies | Understanding the procedure of Co-operative Marketing, Direct Marketing and functioning of Malls |

### Method of Evaluation

| <b>Subject</b> | <b>Internal Evaluation</b>                                                                       | <b>External Evaluation</b>                                                   | <b>Suggested Add on Course</b>                   |
|----------------|--------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|--------------------------------------------------|
| Unit-I         | Class participation, Assignment, Library Work, Unit Test, Mid-Semester Examination               | Semester Examination-10% MCQ<br>70% Descriptive Questions<br>20% Short Notes | Functioning of Commodity Market and Stock Market |
| Unit-II        | Seminar, Assignment, Library Work, Unit Test, Mid-Semester Examination                           | Semester Examination-10% MCQ<br>70% Descriptive Questions<br>20% Short Notes | E-Commerce                                       |
| Unit-III       | Class participation, Assignment, Library Work, Unit Test, Mid-Semester Examination               | Semester Examination-10% MCQ<br>70% Descriptive Questions<br>20% Short Notes | Mall Administration and Organisation             |
| Unit-IV        | Class participation, Case Studies, Assignment, Library Work, Unit Test, Mid-Semester Examination | Semester Examination-10% MCQ<br>70% Descriptive Questions<br>20% Short Notes | i. Co-operative Marketing<br>ii. Agro Tourism    |

## References

| Sr. No | Title of Book                           | Author/s                         | Publication                           | Place     |
|--------|-----------------------------------------|----------------------------------|---------------------------------------|-----------|
| 1      | Principles of Practice of Marketing     | C.B.Mamoria                      | KitabMahal                            | New Delhi |
| 2      | Commodity Marketing                     | P.L.Gadgil                       | Shubhada<br>Sarswat,DistributiveTrade | Pune      |
| 3      | Business Environment Text & Cases       | Francis Cherunilam               | Himalaya Publishing House<br>Pvt.Ltd. | Mumbai    |
| 4      | Regulated Markets                       | W.R.Natu                         | Asia Publishing House                 | Mumbai    |
| 5      | Financial Derivatives & Risk Management | O. P.Agarwal                     | Himalaya Publishing House<br>Pvt.Ltd. | Mumbai    |
| 6      | Principles of business organization     | Acharya, Govekar, A.R.Sheth & Co | Bombay A.R. Sheth and Co.             | Mumbai    |



**Revised syllabus (2019 Pattern) for M. Com. Course (CBCS)**

**Semester: - I**

**Group – E (Business Practices & Environment)**

**Subject Name - Business Practices & Environment Special Paper II**

**Subject Title: -Business Environment and Policy**

**Course Code: 112**

**Objectives of the course:**

- 1) To understand the term business environment and its aspects
- 2) To study the problems of growth of economy and remedies to solve problems
- 3) To know the term pollution and its problems and types
- 4) To understand the term globalization and its effects and challenges

**Depth of Programme: - Fundamental Knowledge**

| <b>Unit No.</b> | <b>Unit Title</b>                    | <b>Contents</b>                                                                                                                                                                                          | <b>Purpose Skills to be developed</b>                                                                                                                                                                                                                 |
|-----------------|--------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>1</b>        | <b>Business Environment</b>          | Meaning, Nature, Importance Aspects of Environment -Business Environment with reference to India.                                                                                                        | <ul style="list-style-type: none"><li>• To understand the nature and Importance, Aspects of Business Environment</li><li>• To understand the Business Environment with reference to India</li></ul>                                                   |
| <b>2</b>        | <b>Problems of growth of Economy</b> | Unemployment, Poverty, Regional Imbalance. Social Injustice, Inflation, Parallel economy, Lack of technical knowledge and information. - Remedies to solve these problems, Opportunities in Environment. | <ul style="list-style-type: none"><li>• To understand the Unemployment, Poverty, Regional Imbalance</li><li>• To understand the Lack of technical Knowledge and information</li></ul>                                                                 |
| <b>3</b>        | <b>Pollution</b>                     | Meaning, Problems of pollution - Types of pollution- Water, Air and Noise- Regulatory mechanism & laws, sources and effects, various policies of Government, Go Green Movement                           | <ul style="list-style-type: none"><li>• To Understand the Problems of various types of Pollution</li><li>• To understand the Regulatory Mechanism and Laws</li><li>• To understand the various policies of Government to go Green Movement.</li></ul> |

|          |                                       |                                                                                                                                             |                                                                                                                                                                                                                                                                                                                   |
|----------|---------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>4</b> | <b>Globalization &amp; its impact</b> | Meaning, objectives, importance & scope of Globalization Effect & challenges of Globalization, Review, Impact and implication Globalization | <ul style="list-style-type: none"> <li>• To understand the fundamental knowledge regarding objectives, importance and scope of Globalisation.</li> <li>• To study the Effects and Challenges of Globalisation.</li> <li>• To gain fundamental knowledge about Impact and implication of Globalisation.</li> </ul> |
|----------|---------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

### Teaching Methodology

| <b>Topic No.</b> | <b>Total Lectures</b> | <b>Innovative Methods to be used</b>                                                                                                                                                            | <b>Film Shows and T.V. Application</b>                                | <b>Project</b>                                                                            | <b>Expected Outcome</b>                                                                                           |
|------------------|-----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|-------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|
| <b>1</b>         | 12                    | Pre reading, Class discussion, examples from real life through newspapers and internet resources. Case studies of Business Environment.                                                         | Film Show on Aspects of Environment.                                  | Project on Business Environment with reference to India                                   | Understanding of basic knowledge of nature, Importance and Aspects of Environment                                 |
| <b>2</b>         | 12                    | Guest Lectures of eminent personalities in Business Economy, experience sharing, Pre reading, Class discussion, examples from real life through newspapers and internet resources, case studies | You Tube Video on Unemployment, Poverty, and Regional Imbalance       | Project Report on problems and Remedies of Unemployment, Poverty, and Regional Imbalance. | Learning the concept of Unemployment, Poverty, and Regional Imbalance and to find out Remedies of these problems. |
| <b>3</b>         | 12                    | Debate on Burning and real life issues of Pollution such as Water, Air, and Noise pollutions, Pre reading, Class discussion, examples from real life through newspapers and internet resources  | Presentation on problems, Regulatory mechanism and laws of Pollution. | Project on various policies of Government for Go Green Movement.                          | Evaluate the performance of application of Govt.Policies                                                          |
| <b>4</b>         | 12                    | Pre reading, Class discussion, examples from real life through newspapers and internet resources, case studies, Field visit                                                                     | Presentation on Effects and challenges of Globalisation               | Project on Review of Impact and implication of Globalisation.                             | Understanding the importance, scope, effects and challenges of Globalisation.                                     |

**Method of Evaluation**

| <b>Subject</b> | <b>Internal Evaluation</b>                                                                       | <b>External Evaluation</b>                                                   | <b>Suggested Add on Course</b>                             |
|----------------|--------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|------------------------------------------------------------|
| Unit-I         | Class participation, Assignment, Library Work, Unit Test, Mid-Semester Examination               | Semester Examination-10% MCQ<br>70% Descriptive Questions<br>20% Short Notes | Business Environment in India                              |
| Unit-II        | Seminar, Assignment, Library Work, Unit Test, Mid-Semester Examination                           | Semester Examination-10% MCQ<br>70% Descriptive Questions<br>20% Short Notes | Remedies to solve the problems of Growth of Economy        |
| Unit-III       | Class participation, Assignment, Library Work, Unit Test, Mid-Semester Examination               | Semester Examination-10% MCQ<br>70% Descriptive Questions<br>20% Short Notes | Policies of Government for Pollution and GO Green Movement |
| Unit-IV        | Class participation, Case Studies, Assignment, Library Work, Unit Test, Mid-Semester Examination | Semester Examination-10% MCQ<br>70% Descriptive Questions<br>20% Short Notes | Review Impact and implication of Globalisation.            |

**References**

| <b>Sr. No</b> | <b>Title of Book</b>                    | <b>Author/s</b>         | <b>Publication</b>                 | <b>Place</b> |
|---------------|-----------------------------------------|-------------------------|------------------------------------|--------------|
| 1             | Global Economy and Business Environment | Francis Cheranilan      | Himalaya publishing house          | Mumbai       |
| 2             | Commodity Marketing                     | P.L.Gadgil              | Shubhada Sarswat,DistributiveTrade | Pune         |
| 3             | Business Environment Text & Cases       | Francis Cherunilam      | Himalaya Publishing House Pvt.Ltd. | Mumbai       |
| 4             | Business Environment Chllaaghan         | , Elliaon Edward Arnold | Asia Publishing House              | Mumbai       |

**Revised syllabus (2019 Pattern) for M. Com. Course (CBCS)**

**Semester: - I**

**Group – F (Business Administration)**

**Subject Name - Business Administration Special Paper I**

**Subject Title: - Production & Operation Management**

**Course Code - 113**

**Objectives of the course**

- To understand and develop deep insight of Production & Operation Management.
- To understand & identify business problems involving operational function, planning and control, design development and quality management.
- Demonstrate awareness and importance of application, operation and supply chain management.
- To develop skills necessary to effectively analyze and synthesize the many inter relationship inherent in complex socio-economic productive systems.
- To increase the knowledge and perspective to gain from emerging trends in production and operation management.

**Depth of the program – Fundamental Knowledge**

| Unit No. | Unit Title                                               | Contents                                                                                                                                                                                                                                                                                                                                                                                            | Purpose Skills to be developed                                                                                                                                                                                                                                               |
|----------|----------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1        | <b>Production and Operation Management : An Overview</b> | a. <u>Production and Operation Management</u> : Meaning ,importance , Functions , Types of Production Systems – Mass Production /Flow Line , Continuous, Intermittent , Batch Production , Job Lots etc.<br>b. Service Systems – Recent trends in production and service systems<br>c. Plant Layout – Objectives , basic principles and types<br>d. Safety Considerations and environmental aspects | <ul style="list-style-type: none"> <li>• Acquaint the students knowledge about Production and Operation Management.</li> <li>• Recognize the inherent conflict of interest in many business decisions relating to safety consideration and environmental aspects.</li> </ul> |
| 2        | <b>Supply Chain Management</b>                           | a. Supply chain Management : Introduction , Scope, Components, Process of Supply Chain Management.<br>b. Tools and Techniques of Supply Chain Management , Performance Measurement and implementation.<br>c. Career opportunities in Supply Chain Management                                                                                                                                        | <ul style="list-style-type: none"> <li>• Understanding the scope and Process of Supply Chain Management</li> <li>• Knowledge on various career opportunities in</li> </ul>                                                                                                   |
| 3        | <b>Production Planning and Control</b>                   | a. Production Planning : Meaning , Objectives , Importance and its components<br>b. Production Control : Meaning , Objectives, Significance and factors affecting Production Control.<br>c. Product Design and Development – Concept , Process and factors affecting product development                                                                                                            | <ul style="list-style-type: none"> <li>• Acquaint the students with knowledge of Production Planning and Control.</li> <li>• Motivate the students to develop and innovate ideas for Product Design and Development</li> </ul>                                               |

|   |                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                              |
|---|-----------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 4 | <b>Total Quality Management and Emerging Issues</b> | <ul style="list-style-type: none"> <li>a. Total Quality Management – Meaning , Dimensions , Objectives and importance</li> <li>b. Emerging Issues in Production and Operations Management – <ul style="list-style-type: none"> <li>i. Mobile Accessibility</li> <li>ii. Atomization of Operational Processes</li> <li>iii. Employee empowerment</li> <li>iv. Outsourcing</li> <li>v. Waste Management</li> </ul> </li> </ul> | <ul style="list-style-type: none"> <li>• Recognize the importance of Total Quality Management</li> <li>• Identification of emerging issues in Production and operation Management</li> </ul> |
|---|-----------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## Teaching Methodology

| Topic No. | Total Lectures | Innovative methods to be used                       | Film shows and AV Applications | Project                             | Expected Outcome                                                                                                     |
|-----------|----------------|-----------------------------------------------------|--------------------------------|-------------------------------------|----------------------------------------------------------------------------------------------------------------------|
| 1         | 12             | Article Review , Group Discussion , Quiz            | Documentary                    | Report on the Review of Article     | Conceptual Clarity                                                                                                   |
| 2         | 12             | Survey Report , Poster Presentation , Guest Lecture | Documentary                    | Survey Report / Poster Presentation | Awareness on Career opportunities in Supply Chain Management<br><br>Introduction to Alternative Career opportunities |
| 3         | 12             | Interview , Game , PPT , Narrating                  | Documentary                    | Report Writing                      | Development of Innovative abilities and Application oriented skills                                                  |
| 4         | 12             | Project making , street Play , Jingles making       | Documentary                    | Project                             | Awareness on the recent and emerging areas<br><br>Change in overall perception towards quality enhancement           |

### Method of Evaluation

| Subject    | Internal Evaluation   | External Evaluation | Suggested Add on Course                      |
|------------|-----------------------|---------------------|----------------------------------------------|
| Unit – I   | Continuous Evaluation | Written exam        | Related Short Term Course/ Seminar/ Workshop |
| Unit – II  | Continuous Evaluation | Written exam        | Related Short Term Course/ Seminar/ Workshop |
| Unit – III | Continuous Evaluation | Written exam        | Related Short Term Course/ Seminar/ Workshop |
| Unit – IV  | Continuous Evaluation | Written exam        | Related Short Term Course/ Seminar/ Workshop |

### References :

#### List of Books Recommended :-

1. Production and Operation Management – By B.S.Goel (Pragati Prakashan)
2. Production and Operation Management – By S.N. Chary (Tata Mcgraw Hill)
3. Modern Production and Operation Management – By Elword Buffa
4. Production Planning and Inventory Control – By Magee Budman (Tata Mcgraw Hill)
5. Essentials of Business Administration – By K.A. Shantappa
6. A Key of Production Management – By Kalyani Publication



**Revised syllabus (2019 Pattern) for M. Com. Course (CBCS)**

**Semester: - I**

**Group – F (Business Administration)**

**Subject Name - Business Administration Special Paper II**

**Subject Title: - Financial Management**

**Course Code - 114**

**Objectives of the course**

- To acquaint the student with knowledge of various Financial Management terminologies ( Investment ,Credit Planning , Working Capital Management
- To understand the concepts relating to Financing & Financial Statement Analysis
- To utilize the information gathered to reach an optimum conclusion by a process of reasoning
- To enable the students to use their learning to evaluate , make decisions and provide recommendations

Depth of the program – Fundamental Knowledge

| Unit No. | Unit Title                                | Contents                                                                                                                                   | Purpose Skills to be developed                                                                                                            |
|----------|-------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| 1        | Introduction                              | Meaning and objectives of Financial Management ,<br><br>Financial systems in India – RBI , SEBI.<br><br>New trends in Financial Management | <ul style="list-style-type: none"><li>• Understanding Financial Management</li><li>• Recognizing the Financial System of India.</li></ul> |
| 2        | Financial Statements & Financial Analysis | Concept of Financial Statements – Income and Balance Statements<br><br>Financial Analysis – Types and Techniques                           | <ul style="list-style-type: none"><li>• Understanding Financial Statements</li><li>• Analyzing the Financial Statements</li></ul>         |
| 3        | Investment Decisions                      | Capital Expenditure, Capital Budgeting, techniques of Capital Budgeting. Investment                                                        | <ul style="list-style-type: none"><li>• To enable the students to make Investment Decisions</li></ul>                                     |

|          |                                                |                                                                                                                                                                                                     |                                                                                                                                                                                     |
|----------|------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|          |                                                | Decision Methods – Payback , Net Present Value , A.R.R and I.R.R                                                                                                                                    | <ul style="list-style-type: none"> <li>To study the Capital Budgeting Techniques</li> </ul>                                                                                         |
| <b>4</b> | <b>Working Capital &amp; Credit Management</b> | Meaning and Nature of Working Capital and Factors affecting Working Capital<br><br>Formulation of Credit Policy , Collection Policy , Accounts Receivable Management, Factoring and Lease Financing | <ul style="list-style-type: none"> <li>To understand the meaning and nature of Working Capital</li> <li>To enable the students to formulate Credit and Collection policy</li> </ul> |

### Teaching Methodology

| Topic No. | Total Lectures | Innovative methods to be used                        | Project                           | Expected Outcome                                                      |
|-----------|----------------|------------------------------------------------------|-----------------------------------|-----------------------------------------------------------------------|
| 1         | 08             | Lecture Methods                                      | Individual assignment report      | Developing understanding on Financial Management                      |
| 2         | 14             | Lectures Method<br>Guest Lectures by subject Experts | Case analysis and Discussions     | Developing Financial Statement analysis skills                        |
| 3         | 14             | Case analysis<br>Internet Research                   | Article Review<br>Survey analysis | Developing Decision making Skills                                     |
| 4         | 12             | Survey analysis ,<br>Assignments , Field Visits      | Field Visit<br>Article Review     | Developing skills for effective Credit and Working Capital Management |

| Suggested Add on Course                           |
|---------------------------------------------------|
| Add on course on share market                     |
| Basic Statistical Analysis Certificate Course     |
| Short term course on Capital Budgeting Techniques |
| Certificate course on Working Capital Management  |

### References :

#### List of Books Recommended :-

7. Financial Management – By M.Y.Khan and P.K. Jain (Tata Mcgraw Hill)
8. Financial Management – By I.M.Pandey ( Vikas Publishing House)
9. Financial Management – By Prasanna Chnadra (Tata Mcgraw Hill)
10. Financial Management – By P.V. Kulkarni (Himalaya Publishing House)
11. Financial Management – By Prasanna Chnadra (Tata Mcgraw Hill)
12. The Indian Financial System – By Bharati Pathak (Dorling Kindersley Pvt. Ltd.)
13. Financial Policy and Management Accountant – By Bhabatosh Banerjee(PHI Learning Pvt. Ltd.)
14. Introduction to Lease Financing – By Rajas Parchure , N. Ashok(Time Research Foundation)
15. Credit Management – By Herbert Edwards (Coles Publishing Co. Ltd.)
16. Financial Management – Dr. Parag Kalkar, Success Publications.

**Revised syllabus (2019 Pattern) for M. Com. Course (CBCS)**

**Semester: - I**

**Group – G (Advanced Banking & Finance)**

**Subject Name - Advanced Banking & Finance Paper I**

**Subject Title:- Legal Framework of Banking**

**Course Code – 115**

**Objectives:**

1. To acquaint the students with legal framework in which the Indian banking is working today.
2. To make the students aware about the latest developments in the field of banking law.
3. To enable the students to understand modern banking practices.
4. To enable the students to establish a link between the legal provisions and the practical aspects of banking.

| <b>Unit No.</b> | <b>Topic</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <b>No. of Periods</b> | <b>Teaching Method</b>                                                                |
|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|---------------------------------------------------------------------------------------|
| 01              | <b>Banking Regulation Act 1949</b><br>Provisions relating to- Definition of bank (Sec. 5B and 5C), Business of Banking Companies (Sec.6), Restrictions on business of banking companies (Sec.8, 19 and 20), Capital Structure(Sec.12), Powers of the RBI (Sec.21, 22and 36 to 36AD), Applicability of the Act to Cooperative Banks (Sec.56), amendments of BRA1949 up to 2012, Banking Regulation (Amendment) Bill 2017                                                   | 12                    | Lecture,<br>PPT,<br>Group Discussion, Library Work,<br>Assignment,<br>Use of internet |
| 02              | <b>The Negotiable Instrument Act 1881</b><br>Provisions relating to: Definition of negotiable Instrument (Sec- 13), Promissory note (Sec -4), Bill of exchange (Sec -5), and Cheque (Sec -6), Comparative Study of Negotiable Instruments Parties to negotiable instrument (Section -7), Holder (Sec -8), Holder in due course (Sec -9), Payment in due course (Sec -10), Negotiation (Sec -14), Endorsement (Sec -15), Dishonour of Negotiable Instruments (Sec -91-92), | 12                    | Lecture,<br>PPT,<br>Group Discussion, Library Work,                                   |

|    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |           |                                                                                                              |
|----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|--------------------------------------------------------------------------------------------------------------|
|    | <p>Noting and Protest (Sec -99-104-A), Penalties in case of dishonour of certain cheques for insufficiency of funds in the account (Sec. 138 to 147), Negotiable Instruments (Amendment and Miscellaneous Provisions) Act, 2002: Electronic Cheques/Truncated Cheques</p> <p>Negotiable Instruments (Amendment) Act, 2018- Empowers the Appellate Court to order payment pending the appeal against conviction (Sec.148)</p>                                                                                                                                                                                      |           | <p>Assignment,</p> <p>Use of internet</p>                                                                    |
| 03 | <p><b>A. The Reserve Bank of India Act, 1934</b></p> <p>Provisions relating to: Incorporation, Capital management and Business (Sec 3 to 19), Central Banking functions ((Sec -20 to 45),Regulatory and Supervisory Collection and furnishing of credit information (45 A to 45 G) ,Penalties (Sec 58 B to 58 -G), RBI Act ( As Amended By Finance Act 2018)- Monetary Policy Committee (Sec.45 ZA to 45 ZO)</p> <p><b>B. RBI and Regulation of Digital Financial Services in India, 2012 to 2016.</b></p>                                                                                                        | 12        | <p>Lecture,</p> <p>PPT,</p> <p>Group Discussion, Library Work,</p> <p>Assignment,</p> <p>Use of internet</p> |
| 04 | <p><b>Securitisation and Reconstruction of Financial Assets and Enforcement of Security Interest Act, 2002</b></p> <p>Provisions relating to: Preliminary (Section 1 and 2) Regulation of securitisation and reconstruction of financial assets and financial institutions (Section 3 to 12 A) Enforcement of security interest (Section 13 to 19) Central registry (Section 20 to 26) Offences and penalties (Section 27 to 30) Miscellaneous (Section 31 to 41) Relevant amendments between 2004 and 2008 and Amendments in SARFAESI Act in 2016: (Taking possession over collateral: Audit and inspection)</p> | 12        | <p>Lecture,</p> <p>PPT,</p> <p>Group Discussion, Library Work,</p> <p>Assignment,</p> <p>Use of internet</p> |
|    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Total- 48 |                                                                                                              |

## References,

1. Gordon & Natarajan: Banking Theory Law and Practice, Himalya Publishing House
2. Srivastava S. P.; Banking Theory & Practice, Anmol Publications
3. PrakhasM., Bhargabhi R: Banking law & Operation, Vision Book House.
4. Tannan : Banking Law and Practice in India, Indian Law House
5. Sheldon H.P: Practice and Law of Banking.
6. VenkataramanaK., Banking Operations, SHBP.
7. Kothari N. M: Law and Practice of Banking.
8. GulatiNeelam C: Principles of Banking Management.
9. Maheshwari. S.N.: Banking Law and Practice, Vikas Publication
10. Varshaney P.N.: - Banking Law & Practice
11. Justine Paul and Pamalata Suresh; Management of Banking & Financial Services; Second Edition- Published by Dorling Kindersley (Pearson)
12. Compendium on the Insolvency and Bankruptcy Code- 2016
13. Principles and Practices of Banking- By Indian Institute of Banking & Finance- Macmillan Publication
14. [www.rbi.org.in](http://www.rbi.org.in)
15. Legal and Regulatory Aspects of Banking– Published by Indian Institute of Banking & Finance.
16. All relevant & recent Bare Acts.
17. Banking Law and Practices- Mr. Prakash Misal, Success Publications.

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**Revised syllabus (2019 Pattern) for M. Com. Course (CBCS)**

**Semester: - I**

**Group – G (Advanced Banking & Finance)**

**Subject Name - Advanced Banking & Finance Special Paper II**

**Subject Title:- Central Banking**

**Course Code – 116**

**Objectives:**

1. To acquaint the students with RBI's various functions.
2. To make the students aware about the latest developments in the field of Para banking and NBFCs in India.
3. To enable the students to understand the role of central banking especially in India.
4. To enable the students to acquire sound knowledge of working and techniques of central bank.

| <b>Unit No.</b> | <b>Topic</b>                                                                                                                                                                                                                                                             | <b>No. of Periods</b> | <b>Teaching Method</b>                                                                            |
|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|---------------------------------------------------------------------------------------------------|
| <b>01</b>       | <b>Changing Role and Need of Central Banking</b><br>Origin and evolution of Central banking<br><br>Role of Central Bank in emerging Economies<br><br>Need and Rationale of Central Bank.<br><br>Autonomy of Central Banks<br>Evolution of Reserve Bank of India (R.B.I.) | 08                    | Lecture,<br><br>PPT,<br><br>Group Discussion,<br>Library Work,<br><br>Assignment, Use of Internet |
| 02              | <b>Functions and Regulations of Reserve Bank of India</b><br><br><b>2 I. Functions of RBI-</b><br><br><b>A. The Reserve Bank as currency authority:</b>                                                                                                                  | 14                    | Lecture,<br><br>PPT,<br><br>Group                                                                 |

|    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |    |                                                                                                         |
|----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|---------------------------------------------------------------------------------------------------------|
|    | <p>Issue of currency notes, Asset banking for note- issue, Distribution of currency, Currency chests,</p> <p>Recent developments in currency management.</p> <p><b>B. The Reserve Bank as banker to Government:</b><br/>Maintenance of Government accounts,</p> <p>Banker to the Central Government and the State governments, Management of public debt</p> <p><b>C. RBI as a Banker's Bank:</b> Controller of Credit, Lender of Last Resort</p> <p><b>D. RBI as a Custodian/Manager of Foreign Reserves</b></p> <p><b>E. Promotional Functions of RBI</b></p> <p><b>2 II. Regulation and Supervision of Reserve Bank over Commercial banks.</b></p> <p>Regulation and supervision over commercial banks:</p> <p>Licensing of banks, Opening of new banks, Branch Licensing, Foreign banks, Cash reserves and liquid assets, Prudential norms, Capital and reserves, Control over methods of operation, New Banking Licensing Policy</p> |    | <p>Discussion,<br/>Library Work,</p> <p>Assignment, Use of internet</p>                                 |
| 03 | <p><b>Para banking activities</b><br/>Control over management, Annual accounts and audit, Subsidiaries of commercial banks, Credit Information Bureau of India Ltd. (CIBIL) Bank Assurance, Portfolio Management Services, Pension Fund Managers,</p> <p>Mutual Fund Business, Underwriting of Bonds of PSUs,</p> <p>Investment in Venture Capital Funds etc.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 14 | <p>Lecture,<br/>PPT,<br/>Group Discussion,<br/>Library Work</p> <p>Book Assignment, Use of internet</p> |
| 04 | <p><b>Non Banking Financial Companies (NBFCs)</b></p> <p>Meaning and types of NBFCs</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 12 | <p>Lecture,<br/>PPT,</p>                                                                                |



|  |                                                                                                                     |                  |                                                                   |
|--|---------------------------------------------------------------------------------------------------------------------|------------------|-------------------------------------------------------------------|
|  | Role of NBFCs<br>Problems of NBFC<br>Measures for supervision over NBFCs.<br>Revised Regulatory framework for NBFCs |                  | Group Discussion,<br>Library Work,<br>Assignment, use of Internet |
|  |                                                                                                                     | <b>Total- 48</b> |                                                                   |

### References,

1. Venugopal Reddy Y.; Monetary & Financial Sector Reforms in India
2. Jhingan M.L., Vrinda; Money, Banking, International Trade And Public Finance- Publications Ltd.
3. Fabozzi Frank J.; Foundation of Financial Markets and Institutions- Dorling Kindersley Pvt. Ltd.
4. Sharma Hemant; Encyclopaedia of Banking and Finance – Cyber Tech Publication, New Delhi
5. Financial Markets and Institutions in India- Dr. Sunil Shete, Success Publications.
6. Indian and Global Economy - Dr. M. U. Mulani, Success Publications
6. rsaaLrajaoMd` 32016´ : BaartIya Aqa-vyavasqaa , sa@saosa piblakoSana , puNao.
7. Govt. of India- Economic Survey
8. R.B.I.: Functions and Working – R.B.I. Publication.
9. R.B.I. Bulletins.
10. R.B.I. Annual Reports.
11. Reports on Trend & Progress of Banking in India- R.B.I. Publication
12. www.rbi.org.in

**Revised syllabus (2019 Pattern) for M. Com. Course (CBCS)**

**Semester: - I**

**Group – H (Advanced Marketing)**

**Subject Name - Advanced Marketing Special Paper I**

**Subject Title:- Marketing Techniques**

**Course Code -: 117**

**Objectives of the course**

1. To expose the students to various approaches to the study of marketing
2. To create awareness about environmental factors which are affecting marketing environment
3. To provide in-depth knowledge about marketing mix
4. To acquaint students with the importance of public relation in the field marketing
5. To help students understand stake-holders role in marketing mix

Depth of the program – Detailed Knowledge

Objective of the Program

- a. To equip and train Post Graduate students to accept the challenges in the field of marketing by providing opportunities to study and analyze advanced marketing techniques.
- b. To develop students' independent logical thinking and facilitate personality development.
- c. To prepare the students for seeking suitable careers in the field of marketing.
- d. To impart the knowledge about how to collect the data and interpret it.
- e. To develop among students Communication and Analytical skills

| Unit No | Unit Title                                     | Contents                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Purpose Skills to be developed                                        |
|---------|------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|
| 01      | Marketing Introduction & Marketing Environment | <p><b>Marketing</b> : Meaning ,Definition,Elements, Objectives, Importance, Advantages and limitations, Evolution and Scope</p> <p>Approaches to the study of Marketing</p> <p><b>Marketing Environment:</b> Meaning and Definition, Internal and external</p> <p>Environmental factors influencing the marketing environment</p>                                                                                                                                                                                                                                                                                                                                                                                                                         | To impart the students about Marketing & marketing environment        |
| 02      | Product Mix and Price Mix                      | <p><b>Marketing Mix</b> : Meaning, Definition,Elements,</p> <p><b>Product Mix:</b></p> <p>Concept of Product, Product Lines, Product line length, depth, width. Product Mix Width. Product Simplification diversification and elimination</p> <p><b>Product Management:</b> New product development and Product Life Cycle</p> <p><b>Brand Management:</b> concept definition and history ofbrand/branding</p> <p>Brand Creation, Rebranding, Brand Positioning, Brand Equity Brand Contract, Brand Factory</p> <p><b>Labelling: Meaning and importance</b></p> <p><b>Price Mix:</b></p> <p>Price—Meaning, Definition and Elements of price mix. Need, importance and objectives of pricing. Factors influencing pricing. Various Pricing Strategies.</p> | To impart to the students about Product mix and place mix techniques. |
| 03      | <b>Place Mix and Promotion Mix</b>             | <p><b>Place</b> – Types of Distribution Channels , Advantages &amp; Limitations, factors affecting selection of channel.</p> <p><b>Promotion Mix :</b></p> <p>Meaning, Elements of Promotion Mix,</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | To impart to the students about place mix and promotion mix technique |

|    |                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                      |
|----|---------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------|
|    |                                                               | <p><b>Advertising</b> – Concept, Classification, functions, benefits of advertising, Economic, Social &amp; ethical issues, evaluating advertising effectiveness, Recent trends in advertising,</p> <p><b>Personal Selling</b> – concept and importance, theories of selling, process of personal selling. Selling Methods, Limitations of personal selling.</p> <p><b>Publicity:</b> Meaning, difference between advertising and publicity</p> <p><b>Sales Promotion:</b> Meaning, Objectives and importance. Tools or techniques, Evaluation of sales promotion.</p> |                                                                      |
| 04 | <b>Public Relations, People Process and Physical Evidence</b> | <p><b>Public Relations—</b><br/>Concept, History, Tools of public relations, Role of Public Relation Officer</p> <p><b>E- Marketing Promotion</b> – E mails, different types of Web advertising, blog spots, Online Sponsorships. Social Media Marketing,</p> <p><b>People, Process and Physical Evidence --</b><br/>People as a part of Marketing Mix, customer interaction, customer service Process as part of the Marketing Mix,<br/>Physical evidence/ Packaging</p>                                                                                              | To impart the students to develop public relation skill in marketing |

### Teaching methodology

| Topic No. | Total Lectures | Innovative methods to be used                                                 | Film shows and AV Applications | Project | Expected Outcome                                                                                                                                            |
|-----------|----------------|-------------------------------------------------------------------------------|--------------------------------|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 01        | 12             | Guest Lecture, Presentation of the students and Lectures available on Youtube | Videos on Youtube              | N.A     | Students will understand various approaches to study marketing and also get sufficient knowledge about the factors which influencing marketing environment. |

|    |    |                                                                  |                   |     |                                                                                           |
|----|----|------------------------------------------------------------------|-------------------|-----|-------------------------------------------------------------------------------------------|
| 02 | 12 | Guest Lecture, Case Study Method, Presentation, Group Discussion | Videos on Youtube | N.A | Students will get in-depth knowledge about Product Mix and Price Mix                      |
| 03 | 12 | Guest Lecture, Case Study Method, Presentation, Group Discussion | Videos on Youtube | N.A | Students will understand about Place Mix and Promotion Mix                                |
| 04 | 12 | Guest Lecture, Case Study Method, Presentation, Group Discussion | Videos on Youtube | N.A | Students will aware about various tools of Public Relation and also e-marketing promotion |

### Method of Evaluation

| Subject    | Internal Evaluation                                                     | External Evaluation |
|------------|-------------------------------------------------------------------------|---------------------|
| Unit – I   | Class Test, Group Discussion, Presentation, Case Study, Home Assignment | Written Examination |
| Unit – II  | Class Test, Group Discussion, Presentation, Case Study, Home Assignment | Written Examination |
| Unit – III | Class Test, Group Discussion, Presentation, Case Study, Home Assignment | Written Examination |
| Unit – IV  | Class Test, Group Discussion, Presentation, Case Study, Home Assignment | Written Examination |

## References

| <b>Sr. No.</b> | <b>Title of the Book</b>                 | <b>Author/s</b>             | <b>Publication</b>                 | <b>Place</b> |
|----------------|------------------------------------------|-----------------------------|------------------------------------|--------------|
| 1.             | Marketing Management                     | Arun Kumar, Rachana Sharma. | Atlantic Publishers & Distributors | New Delhi    |
| 2.             | Marketing Management                     | Amar Jyoti                  | Gennext Publishers                 | New Delhi    |
| 3.             | Marketing Management                     | Ranjan Saxena               | Tata Mc-Graw Hill Publishers       | New Delhi    |
| 4.             | International Marketing Mix Management   | Tobias Richter              | Noyos                              | Berlin       |
| 5.             | Marketing Management                     | Russell Winer               | Pearson Education                  | Delhi        |
| 6.             | Public Relation in Marketing Mix         | Jordan Goldman,             | NTC Business Books                 | New York     |
| 7.             | Public Relation for Marketing Management | Frank Jefkins               | The MACMILLAN Press Ltd            | London       |
| 8.             | Marketing Management                     | Prin. Dr. Babasaheb Sangale | Success Publications               | Pune         |

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**Revised syllabus (2019 Pattern) for M. Com. Course (CBCS)**

**Semester: - I**

**Group – H (Advanced Marketing)**

**Subject Name - Advanced Marketing Special Paper II**

**Subject Title:- Consumer Behaviour**

**Course Code -: 118**

**Objectives of the course**

1. To help students understand the various models of Consumer Behaviour
2. To facilitate students 'awareness about consumer motivation & how to overcome motivational problem
3. To provide in-depth knowledge about consumer personality
4. To acquaint the students with the culture and Social Influences on Consumer Behaviour

Depth of the program – Detailed Knowledge

Objective of the Program

- d. To equip and train Post Graduate students to accept the challenges in the field of marketing by providing opportunities to study and analyze advanced marketing techniques.
- e. To develop students' independent logical thinking and facilitate personality development.
- f. To prepare the students for seeking suitable careers in the field of marketing.
  - d. To impart the knowledge about how to collect the data and interpret it.
  - e. To develop among students Communication and Analytical skills

| Unit No | Unit Title                                            | Content                                                                                                                                                                                                                                                                                                                                           | Skills to be developed                                                                                                          |
|---------|-------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|
| 01      | Consumer Behavior                                     | Meaning and Definition of Consumer Behaviour. Need and Advantages to Study Consumer Behaviour. Models of Consumer Behaviour—Economic, Learning, Sociological and Psychological Models and other relevant Models.                                                                                                                                  | To identify various consumer behavioural traits and patterns.                                                                   |
| 02      | Consumer Motivation.                                  | Introduction , needs , objectives and Scope of Consumer Motivation. Overcoming Problems of Motivational Conflict. Defense Mechanism. Motive arousal, Motivational theories                                                                                                                                                                        | To discern the motivational gaps among consumers and to use the right type of motivational techniques to fill / reduce the gap. |
| 03      | Consumer Personality: Learning Memory and Involvement | Consumer attitudes, beliefs, feelings and Behaviour<br>Consumer Learning attitudes and components of learning<br>Memory system , memory process, concept of involvement , dimensions of involvement                                                                                                                                               | To identify the consumer personality, with regard to attitude, learning , memory and involvement                                |
| 04      | Cultural and Social Influences on Consumer Behaviour  | Characteristics of Culture, values, sub cultures, cross cultural and multi-cultural influences on Consumer Behaviour.<br>Social Class and Group influences on Consumer Behaviour with regard to money and other status symbols, conformity to group norms behavior and Influence, family life influences, standard of life and living Influences. | To specifically Identify differences in Consumer Behaviour based on Cultural and Social Influences.                             |



### Teaching methodology

| Topic No. | Total Lectures | Innovative methods to be used                                                 | Film shows and AV Applications | Project | Expected Outcome                                                                                                                                            |
|-----------|----------------|-------------------------------------------------------------------------------|--------------------------------|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 01        | 12             | Guest Lecture, Presentation of the students and Lectures available on Youtube | Videos on Youtube              | N.A     | Students will understand various approaches to study marketing and also get sufficient knowledge about the factors which influencing marketing environment. |
| 02        | 12             | Guest Lecture, Case Study Method, Presentation, Group Discussion              | Videos on Youtube              | N.A     | Students will get in-depth knowledge about Product Mix and Price Mix                                                                                        |
| 03        | 12             | Guest Lecture, Case Study Method, Presentation, Group Discussion              | Videos on Youtube              | N.A     | Students will understand about Place Mix and Promotion Mix                                                                                                  |
| 04        | 12             | Guest Lecture, Case Study Method, Presentation, Group Discussion              | Videos on Youtube              | N.A     | Students will aware about various tools of Public Relation and also e-marketing promotion                                                                   |

## Method of Evaluation

| Subject    | Internal Evaluation                                                     | External Evaluation |
|------------|-------------------------------------------------------------------------|---------------------|
| Unit – I   | Class Test, Group Discussion, Presentation, Case Study, Home Assignment | Written Examination |
| Unit – II  | Class Test, Group Discussion, Presentation, Case Study, Home Assignment | Written Examination |
| Unit – III | Class Test, Group Discussion, Presentation, Case Study, Home Assignment | Written Examination |
| Unit – IV  | Class Test, Group Discussion, Presentation, Case Study, Home Assignment | Written Examination |

## References

| Sr. No. | Title of the Book                                | Author/s                                               | Publication          | Place     |
|---------|--------------------------------------------------|--------------------------------------------------------|----------------------|-----------|
| 1       | Consumer Behaviour                               | Leon G Schiffman, Joseph Wisenblit and S. Ramesh Kumar | Pearson              | USA       |
| 2       | Consumer Behaviour – Insights from Indian Market | RamanujMajumdar                                        | PHI Learning Pvt Ltd | New Delhi |
| 3       | Consumer Behaviour—The Indian                    | S. Ramesh Kumar                                        | Pearson              | USA       |

|          | <b>Context ( Concept and Cases)</b>             |                                                                            |                                       |                 |
|----------|-------------------------------------------------|----------------------------------------------------------------------------|---------------------------------------|-----------------|
| <b>4</b> | <b>Consumer Behaviour</b>                       | <b>Rodger D Blackwell, Paul W Miniard, James F Engel and Zillur Rahman</b> | <b>Cengage Learning India Pvt Ltd</b> | <b>Delhi</b>    |
| <b>5</b> | <b>International Marketing Mix Management</b>   | <b>Tobias Richter</b>                                                      | <b>Noyos</b>                          | <b>Berlin</b>   |
| <b>6</b> | <b>Marketing Management</b>                     | <b>Russell Winer</b>                                                       | <b>Pearson Education</b>              | <b>Delhi</b>    |
| <b>7</b> | <b>Public Relation in Marketing Mix</b>         | <b>Jordan Goldman,</b>                                                     | <b>NTC Business Books</b>             | <b>New York</b> |
| <b>8</b> | <b>Public Relation for Marketing Management</b> | <b>Frank Jefkins</b>                                                       | <b>The MACMILLAN Press Ltd</b>        | <b>London</b>   |

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**Revised syllabi (2019Pattern) M. Com. Degree course (CBCS)**

**Syllabus for M.Com Part I .Semester – II**

**Subject Name :- Financial Analysis & Control**

**Compulsory Subject**

**Course code :- 201**

**Objectives of the course**

- a. To enable the students to acquire knowledge of financial analysis and control tools
- b. To Make appropriate application and uses of financial analysis and control

Depth of the program – fundamental Knowledge

| Unit No. | Unit Title                                     | Contents                                                                                           | Purpose Skills to be developed                                                                                                                                               |
|----------|------------------------------------------------|----------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1        | Fundamentals of financial analysis and control | Meaning of financial analysis and control, importance, advantages limitations& uses                | Understanding basics of financial analysis.                                                                                                                                  |
| 2        | Comparative and common size statement          | Meaning,, importance, advantages, limitations, uses, Problems on Intra & Inter Company Comparison  | To gain knowledge of practically comparing financial results of different years and different companies.                                                                     |
| 3.       | Cash flow and fund flow statements             | Meaning,, importance, advantages limitations, uses, Problems on Cash flow and fund flow statements | To understand the importance of cash liquidity in an organization. To understand the computation of cash and fund flows under operating, investing and financing categories. |
| 4.       | Ratio analysis and trend analysis              | Meaning,, importance, advantages, limitations, uses, Problems on Ratio analysis and Trend analysis | To develop the skill of appropriate use of different ratios to evaluate the financial performance of entities.                                                               |

### Teaching methodology

| Topic No. | Total Lectures | Innovative methods to be used                       | Project                                                                                                             | Expected Outcome                                                                          |
|-----------|----------------|-----------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|
| 1         | 06             | PowerPoint presentations                            |                                                                                                                     | Application of IT for financial analysis                                                  |
| 2         | 14             | Use of MS Excel                                     | Financial analysis of any sector (eg: Software) using common size and comparative statements as a tool of analysis. | Generate interest among students to use and apply Excel as a tool for financial analysis. |
| 3         | 14             | Application through money control, PPT and MS Excel | Financial analysis of any five companies using fund flow and cash flow statement as a tool of analysis              | Learn to analyze and identify financially strong and weak companies                       |
| 4         | 14             |                                                     | Financial analysis of peer companies using ratio analysis as a tool of analysis                                     | Develop needed understanding and use of various ratios for financial analysis.            |

### Method of Evaluation

| Subject    | Internal Evaluation                            | External Evaluation     | Suggested Add on Course                |
|------------|------------------------------------------------|-------------------------|----------------------------------------|
| Unit – I   | Assignment use of PowerPoint, group discussion | 100% based on theory    | Functioning of National Stock Exchange |
| Unit – II  | MCQ test                                       | 30% theory 70% problems | Financial statement analysis           |
| Unit – III | Problem solving                                | 30% theory 70% problems |                                        |
| Unit – IV  | Case study                                     | 30% theory 70% problems |                                        |

## References

| Sr. No. | Author/s                            | Title of the Book                          | Publication                | Place     |
|---------|-------------------------------------|--------------------------------------------|----------------------------|-----------|
| 1.      | Ravi Kishore                        | Advanced Management Accounting             | Taxman                     | New Delhi |
| 2.      | Ravi M. Kishore                     | Management Accounting & Financial Analysis | Taxman                     | New Delhi |
| 3.      | Dr.Jawahar Lal<br>Dr. Sucheta Guaba | Financial Reporting and Analysis           | Himalaya Publication House | New Delhi |
| 4.      | P Perm Chand and Madna Mohan        | Financial Accounting and Analysis          | Himalaya Publishing        | Mumbai    |
| 5.      | M.Y.Khan&P.K.Jain                   | Management Accounting & Financial Analysis | (Tata McGraw hill)         | New Delhi |
| 6.      | Advanced Accounting                 | Dr. Sadashiv Sirgave                       | Success Publications       | Pune      |
| 7.      | Management Accounting               | Dr. Arun Gaikwad                           | Success Publications       | Pune      |
| 8.      | Management Accounting               | Dr. YashodhanMithare                       | Success Publications       | Pune      |

**Suggested references**

**Web reference**

| <b>Sr. no</b> | <b>Lectures</b>            | <b>Films</b>                                                                                                                                                                                                                                                                                                                              |
|---------------|----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>1</b>      | <b>Financial Statement</b> | <a href="https://docs.google.com/spreadsheets/d/e/2PACX-1vRgBO0bXtb52Ocx-aT7yy6j5twA-3GcgWiN5RCGboG3XTD6P5hWpG_jbz8PZA1Aw5YPl2MeEPziCyKm/pubhtml?gid=0&amp;single=true">https://docs.google.com/spreadsheets/d/e/2PACX-1vRgBO0bXtb52Ocx-aT7yy6j5twA-3GcgWiN5RCGboG3XTD6P5hWpG_jbz8PZA1Aw5YPl2MeEPziCyKm/pubhtml?gid=0&amp;single=true</a> |
| <b>2</b>      | <b>Cash Flow</b>           | <a href="https://www.investopedia.com/terms/c/cashflowfromfinancing.asp">https://www.investopedia.com/terms/c/cashflowfromfinancing.asp</a>                                                                                                                                                                                               |
| <b>3</b>      | <b>Ratio Analysis</b>      | <a href="https://www.investopedia.com/financial-edge/0910/6-basic-financial-ratios-and-what-they-tell-you.aspx">https://www.investopedia.com/financial-edge/0910/6-basic-financial-ratios-and-what-they-tell-you.aspx</a>                                                                                                                 |

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**M. Com. Part I (Semester II)**

**Compulsory Subject**

**Subject :- Industrial Economics**

**Compulsory Subject**

**Course Code - 202 A**

## Objectives of the Course

1. To provide the knowledge to the students about the basic issues of industrial economics.
2. To make aware the students about the industrial profile of India and the industrial policy of government of India.

Depth of the Program – Fundamental Knowledge

## Objectives of the Program

1. To make the students understand concepts of industrial economics
2. To help the students know theories of industrial economics
3. To impart students' knowledge about sources of industrial finance and Indian industrial growth

| Unit No. | Unit Title                | Contents                                                                                                                                                                                                                                                                                | Purpose skills to be developed                                                                                                                                                                                                                            |
|----------|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1        | Introduction and Concepts | 1.1 Meaning, Nature, Scope, Need and Significance of Industrial Economics<br>1.2 Industrial Combinations- causes, mergers and amalgamations, industrial monopoly-control of monopolies<br>1.3 Sellers' Concentration, Economies of Scale<br>1.4 Product Pricing – theories and evidence | <ul style="list-style-type: none"><li>• To give students an overview of industrial economics</li><li>• To make the students know about the concepts used in industrial economics</li></ul> <b>Skills :</b> Analytical skills, writing skills              |
| 2        | Industrial Location       | 2.1 Factors Affecting Location of Industries<br>2.2 Theories of Industrial Location- Alfred Weber's theory, Sargent Florence Theory<br>2.3 Industrial Imbalance –Need for balanced regional industrial development-Causes and Measures of Industrial imbalance                          | <ul style="list-style-type: none"><li>• To make the students understand the theories of industrial location</li><li>• To impart knowledge about industrial imbalance in India</li></ul> <b>Skills:</b> Problem solving skills, ability to apply knowledge |



|   |                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                       |
|---|------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   |                                                      | 2.4 Regional Industrial Imbalance in India – Extent and Government Policy Measures for Balanced Regional Industrial Development                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                       |
| 3 | Industrial Productivity, Efficiency and Size of Firm | <p>3.1 Industrial Productivity and Efficiency- Meaning, Norm, Tools and measurement of Industrial Productivity and Efficiency</p> <p>3.2 Factors Affecting Industrial Productivity and Efficiency</p> <p>3.3 Industrial Productivity in India</p> <p>3.4 Causes of Low Industrial Productivity</p> <p>3.5 Remedial measures by the government to improve industrial productivity</p> <p>3.6 Size of Firm- Determinants of Size of Firm</p> <p>3.7 Optimum Size of Firm- Meaning and its Determinants</p> | <ul style="list-style-type: none"> <li>• To help the students know about industrial productivity and efficiency</li> <li>• To know about industrial productivity, size of firms etc.</li> </ul> <p><b>Skills:</b> Understand complex theories and concepts, writing skills, mathematical aptitude</p> |
| 4 | Industrial Finance and Indian Industrial Growth      | <p>1 Meaning, Scope, Importance of Industrial Finance</p> <p>4.2. Sources of Industrial Finance- private, public and cooperative sector, shares, debentures, bonds, deposits, loans etc.</p> <p>4.3. Foreign Capital- need, government's policy, direct investment, foreign institutional investment,</p>                                                                                                                                                                                                | <ul style="list-style-type: none"> <li>• To impart knowledge about industrial finance and its sources</li> <li>• To help the students understand problems of small and micro industries in India</li> </ul> <p><b>Skills:</b> Critical thinking, analytical thinking, writing skills</p>              |

|  |  |                                                                                                                                                                                                                                   |  |
|--|--|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
|  |  | 4.4 Form of Foreign Capital : Euro issues, GDR, ADR, External commercial borrowings<br><br>4.5 Industrial policy : Trends in Industrial Growth since 1991<br><br>4.6 Performance and Problems of Micro, Small, Medium Enterprises |  |
|--|--|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|

### Teaching Methodology

| Topic No. | Total Lectures | Innovative methods to be used                                                                                         | Film shows and AV Applications | Project                                                                                                                                              | Expected Outcome                                                                                                                                                                   |
|-----------|----------------|-----------------------------------------------------------------------------------------------------------------------|--------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1         | 10             | <ul style="list-style-type: none"> <li>• Open Book Discussion</li> <li>• Case study</li> </ul>                        |                                | <ul style="list-style-type: none"> <li>• Mergers and amalgamation of industries</li> <li>• Product pricing practices in India</li> </ul>             | <ul style="list-style-type: none"> <li>• Will get an overview of industrial economics</li> <li>• Will know about the concepts used in industrial economics</li> </ul>              |
| 2         | 10             | <ul style="list-style-type: none"> <li>• Digital lectures</li> <li>• Group discussion</li> </ul>                      |                                | <ul style="list-style-type: none"> <li>• Extent of regional imbalance in India</li> <li>• Policies to solve industrial imbalance in India</li> </ul> | <ul style="list-style-type: none"> <li>• Students will understand the theories of industrial location</li> <li>• Students will know about industrial imbalance in India</li> </ul> |
| 3         | 14             | <ul style="list-style-type: none"> <li>• Teacher driven power point presentation</li> <li>• Jigsaw reading</li> </ul> |                                | <ul style="list-style-type: none"> <li>• Study of productivity in Indian industries</li> <li>• Study of effect of scale</li> </ul>                   | <ul style="list-style-type: none"> <li>• Students will know about industrial productivity and efficiency</li> <li>• Students will know about industrial productivity,</li> </ul>   |

|   |    |                                                                                                                           |  |                                                                                                                                                 |                                                                                                                                                                                                     |
|---|----|---------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   |    |                                                                                                                           |  |                                                                                                                                                 | size of firms etc.                                                                                                                                                                                  |
| 4 | 14 | <ul style="list-style-type: none"> <li>• Case studies</li> <li>• Interactive learning</li> <li>• Pair learning</li> </ul> |  | <ul style="list-style-type: none"> <li>• Growth of medium and small enterprises in India</li> <li>• Impact of Industrial policy 1991</li> </ul> | <ul style="list-style-type: none"> <li>• Students will know about industrial finance and its sources</li> <li>• Students will understand problems of small and micro industries in India</li> </ul> |

### Method of Evaluation

| Subject    | Internal Evaluation | External Evaluation | Suggested Add on Course                 |
|------------|---------------------|---------------------|-----------------------------------------|
| Unit – I   | 11                  | 11                  | Business or industrial economics course |
| Unit – II  | 11                  | 11                  |                                         |
| Unit – III | 14                  | 14                  |                                         |
| Unit – IV  | 14                  | 14                  |                                         |

### References

| Sr. No. | Title of the Book                        | Author/s             | Publication                        | Place  |
|---------|------------------------------------------|----------------------|------------------------------------|--------|
| 1       | Industrial Economics: Indian Perspective | Cherunilam, F.       | Himalaya Publishing house.         | Mumbai |
| 2       | Industrial Economy of India              | Sivaya, K.V. and Das | VBM (latest Edition), Sultan Chand | Mumbai |

|          |                                                                                             |                        |                           |           |
|----------|---------------------------------------------------------------------------------------------|------------------------|---------------------------|-----------|
| <b>3</b> | Industrial Ecoomics                                                                         | Sing, A. and A.N.Sadhu | Himalaya Publishing House | Mumbai    |
| <b>4</b> | Industrial Growth in India - Stagnation since Mid-sixties                                   | Ahluwalia, I.J.        | Oxford University Press   | New Delhi |
| <b>5</b> | Performance Appraisal of PEs in India: Conceptual Approach", in Public Enterprises in India | Jyotsna and Narayan B  | Chug Publications         | Allahabad |
| <b>6</b> | Industrial Economics,                                                                       | Burthwal, R.R          | Wiley Eastern Ltd         | New Delhi |

**Suggested references Web reference**

| Sr. no | Lectures                                                                                                                                                                                                                                                                                      | PPTs                                                                                                                                                                                                  | Articles                                                                                                        |
|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
| 1      | <a href="https://www.economicsnetwork.ac.uk/teaching/Lecture%20Slides/Industrial%20Economics">https://www.economicsnetwork.ac.uk/teaching/Lecture%20Slides/Industrial%20Economics</a>                                                                                                         | <a href="http://www.powershow.com/view/26979b-MGI2M/INDUSTRIAL_ECONOMICS_powerpoint_ppt_presentation">http://www.powershow.com/view/26979b-MGI2M/INDUSTRIAL_ECONOMICS_powerpoint_ppt_presentation</a> | <a href="https://onlinelibrary.wiley.com/journal/14676451">https://onlinelibrary.wiley.com/journal/14676451</a> |
| 2      | <a href="https://www.studocu.com/en/document/university-of-nottingham/industrial-economics/lecture-notes/lecture-notes-lectures-1-10/594973/view">https://www.studocu.com/en/document/university-of-nottingham/industrial-economics/lecture-notes/lecture-notes-lectures-1-10/594973/view</a> | <a href="http://www.staff.city.ac.uk/~sj355/INDUSTRIAL%20intro.ppt">http://www.staff.city.ac.uk/~sj355/INDUSTRIAL%20intro.ppt</a>                                                                     | <a href="https://onlinelibrary.wiley.com/loi/14676451">https://onlinelibrary.wiley.com/loi/14676451</a>         |
| 3      | <a href="https://www.hse.ru/data/2010/10/22/1224130267/BSc4_industrial_en.pdf">https://www.hse.ru/data/2010/10/22/1224130267/BSc4_industrial_en.pdf</a>                                                                                                                                       | <a href="https://slideplayer.com/slide/11650124/">https://slideplayer.com/slide/11650124/</a>                                                                                                         | <a href="https://econpapers.repec.org/article/blajindec/">https://econpapers.repec.org/article/blajindec/</a>   |

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**M. Com. Part I (Semester II)**

**Compulsory Subject**

**Subject Name :- Business Statistics**

**Course code :- 202 B**

**Objective of the Program**

The main objective of this course is to acquaint students with some basic concepts in Statistics. They will be introduced to some statistical methods of analysis of data. The unit wise objectives of this course are as follows:

- 1) To forecasting and the analysis of economic and industrial time series.
- 2) Providing students with a formal treatment of probability theory and fostering understanding through real-world applications.
- 3) To understand the topics binomial, Poisson and normal distribution and of importance in different disciplines.
- 4) To take a random sample from the population to obtain parameter estimates.
- 5) To learn how to interpret the result of a test of hypothesis in the context of the original narrated situation.

| Unit No. | Unit Title                                                           | Contents                                                                                                                                                                                                                                                                                                  | Purpose Skills to be developed                                                                                                                                                                                                                                                                 |
|----------|----------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1        | <b>Time Series</b>                                                   | Introduction, Definition, Components of Time Series, The Trend, Seasonal variation, Cyclical variation, Irregular variation, Methods of estimating Trends, Moving averages (with periods 3,4,5), Fitting of trendline and second degree curve, Exponential smoothing, Example and problem                 | Time series analysis is the collection of data of specific intervals over a period of time with the purpose of identifying trends, cycles and seasonal variations to aid in the forecasting of future events.                                                                                  |
| 2        | <b>Theory of Probability Distributions : Discrete and Continuous</b> | 1.1 Random Variables, discrete random variable, continuous random Variable<br>1.2 Probability distribution and probability mass function (p.m.f.) of discrete random variable, Probability density function (p.d.f.) of continuous random variable<br>1.3 Expected value, variance and standard deviation | To classify probability distributions as discrete or as continuous probability distributions depending on whether they define probabilities associated with discrete variables or continuous variables.<br><br>Examples will clarify the difference between discrete and continuous variables. |

|   |                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                         |
|---|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   |                                                                    | 1.4 Marginal, Joint and Conditional distribution<br>1.5 Numerical Problems on finding p.m.f/p.d.f, expected value and variance                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                         |
| 3 | <b>Standard Probability Distributions and Parameter Estimation</b> | 2.1 Binomial Distribution : p. m. f., mean and variance.<br>2.2 Poisson Distribution : p. m. f., mean and variance<br>2.3 Normal Distribution : p. m. f., mean, variance, properties<br>2.4 Exponential distribution : definition, mean, variance and properties<br>2.5 Limiting relations between these distributions<br>2.6 Numerical problems to calculate probabilities, mean and Variance | Probability distributions are prevalent in many sectors namely insurance, social science, computer science etc. This topic highlighted standard probability distributions which are observed in day-to-day life and explain their applications.                                                                                         |
|   |                                                                    | 3.1 Parameter and Statistic<br>3.2 Unbiased estimator<br>3.3 Confidence interval (around unbiased estimator)<br>3.4 Examples and Problems on real life situations                                                                                                                                                                                                                              | Parameters are descriptive measures of an entire population that may be used as inputs to generate distribution curves. One goal of statistical analysis is to obtain estimates of population parameters along with the amount of error associated with these estimates.                                                                |
| 4 | <b>Tests of Hypothesis</b>                                         | 3.1 Hypothesis, null and alternative hypothesis, two types of errors, teststatistic, critical region acceptance region, level of significance, p-value<br>3.2 Chi square test for goodness of fit<br>3.3 Chi square test for independence of two attributes                                                                                                                                    | <p>The purpose of this topic is to determine whether there is enough statistical evidence in favor of certain belief about the parameter.</p> <p>To learn how to apply the test procedure for test of hypothesis concerning a population mean whom the sample size is small.</p> <p>Larger sample sizes allow researchers to better</p> |

|  |  |                                                                                                                                                                                                                                                                                                                                                                                              |                                                              |
|--|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------|
|  |  | 3.4 Small Sample Tests <ul style="list-style-type: none"> <li>a) One sample test</li> <li>b) Two sample test</li> <li>c) Paired t – test</li> <li>d) F- test</li> </ul> 3.5 Large sample tests for population mean and population proportion<br>3.1.1 Test for the mean a) one sample b) two samples<br>3.1.2 Test for the proportion a) one sample b) two samples<br>3.6 Numerical Problems | determine the average values of their data and avoid errors. |
|--|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------|

### Teaching methodology

| Topic No. | Total Lectures | Innovative methods to be used | Expected Outcome                                                                                                                        |
|-----------|----------------|-------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| 1         | 15             | ICT                           | Demonstrate advanced understanding of the concepts of time series and their applications to finance and other area.                     |
| 2         | 15             | ICT                           | Understand the concept of r.v. Develop problem solving techniques needed to calculate probabilities.                                    |
| 3         | 15             | ICT                           | To apply discrete and continuous distributions for analyzing the data. To describe the practical applications of various distributions. |



|   |    |     |                                                                                               |
|---|----|-----|-----------------------------------------------------------------------------------------------|
|   |    |     | Samples are collected to estimate characterizations of the population of particular interest. |
| 4 | 15 | ICT | Understand problem of statistical inference, problem testing of hypothesis.                   |

### Method of Evaluation

| Subject    | Internal Evaluation (Marks) | External Evaluation (Marks) |
|------------|-----------------------------|-----------------------------|
| Unit – I   | 12                          | 13                          |
| Unit – II  | 12                          | 13                          |
| Unit – III | 13                          | 12                          |
| Unit – IV  | 13                          | 12                          |

| Sr. No. | Title of the Book                       | Author/s                    | Publication                     | Place     |
|---------|-----------------------------------------|-----------------------------|---------------------------------|-----------|
| 1       | Probability and Statistics              | R Walpole, S Myers and K Ye | Pearson Education International | London    |
| 2       | Fundamentals of Mathematical Statistics | S.C. Gupta and V.K. Kapoor  | Sultan Chand & Sons             | New Delhi |
| 3       | Fundamentals of Applied Statistics      | S.C. Gupta                  | Sultan Chand & Sons             | New Delhi |
| 4       | Statistics for Business and Economics   | J.S Chandran                | Vikas Publishing                | Mumbai    |
| 5       | Quantitative Techniques for Business    | Dr. A.B. Rao                | Jaico <i>Publishing</i> House   | Mumbai    |
| 6       | Fundamentals of Statistics              | D.N. Elhance                | Kitab Mahal                     | Kanpur    |

### **Web reference**

1. [www.freeststatistics.tk](http://www.freeststatistics.tk)(National Statistical Agencies)
2. [www.psychstat.smsu.edu/sbk00.htm](http://www.psychstat.smsu.edu/sbk00.htm)(Onlinebook)
3. [www.bmj.bmjournals.com/collections/statsbk/index.shtml](http://www.bmj.bmjournals.com/collections/statsbk/index.shtml)
4. [www.statweb.calpoly.edu/bchance/stat-stuff.html](http://www.statweb.calpoly.edu/bchance/stat-stuff.html)
5. [www.amstat.org/publications/jse/jse-data-archive.html](http://www.amstat.org/publications/jse/jse-data-archive.html)(International journal on teaching and learning of statistics)
6. [www.amstat.org/publications/chance](http://www.amstat.org/publications/chance)(Chancemagazine)
7. [www.statsci.org/datasets.html](http://www.statsci.org/datasets.html)(Datasets)
8. [www.math.uah.edu/stat](http://www.math.uah.edu/stat)(Virtual laboratories in Statistics)
9. [www.amstat.org/publications/stats](http://www.amstat.org/publications/stats)(STATS : the magazine for students of Statistics)
10. [www.stat.ucla.edu/cases](http://www.stat.ucla.edu/cases)(Case studies in Statistics).
11. [www.statsoft.com](http://www.statsoft.com)
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14. [www.unstat.un.org](http://www.unstat.un.org)
15. [www.stat.stanford.edu](http://www.stat.stanford.edu)
16. [www.statpages.net](http://www.statpages.net)
17. [www.wto.org](http://www.wto.org)
18. [www.censusindia.gov.in](http://www.censusindia.gov.in)
19. [www.mospi.nic.in](http://www.mospi.nic.in)
20. [www.statisticsofindia.in](http://www.statisticsofindia.in)

**Group A (Advanced Accounting & Taxation) - Special Paper III**

**Subject Name:-Specialized Areas in Accounting**

**Course code:- 203**

**Depth of the program** – Fundamental Knowledge with key competencies amongst the students

**Objectives of the Program**

1. To understand the application of advanced specialized accounting practices in the field of modern business and profession
2. To gain the knowledge on corporate restructuring which are essentially mean to attain greater market share, acquire additional brand and create new synergies
3. To develop proficiency in new skills expected for future accountants in this changing business environment
4. To acquaint with the amalgamation and reconstruction procedures of companies

| Unit No. | Unit Title                                                            | Contents                                                                                                                                                                                                                                                                                                                                               | Purpose Skills to be developed                                                                                                                                                                                                               |
|----------|-----------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1        | <b>Accounting For Construction Contracts And Introduction to RERA</b> | A. Introduction - Accounting Treatment<br>B. Percentage of Completion Method, Completed Contract Method.<br>C. Provision for foreseeable losses-Principles to be followed while taking credit for profit on incomplete contracts<br>D. Valuation & disclosure of Work-in-progress, Escalation clause<br>E. Preparation of contract accounts as per AS7 | To understand the accounting for construction contracts and various terms used in contract accounting and principles to be followed while computing profit on incomplete contracts and valuation and disclosure of WIP and escalation clause |
| 2        | <b>Accounting For Corporate Restructuring:</b>                        | A. Amalgamation<br>B. Absorption<br>C. External reconstruction<br>D. Internal Reconstruction - reparation of Scheme of Internal Reconstruction.<br>(Advanced problems only)                                                                                                                                                                            | To understand the concept of corporate restructuring, its accounting methods, processes as per accounting standard 14                                                                                                                        |

|    |                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                 |
|----|---------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 3. | <b>Services Sector Accounting:</b>    | <p>A. <b>Hotel Accounting</b> - introduction - visitors' ledger.</p> <p>B. <b>Hospital Accounting</b> - Introduction- capital and revenue expenditure OPD &amp; IPD Register.</p> <p>C. <b>Transport Undertaking</b> - Introduction - preparation of final Accounts - Accounting of Roadways Preparation of final accounts - Log Book.</p> <p>D. <b>Fund Based Accounting:</b> Introduction - Special Features of Accounting for Educational Institutions, Accounting for Government Grants as per guidance notes issued by the ICAI.</p> | To acquaint with hotel accounting, Hospital accounting, Transport undertakings accounting fund based accounting to create an avenue for employment in the academics and also to benefit Industry                |
| 4. | <b>Accounts and Records under GST</b> | <p>A. Accounts &amp; Records</p> <p>B. Compulsorily Audit</p> <p>C. Period for Retention of Accounts</p>                                                                                                                                                                                                                                                                                                                                                                                                                                  | To understand that every registered person to keep and maintain, at his principal place of business (as mentioned in the certificate of registration), a true and correct account along with relevant documents |

### Teaching methodology

| Topic No. | Total Lectures | Innovative methods to be used | Film shows and AV Applications | Project | Expected Outcome                                                                                                                                                                   |
|-----------|----------------|-------------------------------|--------------------------------|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1         | 08             | 02                            | 02                             | 02      | Describe how contract accounting is used for performance evaluation and decision making                                                                                            |
| 2         | 16             | 06                            | 04                             | 02      | Recalls the distinction between Amalgamation in the nature of of purchase and analyses the situation where the Alteration of share capital and internal reconstruction is required |
| 3         | 16             | 08                            | 04                             | 04      | To develop competency of students to solve problems relating Special areas in accounting including accounting for Services Sector                                                  |

|   |   |    |    |    |                                                                                                                                                                                                                           |
|---|---|----|----|----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 4 | 8 | 06 | 04 | 02 | To Maintain different types of ledgers, prepare documents such as Invoice, Credit Note and Debit Note, identify the different types of returns and their applicability to the business, Monthly Returns, Quarterly Return |
|---|---|----|----|----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

### Method of Evaluation

| Subject    | Internal Evaluation             | External Evaluation | Suggested Add on Course                                        |
|------------|---------------------------------|---------------------|----------------------------------------------------------------|
| Unit – I   | Written Examination             | Written Examination | Certificate Course in Financial Accounting                     |
| Unit – II  | Seminar/ Group Discussion       | Written Examination | Certificate Course in Tally with GST                           |
| Unit – III | Power Point Presentations (PPT) | Written Examination | Certificate Course in Equity Analysis                          |
| Unit – IV  | Oral Examination                | Written Examination | Certificate Course in Goods and Service tax Accounts Assistant |

### References

| Sr. No. | Title of the Book             | Author/s                                       | Publication             | Place      |
|---------|-------------------------------|------------------------------------------------|-------------------------|------------|
| 1.      | Advanced Financial Accounting | ShawarSaleem,                                  | Vikas Publication House | Delhi      |
| 2.      | Advanced Accounts- Vol.-I.    | Shukla, M.C., T.S. T.S. Grewal and S.C. Gupta. | S. Chand & Co.          | New Delhi. |
| 3.      | Advanced Accountancy          | Jain and Narang                                | Kalyani Publishers      | New Delhi  |
| 4.      | Indirect Taxes                | V. S. Datey                                    | Taxman Publication      | Mumbai     |

|    |                                |                                     |                       |            |
|----|--------------------------------|-------------------------------------|-----------------------|------------|
| 5. | Advanced Practical Accounts,   | Anjan Bhattacharya &SubrataMukerjee | S. Chand & Co.,       | New Delhi. |
| 6. | Advanced Accounting            | M. C. Shukla & S.P. Gerwal          | S. Chand and Co. Ltd. | New Delhi  |
| 7. | Advanced Management Accounting | Ravi Kishore                        | Taxman                | New Delhi  |
| 8. | Advanced Accounting            | Dr. Sadashiv Shirgave               | Success Publications  | Pune       |

### Suggested references Web reference

| Sr. no | Lectures                                                                                                     | Films                                                                                                   | PPTs                                                                          | Articles                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|--------|--------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1      | Gst Accounts Records Summary & Documentation, Time Period Of Books Retention-Ca DivyanshuSengar (on youtube) | <a href="https://www.youtube.com/watch?v=0u3qn37BNK4">https://www.youtube.com/watch?v=0u3qn37BNK4</a>   | What is Accounting.Purpose of maintaining Accounts.Accounts& Records in GST   | Books of accounts under GST scenario.<br>Vishwanath Bhat & Co Cost Accountants Bangalore<br>( <a href="http://icmai.in/upload/Taxation/IDT/PPT/Books-accounts-GST.pdf">http://icmai.in/upload/Taxation/IDT/PPT/Books-accounts-GST.pdf</a> )<br>( <a href="https://www.icsi.edu/media/webmodules/REAL_ESTATE_REGULATION_AND_DEVELOPMENT_ACT.pdf">https://www.icsi.edu/media/webmodules/REAL_ESTATE_REGULATION_AND_DEVELOPMENT_ACT.pdf</a> )<br>( <a href="http://icmai.in/upload/Students/Syllabus2016/Inter/Paper-11-NEW-GST-Revised.pdf">http://icmai.in/upload/Students/Syllabus2016/Inter/Paper-11-NEW-GST-Revised.pdf</a> )<br>( <a href="http://icmai.in/upload/Taxation/IDT/PPT/Books-accounts-GST.pdf">http://icmai.in/upload/Taxation/IDT/PPT/Books-accounts-GST.pdf</a> ) |
| 2      | Accounting for corporate Restructuring-CA AnandBhangariya(on youtube)                                        | ( <a href="https://www.youtube.com/watch?v=FNBA0R4EW0">https://www.youtube.com/watch?v=FNBA0R4EW0</a> ) | Procedural Aspects Of Merger & Amalgamation Before Nclt<br>By: Cs Nesar Ahmad | Corporate Restructuring, Valuation And Insolvency<br>( <a href="https://www.icsi.edu/media/webmodules/publications/Full%20Book%20of%20PP-CRVI-2014.pdf">https://www.icsi.edu/media/webmodules/publications/Full%20Book%20of%20PP-CRVI-2014.pdf</a> )                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

|   |                                                                       |                                                                                                           |                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|---|-----------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 3 | Accounting - AS 7 - Construction Contract-CA Raj Agrawal (on youtube) | ( <a href="https://www.youtube.com/watch?v=1Oiu2-KBMAE">https://www.youtube.com/watch?v=1Oiu2-KBMAE</a> ) | Construction contracts-Kapp Edge Solutions Pvt Ltd                                                                                                                               | <a href="https://www.slideshare.net/gst-trichy/accounts-records-in-gst">https://www.slideshare.net/gst-trichy/accounts-records-in-gst</a>                                                                                                                                                                                                                                                                                                                          |
| 4 | Hotel Accounting- Guest Charges, Payment, and Check-out               | ( <a href="https://slideplayer.com/slide/1733925/">https://slideplayer.com/slide/1733925/</a> )           | Contract Accounting- ( <a href="https://kalyankaari.files.wordpress.com/2012/04/contract-costing.ppt">https://kalyankaari.files.wordpress.com/2012/04/contract-costing.ppt</a> ) | Accounting for Hotels ( <a href="http://www.yourarticlelibrary.com/accounting/hotel-accounting/accounting-for-hotels-with-accounting-entries-hotel-accounts/68699">http://www.yourarticlelibrary.com/accounting/hotel-accounting/accounting-for-hotels-with-accounting-entries-hotel-accounts/68699</a> )<br>( <a href="http://jhbwc.org/wp-content/uploads/2013/12/Contract-costing-.pdf">http://jhbwc.org/wp-content/uploads/2013/12/Contract-costing-.pdf</a> ) |

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**Group A (Advance Accounting and Taxation) – Special Paper IV**

**Subject Name :- Business Tax assessment and planning**

**Course code :- 204**

Objectives of the course

1. To provide understanding of Direct Taxes including rules pertaining there to and their application to different business situations.
2. To understand principles underlying the Goods and Service tax
3. To understand basic concepts of Goods Service Tax and Customs Duty.

Depth of the program – fundamental Knowledge

| Unit No. | Unit Title                     | Contents                                                                                                                                                                                                                                                                                                                                                                                      | Purpose Skills to be developed                                                   |
|----------|--------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|
| 1        | Assessment of Various entities | 1. Assessment of Partnership Firms including LLP<br>2. Assessment of Co-operative Societies.<br>3. Assessment of Charitable Trust<br>(Theory & Problems)                                                                                                                                                                                                                                      | To understand the provision for computation of income of various entities.       |
| 2        | Miscellaneous                  | Clubbing of income and set off and carry forward of losses (Theory and problems)<br><br>Income Tax authorities, Return of Income and forms of Income Tax Return, Procedure for assessment – Types of assessment, Appeals & Revision, Tax Deducted at Source.<br><br>Advance Tax, Interest and Penalties, Offences and Prosecutions, Refund of Tax, Double Taxation Avoidance Agreement (DTAA) | To understand the provisions of returns, assessment and procedure of assessment. |



|    |                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                            |
|----|-----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------|
| 5. | Tax Planning          | Concept of Tax Planning and Management, Need, Objectives, Limitations, Types (Short Term, Long Term, permissive, purposive), Difference between Tax exemption, Tax Evasion and Tax Avoidance (theory)                                                                                                                                                                                                                                                                                                                                                                                 | To understand need and importance of Tax Planning and Management           |
| 6. | Goods and Service Tax | <p>Concept of GST – Meaning</p> <p>1. Evaluation of GST, Types – CGST, SGST/UTGST, IGST.</p> <p>2. Procedure for registration under GST, Persons liable for Registration – Compulsory and Deemed registration, cancellation of registration, GST Returns</p> <p>3. Levi &amp; Collection of Tax, Scope of supply, composite &amp; mixed supply, Time of supply goods &amp; services, Input Tax Credit (Theory &amp; Problem)</p> <p>4. Customs Duty – Introduction to customs Duty – valuation, Customs Procedure, Classification for customs &amp; Rate of Customs Duty (theory)</p> | To understand the Basic concept and framework under GST Act & Customs Act. |

**Teaching methodology**

| <b>Topic No.</b> | <b>Total Lectures</b> | <b>Innovative methods to be used</b>     | <b>Film shows and AV Applications</b>    |
|------------------|-----------------------|------------------------------------------|------------------------------------------|
| 1                | 16                    | Expert Lecture<br>Group Discussion & PPT | ICAI youtube channel<br>ICAI BOS CA Tube |
| 2                | 10                    | Expert Lecture<br>Group Discussion & PPT | ICAI youtube channel<br>ICAI BOS CA Tube |
| 3                | 8                     | Expert Lecture<br>Group Discussion & PPT | ICAI youtube channel<br>ICAI BOS CA Tube |
| 4                | 14                    | Expert Lecture<br>Group Discussion & PPT | ICAI youtube channel<br>ICAI BOS CA Tube |

### **Method of Evaluation**

| <b>Subject</b> | <b>Internal Evaluation</b>            | <b>External Evaluation</b>                             | <b>Suggested Add on Course</b> |
|----------------|---------------------------------------|--------------------------------------------------------|--------------------------------|
| Unit – I       | PPT, Assignments, Tutorials, GD, Quiz | Solving of practical problems of computation of income | GST Course                     |
| Unit – II      | PPT, Assignments, Tutorials, GD, Quiz | Solving of practical problems of computation of income | GST Course                     |
| Unit – III     | PPT, Assignments, Tutorials, GD, Quiz | Solving of practical problems of computation of income | GST Course                     |
| Unit – IV      | PPT, Assignments, Tutorials, GD, Quiz | Solving of practical problems of computation of income | GST Course                     |

### **References**

| <b>Sr. No.</b> | <b>Title of the Book</b>    | <b>Author/s</b>           | <b>Publication</b>        | <b>Place</b> |
|----------------|-----------------------------|---------------------------|---------------------------|--------------|
| <b>1</b>       | Direct Tax, Laws & Practice | Dr. Vinod Singhania       | Taxman Publication        | New Delhi    |
| <b>2</b>       | Direct Taxes                | Girish Ahuja & Rani Gupta | Bharat Law House          | New Delhi    |
| <b>3</b>       | Direct Tax, Laws & Practice | Mehrotra H C & Gupta S D  | SahityaBhawan Publication | Agra         |
| <b>4</b>       | Direct Taxes                | Gaur V P & Narang         | Kalyani Publications      | New Delhi    |
| <b>5</b>       | Indirect Taxes              | Vinod Singhania           | Tasmans Publication       | New Delhi    |
| <b>6</b>       | Indirect Taxes              | H C Mehrotra              | SahityaBhawan Publication | Agra         |
| <b>7</b>       | Bane Act CGST, SGST, IGST   | H C Mehrotra              | SahityaBhawan Publication | Agra         |

**Suggested references Web reference**

| <b>Sr. no</b> | <b>Lectures</b> | <b>Films</b> | <b>Animation</b> | <b>PPTs</b> | <b>Articles</b>                                                          | <b>Others</b> |
|---------------|-----------------|--------------|------------------|-------------|--------------------------------------------------------------------------|---------------|
| <b>1</b>      | <b>ICAI BOS</b> | -            | -                | -           | <b>Management Account Journal</b><br><b>Chartered Accountant Journal</b> |               |

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**M. Com. Part I (Semester II)**

**Group B (Commercial Laws & Practices) - Special Paper III**

**Subject Name: - E-Security and Cyber Laws**

**Course Code: - 205**

**Objectives of the course**

1. To make the students aware of the cyber wrongs/crimes;
2. To impart knowledge of e-security and Internet Security amongst students
3. To make student familiar with various provisions of cyber Laws and Information Technology Act
4. To make the students acquainted with the regulatory regime in computer field/e-business.

**Depth of the Programme:** – Fundamental Knowledge with insight to solve practical problems in Cyber laws and related issues

**Objective of the Programme:**

1. To equip and train Post Graduate students to accept the challenges of Business World by providing opportunities for study and analysis of advanced Commercial and business methods and processes.
2. To develop independent logical thinking and facilitate personality development.
3. To equip the students to opt for suitable careers in management and entrepreneurship.
4. To acquaint the students with methods of Data collection and their interpretations.
5. To develop among students Communication, Study and Analytical skills.

| Unit | Unit Title | Contents | Purpose Skills to be developed |
|------|------------|----------|--------------------------------|
|------|------------|----------|--------------------------------|

| No. |                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                         |
|-----|-------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1   | <b>Introduction to Computer crimes</b>                      | <p>Computer Crimes. Types of Computer crimes, Specific Threats, Attacks on Computer Systems, Major types of Security Problems / Common threats, Computer Frauds and abuse techniques. Characteristics and types of computer frauds.</p> <p>Preventing Computer Frauds and Ethical Considerations. System Vulnerability and abuse – Internet Vulnerability. Protecting Information systems from potential threats. E-Commerce security issues. Risk Involved in E-Commerce. Protecting E-Commerce System.</p>                                                                                                                                    | To understand the nature of different Computer Crimes and ways to protect systems from them and become aware of E-Commerce systems and Issues                                                                                                           |
| 2   | <b>E-Security</b>                                           | <p>Introduction to E-Security and Security Requirements. Types of Intruders, attacking methods, Hackers and Crackers. Computer Viruses, Spam, Denial of services. Security Policy, Secure E-Transactions. Types of Information Systems Controls- General Controls – Physical Controls, Access Controls, Biometric Controls, data Security Controls and Application Controls. Security Tools and Methods- Password, Authentication, Access Control, Encryption,</p> <p>Firewall, Antivirus Software, Digital Identity and digital Signature, Digital Signature Certificate. Secure Socket Layer and Secure Electronic Transaction Protocols.</p> | To get acquainted with various concepts relating to E-Security and to understand different threats to E-Transactions, security measures, Information System Controls and Secure Electronic Transaction Protocol                                         |
| 3   | <b>Cyber Laws (Information Technology Act, 2000) Part-I</b> | <p>Introduction to Cyber Laws—Meaning &amp; scope of Cyber Laws, online contracts, Requirements &amp; legal aspects of e-contracts ( offer and acceptance in e-form), Cyber Laws &amp; legal issues ( cyber jurisprudence, &amp; sovereignty, net neutrality, freedom of speech in cyber space, governance)</p> <p>Information Technology Act – 2000 Part-I</p> <p>Digital Signature-definition ,meaning, functions,</p>                                                                                                                                                                                                                        | <ul style="list-style-type: none"> <li>• To introduce Students about Cyber Laws legality of E-Transactions.</li> <li>• To study various legal provisions of the Information Technology Act relating to E-Governance, Digital signatures etc.</li> </ul> |

|   |                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                             |
|---|--------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   |                                                              | procedure, E- Governance ( Ss. 4 to 9 ), E- Records ( Ss 11 to 16 ), Controller of Certifying Authority (powers, functions u/s 17 to 20), Digital Signature Certificates, License to issue Digital Signature Certificates, (suspension, revocation etc.--Ss.21 to 26), Duties of Certifying Authority (Ss.30 to 34), Provisions relating to Digital Signature Certificates (Ss. 35 to 39), Duties of subscriber |                                                                                                                                                             |
| 4 | <b>Cyber Laws (Information Technology Act, 2000) Part-II</b> | Penalties for Cyber wrongs and Adjudication (Ss. 43 to 47), Cyber Regulation Appellate Tribunal (Procedure and Powers (Ss.48 to 51, 57 to 64) Cyber Crimes/Offences & punishment (u/s 65 to 79), Offences by Companies (S.85) Amendments effected in IPC 1860, Indian Evidence Act, 1872, Bankers Books Evidence Act, 1891, Reserve Bank of India Act, 1934 pursuant to Ss. 91 to 94 of ITA, 2000.              | To get sensitized on various penalties for the cyber wrongs provided in the Information Technology Act, 2000 and relevant amendments in certain other Laws. |

**\*All Acts are to be studied with recent amendments**

### Method of Evaluation

| Subject    | Internal Evaluation                                     | External Evaluation | Suggested Add on Course                                      |
|------------|---------------------------------------------------------|---------------------|--------------------------------------------------------------|
| Unit – I   | Continuous Evaluation (Written Tests etc.)              | Written Examination | Certificate Course in Cyber Laws                             |
| Unit – II  | Continuous Evaluation [Presentations (PPT) etc.]        | Written Examination | Certificate Course in Cyber Security and Cyber Investigation |
| Unit – III | Continuous Evaluation (Seminars/Group Discussions etc.) | Written Examination | Certificate Course in E-Governance                           |
| Unit – IV  | Continuous Evaluation (Viva-Voce etc.)                  | Written Examination | Certificate Course Digital Signature Mechanism               |

### References

| <b>Sr. No.</b> | <b>Title of the Book</b>                       | <b>Author/s</b>                                        | <b>Publication</b>          | <b>Place</b> |
|----------------|------------------------------------------------|--------------------------------------------------------|-----------------------------|--------------|
| <b>1</b>       | E-COMMERCE and ITS APPLICATIONS                | Dr. U. S. Pandey, Rahul Srivastava and Saurabh Shukla. | S. Chand & Company          | New Delhi    |
| <b>2</b>       | Management Information and Control Systems     | Dr. Sushila Madan                                      | TAXMANN'S                   |              |
| <b>3</b>       | Electronic Commerce from Vision to Fulfillment | Elias M. Awad                                          | Pearson Education           |              |
| <b>4</b>       | Text book on Intellectual property rights      | N.K. Acharya                                           | Asia Law House              |              |
| <b>5</b>       | Law of Information Technology (Cyber Law)      | D. P. Mittal                                           | TAXMANN'S                   |              |
| <b>6</b>       | Guide to Cyber Laws                            | Rohnay D. Ryder                                        | Wadhwa,                     | Nagpur       |
| <b>7</b>       | Cyber Laws                                     | Justice Yatindra Singh                                 | Universal Law Publishing Co | New Delhi    |
| <b>8</b>       | Law of Information Technology                  | D.P. Mittal                                            |                             |              |
| <b>9</b>       | Cyber Laws                                     | Krishnakumar                                           |                             |              |
| <b>10</b>      | Encyclopedia of Cyber Laws                     | Sujeet Kumar                                           |                             |              |
| <b>11</b>      | Handbook of Cyber Laws                         | Vakul Sharma                                           |                             |              |

**Suggested references**  
**Web reference**

| Sr. no | Lect ures | Film s | Animat ion | PPTs                                                                                                                                                                                                                                                                                                                                       | Arti cles | Others                                                                                                                                                                                                                                   |
|--------|-----------|--------|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1      |           |        |            | <a href="https://www.slideshare.net/AdityaShukla7/cyber-law-in-india-its-need-importance">Cyber law In India: its need &amp; importance – Slide Share</a><br><a href="https://www.slideshare.net/AdityaShukla7/cyber-law-in-india-its-need-importance">https://www.slideshare.net/AdityaShukla7/cyber-law-in-india-its-need-importance</a> |           | <a href="https://www.meity.gov.in/content/cyber-laws">Cyber Laws   Ministry of Electronics and Information Technology ...</a><br><a href="https://www.meity.gov.in/content/cyber-laws">(https://www.meity.gov.in/content/cyber-laws)</a> |
| 2      |           |        |            | <a href="https://digitalindia.gov.in/.../files/MeitY_Cyber%20Security_13%20Feb_Final.pdf">Cyber Security &amp; Cyber Law - Digital India</a><br><a href="https://digitalindia.gov.in/.../files/MeitY_Cyber%20Security_13%20Feb_Final.pdf">https://digitalindia.gov.in/.../files/MeitY_Cyber%20Security_13%20Feb_Final.pdf</a>              |           | Cyber Laws in India<br><a href="http://www.legalserviceindia.com/cyber/cyber.htm">http://www.legalserviceindia.com/cyber/cyber.htm</a>                                                                                                   |

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## **M. Com. Part I (Semester II)**

### **Group B (Commercial Laws & Practices) - Special Paper IV**

Subject Name: - **Law Regulating to Copyright and Designs**

Course Code: - 206

#### **1. Objectives of the Course:**

- a. To equip the students with the Concepts of Copyrights, Geographical indications, Plant Varieties and Designs.
- b. To acquaint Students with legal provisions relating to these IPRs.
- c. To sensitise the students to opt for suitable careers in management and regulation of these IPRs.
- d. To make the students acquainted with the regulatory regime in the field of Copyrights, Geographical indications, Plant Varieties and Designs.
- e. To study relevant judicial decisions relating to these IPRs.

**Depth of the program:** Fundamental Knowledge, Principles and provisions of relevant Statutes and understanding of its applicability

#### **Objectives of the Program:**

1. To equip and train the students to accept the challenges of existing business environment.
2. To develop independent logical thinking and facilitate students to enhance their personality.
3. To equip the students for seeking suitable careers in management and entrepreneurship in the field of IPRs.
4. To study methods of Data collection and its interpretations.
5. To develop among students Communication and critical thinking skills.

| Unit No. | Unit Title                     | Contents                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Purpose Skills to be developed                                                                                                                                                                                                                                   |
|----------|--------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1        | <b>The Copyright Act, 1957</b> | <p>Copyright: Concept and Evolution, Scope and Characteristics of Copyright – Object of Copyright – Works in which Copyright Subsists – Qualification for Copyright Subsistence – Author and Ownership of Copyright- Rights of the Copyright Owner – International Copyright (Ss – 40-43).</p> <p>Term of Copyright (Sections 22 to 29, 37(2), 38(2) – Assignment/ License of Copyright (Sections 18 to 21, 30 To 32) – Registration of Copyright (Sections 44 to 50-A along with rule 16 of chapter VI of Copyright Rules, 1958).</p> <p>Infringement of Copyright - acts which constitute Infringement, acts not Constituting Infringement etc. (Sections 51 to 53 A ) – Offences and Penalties,</p> <p>Copyright Societies: Functions and Rights</p> <p>Important Judicial Decisions to be studied :</p> <p>1)<i>The Chancellor, Masters &amp; Scholars of the University of Oxford &amp; Ors. v.Rameshwari Photocopy Services &amp; Ors.</i> [DU Photocopying Case] CS (OS)--2439/2012. Delhi High Court</p> <p>2) <i>Twentieth Century Fox Film Corp v. MCA Inc. and Ors</i> [715 F.2d 1327 (9th Cir. 1983)]</p> | <ul style="list-style-type: none"> <li>• Acquainting students with historical aspects and conceptual framework of Copyrights.</li> <li>• Making them aware of various legal provisions of Copyrights along with few relevant decisions of the Courts.</li> </ul> |

|   |                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                   |
|---|-----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   |                             | <p>3) <i>R. G. Anandv. Deluxe Films</i> [AIR (1978) SC 1613]</p> <p>4) <i>Apple Computer, Inc. v. Microsoft Corporation &amp; Hewlett-Packard Co.</i> [35 F.3d 1435 (9th Cir.1994)]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                   |
| 2 | <b>The Designs Act,2000</b> | <p>Industrial Designs: Introduction, Meaning and Scope – Registerability of a Design, who can file an Application for Registration of a Design (Sections 3 to 10) – Copyright in Registered Designs (Sections 11 to 20) – Infringement (Piracy) of Copyright in Design (Sec. 22) – Defenses which may be set up by the Defendant.</p> <p>Important Judicial Decisions to be studied :</p> <p>1) <i>Micolube India Limited v. Rakesh Kumar</i><br/>2013 1AD (Delhi) 542; MIPR 2012 (2) 200</p> <p>2) <i>Reckitt Benckiser India Ltd. v. Wyeth Ltd.</i><br/>AIR 2013 Delhi 101;2013 (54) PTC 90 (Del) (FB)</p> <p>3) <a href="#"><i>Gopal Glass Works Limited v. Assistant Controller of Patents &amp; Designs &amp; Ors.</i></a> 2006 (3) CHN 188</p> <p>4) <i>AtulNarsibhai Patel v. The Assistant Controller of Patents And Designs And Others.,</i><br/>Calcutta High Court AID No. 3 of 2013<br/>Decided on 17.01. 2017</p> | <ul style="list-style-type: none"> <li>• Introducing students with conceptual framework and scope of Designs.</li> <li>• Making them aware of various legal provisions of Designs Act along with few relevant decisions of the Courts.</li> </ul> |

|   |                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                          |
|---|---------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 3 | <b>The Geographical Indications of Goods (Registration and Protection), Act, 1999</b> | <p>Geographical Indications: Introduction, Meaning and Content –</p> <p>Legislative framework :</p> <p>The Geographical Indications of Goods (Registration &amp; Protection) Act, 1999 and the Geographical Indications of Goods (Registration &amp; Protection) Rules, 2002.</p> <p>Procedure for Registrations – Duration, Renewal, Restoration (Section 11 to 18) – Rights Conferred by Registration – Infringement and its Remedies (Section 20-24) – Penalties for Infringement (Section 37 to 54) – Authorities: Registrar, Appellate Board – Certificate of Validity – Powers of Central Government.</p> | <ul style="list-style-type: none"> <li>• Acquainting students with conceptual framework and scope of Geographical indications of goods.</li> <li>• Making them aware of various legal provisions of The Geographical Indications of Goods (Registration and Protection), Act, 1999 along with relevant rules.</li> </ul> |
| 4 | <b>Protection of Plant Varieties and Farmers Rights Act-2001</b>                      | <p>Introduction, Objective and Scope of the PPVFR Act, 2001 - Definitions [Plant, Propagating Material, Seed, Germ Plasma, Plant Variety, New Plant Variety, Farmer Etc.] Procedure of Registration, Who may apply? - What can be registered? – What Cannot be Registered - Acceptances and Opposition of Application – Rights and Privileges of Breeders and Researchers – Compulsory License – Period of Validity of Registration – Surrender and Revocation of Certificate – Infringement of Rights and its Remedies - Offences and Penalties – Authorities for Administration</p>                           | <ul style="list-style-type: none"> <li>• Making students understand with the concept and scope of Plant Varieties and Farmers Rights.</li> <li>• Making them aware of various legal provisions of The Protection of Plant Varieties and Farmers Rights Act, 2001 along with relevant rules.</li> </ul>                   |

- All Acts are to be studied with recent amendments

### Method of Evaluation

| Subject    | Internal Evaluation                                 | External Evaluation | Suggested Add on Course                        |
|------------|-----------------------------------------------------|---------------------|------------------------------------------------|
| Unit – I   | Continuous Assessment (Written Test etc.)           | Written Examination | Diploma in IPRs                                |
| Unit – II  | Continuous Assessment [Class Presentation (PPT)etc] | Written Examination | Online Courses on Moocs                        |
| Unit – III | Continuous Assessment (Seminar etc.)                | Written Examination | Certificate course on Copyright                |
| Unit – IV  | Continuous Assessment (Viva-Voce etc.)              | Written Examination | Certificate course on Geographical indications |

### References

| Sr. No. | Title of the Book                                    | Author/s                | Publication                            | Place             |
|---------|------------------------------------------------------|-------------------------|----------------------------------------|-------------------|
| 1       | Intellectual Property Law                            | P. Narayan              | Eastern Law House                      | New Delhi         |
| 2       | Text book on Intellectual Property Rights.           | N.K. Acharya            | Asia Law House,                        | Hyderabad         |
| 3       | Law Relating to Intellectual Property                | Dr. B.L. Waderha        | Universal Law Publishing Co            |                   |
| 4       | Intellectual Property Rights, (2011)                 | Dr. Sreenivasulu N. S., | Regal Publications,                    | New Delhi         |
| 5       | Intellectual Property Law in India (2006)            | Justice P. S. Narayana  | Goigia Law Agency,                     | Hyderabad.        |
| 6       | Universal's "Intellectual Property Laws" (Bare Acts) |                         | Universal Law Publishing Co. Pvt. Ltd. |                   |
| 7       | Law of Intellectual Property                         | Dr. S. R. Mynei         | Asia Law House,                        | Hyderabad (2011). |

|   |                                                                                            |            |                                        |           |
|---|--------------------------------------------------------------------------------------------|------------|----------------------------------------|-----------|
| 8 | Intellectual Property Rights – Heritage,<br>Science & Society Under International Treaties | A. Subbian | Deep & Deep Publications<br>Pvt. Ltd., | New Delhi |
|---|--------------------------------------------------------------------------------------------|------------|----------------------------------------|-----------|

### Suggested references

#### Web reference

| Sr.<br>no | Lectures | Films | Animation | PPTs | Articles | Others                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-----------|----------|-------|-----------|------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|           |          |       |           |      |          | <b>Important Websites Reference :</b> <ul style="list-style-type: none"> <li>1.CIPAM Website-<a href="http://cipam.gov.in/">http://cipam.gov.in/</a></li> <li>2.DIPP Website-<a href="http://dipp.nic.in/">http://dipp.nic.in/</a></li> <li>3.CGPTDM Website-<a href="http://www.ipindia.nic.in/">www.ipindia.nic.in/</a></li> <li>Start-Up India Action Plan-<br/><a href="http://startupindia.gov.in/uploads/pdf/Action%20Plan.pdf">http://startupindia.gov.in/uploads/pdf/Action%20Plan.pdf</a></li> <li>4.TKDL-<br/><a href="http://www.tkdl.res.in/tkdl/langdefault/common/Home.asp?GL=Eng">http://www.tkdl.res.in/tkdl/langdefault/common/Home.asp?GL=Eng</a></li> <li>5.WIPO Website-<a href="http://www.wipo.int/about-ip/en/">http://www.wipo.int/about-ip/en/</a></li> </ul> |

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## **M. Com. Part I (Semester II)**

### **Group C (Advance Cost Accounting & Cost Systems) - Special Paper III**

**Subject: Application of Cost Accounting**

**Course Code: 207**

#### **Objectives:**

1. To explain the concept of integral and non-integral cost accounting.
2. To study Product Life Cycle costing and Value Chain Analysis
3. To understand the mechanism of Activity Based Cost Management
4. To understand the utility of Cost Accounting data during transfer of product/services from one enterprise to the other either at national or at global level.

| <b>Unit No.</b> | <b>Unit Title</b>                                                             | <b>Contents</b>                                                                                                                                                                                                                | <b>Skills to be developed</b>                                       |
|-----------------|-------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|
| 1.              | Cost Book Keeping and Reconciliation between Cost and Cost financial Accounts | Book - keeping, Cost Ledgers, inter-locking and integral Accounts.<br><br>Reconciliation of Cost and Financial Accounts, Reasons, needs & Methods.                                                                             | To conceptualise the need to integrate financial and Cost Accounts. |
| 2.              | Product Life Cycle Costing(PLC):<br><br>& Value Chain Analysis (VCA)          | Introduction, Product Life Cycle, Phases and Characteristics of Product Life Cycle,<br><br>Value Chain Analysis – Approach for Assessing Competitive Advantages – Value Chain Analysis V/S Conventional Management Accounting. | Develop understanding about PLC and VCA Concepts                    |

|    |                                            |                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                             |
|----|--------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 3. | Cost Allocation and Activity Based Costing | <p>a- Cost Allocation – Meaning ,Types, Relationship between resources, activities, Cost and Cost drivers, Methods of allocating Costs in Cost Centres using Direct Method, Step Down Method and Reciprocal Method.</p> <p>b.Activity Based Costing – Introduction, Steps in ABC Systems, Levels of Activities Advantages &amp; Limitations</p>                 | <ul style="list-style-type: none"> <li>• Learners are expected to understand the logic behind ABC technique</li> <li>• To prepare cost formats under ABC &amp; to compare such results with the Traditional Overhead Accounting.</li> </ul> |
| 4  | Strategic Cost Management                  | <p>A) Transfer Pricing –Introduction, Meaning Advantages and Disadvantages, Setting Transfer Pricing , Methods of Transfer Pricing- Negotiated transfer pricing, Market Price, Cost-Based Price, Negotiated Prices &amp; Dual Prices</p> <p>B) Target Costing – Introduction, Concept, Objectives, Comparison between Target Costing and Cost Plus Pricing.</p> | Students are expected to understand the importance of Transfer Pricing & Target Costing in the changing scenario.                                                                                                                           |

### Teaching Methodology

| Unit No. | Total Lectures | Innovative Methods to be used                                                                             | Films Shows and AV Applications | Project                                 | Expected Outcome                                                |
|----------|----------------|-----------------------------------------------------------------------------------------------------------|---------------------------------|-----------------------------------------|-----------------------------------------------------------------|
| 1        | 12             | Giving list of items to the students and ask them to identify – Purely Financial, Purely Costing and both | Browse You                      | Preparation of Reconciliation Statement | Learners must be able to reconcile the cost and financial data. |
| 2        | 12             | Invite experts from industries having technical as well as practical exposure to related                  |                                 | Home Assignment to the students on      | Understand the concepts of PLC and VCA.                         |



|   |    |                                                                                                                                                                                                                       |                       |                                                                                                         |                                                                                  |
|---|----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|---------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|
|   |    | industries.                                                                                                                                                                                                           | Tubes on these topics | related topics                                                                                          |                                                                                  |
| 3 | 12 | Discuss the concepts of ABC. Ask the students to prepare list of activities involved in the event and identify resources utilised in completion of such activities.                                                   |                       | Visit to small units, identify the final product and list out the cost impact of each of such activity. | Understand the Cost Distortions in Traditional Costing and compare it with ABC . |
| 4 | 12 | <ul style="list-style-type: none"> <li>• Explain the national and global issues involved in Transfer Price Mechanism.</li> <li>• Discuss the practical cases on Target Costing e.g. Tata Nano Project. etc</li> </ul> |                       | Ask students to study articles from Management Accountant on these topics.                              | Get insight into the concept of Transfer Pricing & Target Costing.               |

### Methods of Evaluation

| Subject  | Internal Evaluation                                                                         | External Evaluation | Suggested AD-On Course                       |
|----------|---------------------------------------------------------------------------------------------|---------------------|----------------------------------------------|
| Unit I   | Multiple Choice Questions. Written Test, Internal Examination & PPT based presentation etc. | SPPU                | Visit to industries and make a report on it. |
| Unit II  |                                                                                             |                     |                                              |
| Unit III |                                                                                             |                     |                                              |
| Unit IV  |                                                                                             |                     |                                              |

## References

| Sr. No | Title of the Book                                      | Author                             | Publisher                                    | Place     |
|--------|--------------------------------------------------------|------------------------------------|----------------------------------------------|-----------|
| 01     | Cost Accounting-<br>Principles & Practices             | Jawahar Lal & Seema<br>Shrivastawa | Tata<br>Mcgraw<br>Hill                       | New Delhi |
| 02     | Advanced Cost<br>Accounting And Cost<br>Systems        | Ravi M Kishor:                     | Taxmann                                      | New Delhi |
| 03     | Cost Accounting Theory<br>And Problems                 | S. N. Maheshwari                   | Mittal<br>Shree<br>Mahavir<br>Book<br>Depot. | New Delhi |
| 04     | Advanced Cost<br>Accounting                            | Jain and Narang                    | Kalyani<br>Publication                       | New Delhi |
| 05.    | Horngren's Cost<br>Accounting-A<br>Managerial Emphasis | Srikant M Datar&Madhav V<br>Rajan  | Pearson                                      | Noida Up  |
| 06     | Cost Accounting-<br>Principles & Practices             | Dr.M.N. Arora                      | Vikas<br>Publishing<br>House ,               | New Delhi |
| 07     | Principles and Practices of<br>Cost Accounting         | Dr. SunitaPokharna                 | Success<br>Publication                       | Pune      |

|    |                 |                   |                        |      |
|----|-----------------|-------------------|------------------------|------|
| 08 | Cost Accounting | Dr. EknathKhedkar | Success<br>Publication | Pune |
|----|-----------------|-------------------|------------------------|------|

**Web References:**

| Sr. No             | Lectures                                                                                                                        | Films                                                                                  | PPTs                                                       | Articles                                                                                                                 | Others                                          |
|--------------------|---------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|
| For all the units. | Guest Lectures by Field Persons such as working executives from industries and of Practicing Cost and Management Accountants. . | You Tube films showing working of different industries.<br><br>Discovery Turbo Channel | You Tube lecture videos are available on all these topics. | Articles from the Professional Journal like The Management Accountant, The Chartered Accountant, The Chartered Secretary | <a href="https://icmai.in">https://icmai.in</a> |

**Note: The breakup of marks in the Examination will be as follows:**

- 30 % of marks for Theory & 70 % of marks for Practical.Problems
- Area of practical problems:
  1. Cost & Financial Reconciliation Statement
  2. Activity Based Costing
  3. Transfer Pricing

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## M. Com. Part I (Semester II)

### Group C (Advance Cost Accounting & Cost Systems) - Special Paper IV

**Subject:** Cost Control and Cost Systems

**Course Code:** 208

**Objective:** To equip the students with knowledge and skill to design and implement cost control, cost reduction programme and different cost systems

| Unit No. | Unit Title                                                                 | Contents                                                                                                                                                                                                                                                                                                        | Skills to be developed                                                                                                                          |
|----------|----------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.       | Marginal Costing, Cost – Volume – Profit Analysis And Differential Costing | Marginal Costing- Meaning –Concept of Variability of Cost, Contribution, P/V Ratio, Break Even Analysis, Margin of Safety, Cost- Volume, Profit Analysis –<br><br>Differential Costing, Differential Costs, Differential Cost Analysis, Features of Differential Costing, Practical Application.                | To be able to solve problems on Marginal Costing.                                                                                               |
| 2.       | Pricing Decision                                                           | Introduction – Pricing of Finished Product- Theory of Price –<br><br>Pricing Policy – Principles of Product of Pricing – New Product Pricing                                                                                                                                                                    | Understand pricing mechanism under global competitive environment.                                                                              |
| 3.       | Costing system Design & installation                                       | Study of Production Process, Selection of Methods of Costing, Creating Cost Centers and Cost Codes. Deciding Basis of Apportionment of Various Overheads, Deciding Methods of Absorption. Fixing Responsibility and designing suitable MIS. Designing and<br><br>Installing Cost System In Computer Environment | Skills to differentiate between Cost Reduction and Cost Control techniques.<br><br>To understand the process of installation of Costing System. |
| 4        | a.Cost Control and                                                         | a. Introduction, Process of Cost Control and                                                                                                                                                                                                                                                                    | .To understand the relationship between cost and                                                                                                |

|  |                                  |                                                                                                                                                                                                                                                                                      |               |
|--|----------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|
|  | Cost Reduction<br>b.Productivity | Cost Reduction, Cost Reduction Programme and its Implementation ,Methods and Techniques<br><br>b.Productivity: Meaning, causes of lower Productivity , improvement in Productivity & Measurement of Productivity-Material, Labour, Machines, Capital , Power & overall Productivity. | productivity. |
|  |                                  |                                                                                                                                                                                                                                                                                      |               |

### Teaching Methodology

| Unit No. | Total Lectures | Innovative Methods to be used                                 | Films Shows and AV Applications  | Project                                                                                           | Expected Outcome                                                                                           |
|----------|----------------|---------------------------------------------------------------|----------------------------------|---------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|
| 1        | 12             | Identify variable cost and fixed cost from practical examples | Browse You Tubes on these topics | Preparation of BEP Charts by giving practical examples                                            | Students must understand the role of Marginal Costing in short term decision making.                       |
| 2        | 12             | Study of Case Studies on Pricing of products/services.        |                                  | Visit to nearby organization and collect pricing data                                             | Understand the relevance of pricing                                                                        |
| 3        | 12             | Guest lecture from experts.                                   |                                  | Visit the organization to understand costing system installation                                  | Students will be able understand process of installation of costing system.                                |
| 4        | 12             | To discuss cases on capacity utilization, productivity etc.   |                                  | Understand the importance of productivity of the employees through interviews of few contractors. | Develop insight into Cost Reduction and Cost Control technique & to understand measurement of productivity |

### Method of Evaluation

| Subject  | Internal Evaluation                                                                          | External Evaluation | Suggested AD-On Course                              |
|----------|----------------------------------------------------------------------------------------------|---------------------|-----------------------------------------------------|
| Unit I   | Multiple Choice Questions.<br>Written Test, Internal Examination PPT based presentation etc. | SPPU                | Visit to industries and make a report on the visit. |
| Unit II  |                                                                                              |                     |                                                     |
| Unit III |                                                                                              |                     |                                                     |
| Unit IV  |                                                                                              |                     |                                                     |

### References

| Sr. No | Title of the Book                                 | Author                          | Publisher                        | Place     |
|--------|---------------------------------------------------|---------------------------------|----------------------------------|-----------|
| 01     | Cost Accounting-Principles & Practices            | Jawahar Lal & Seema Shrivastawa | Tata Mcgraw Hill                 | New Delhi |
| 02     | Advanced Cost Accounting And Cost Systems         | Ravi M Kishor:                  | Taxmann                          | New Delhi |
| 03     | Cost Accounting Theory And Problems               | S. N. Maheshwari                | Mittal Shree Mahavir Book Depot. | New Delhi |
| 04     | Cost & Management Accounting                      | Jain and Narang                 | Kalyani Publication              | New Delhi |
| 05.    | Horngren's Cost Accounting- A Managerial Emphasis | Srikant M Datar&Madhav V Rajan  | Pearson                          | Noida Up  |
| 06     | Cost & Management Accounting                      | Dr.M.N. Arora                   | Himalaya Publication             | New Delhi |
| 07     | Costing advisor & Cost                            | PV Ratanam                      | Kitab Mahal                      | New Delhi |

|    |                                             |                           |                      |           |
|----|---------------------------------------------|---------------------------|----------------------|-----------|
|    | Management                                  |                           |                      |           |
| 08 | Cost & Management Accounting                | Sameer Kumar Chakravorthy | Central Publication  | Kolkata   |
| 09 | Cost & Management Accounting                | Ravi M Kishor:            | Taxman               | New Delhi |
| 10 | Cost Accounting                             | Dr. EknathKhedkar         | Success Publications | Pune      |
| 11 | Principles and Practices of Cost Accounting | Dr. SunitaPokharna        | Success Publications | Pune      |

#### Web References:

| Sr. No             | Lectures                                                                                                  | Films                                                                                  | PPTs                                                       | Articles                                                                                                                                          | Others                                          |
|--------------------|-----------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|
| For all the units. | Guest Lectures by working executives from industries and of Practicing Cost and Management Accountants. . | You Tube films showing working of different industries.<br><br>Discovery Turbo Channel | You Tube lecture videos are available on all these topics. | Articles from the Professional Journal like The Management Accountant, The Chartered Accountant, The Chartered Secretary, Harward Business Review | <a href="https://icmai.in">https://icmai.in</a> |

**Notes:** The breakup of marks in the Examination will be as follows:

- 30 % of marks for Theory & 70 % of marks for Practical Problems
- Area of practical problems:
  1. Marginal Costing – Application
  2. Differential Cost Analysis
  3. Pricing Decisions
  4. Measurement of Productivity

### M. Com. Part I (Semester II)

## Group D (Cooperation & Rural Development) - Special Paper III

**Subject: -International Co-operative Movement**

**Course Code: - 209**

### **Objectives of the course:**

1. To acquaint the students with Organizational structure of Co-operative Business
2. To develop the capability of students for knowing different types of Co-operatives
3. To aware the role of state and central Govt. in development of co-operative sector

### **Depth of Programme: - Fundamental Knowledge**

| <b>Unit No.</b> | <b>Unit Title</b>                                                     | <b>Contents</b>                                                                                                                                                                     | <b>Purpose Skills to be developed</b>                                                                                                                                                       |
|-----------------|-----------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>1</b>        | <b>Introduction and Origin of International Co-operative Movement</b> | Introduction, Origin of Co-operative Movement in the World- Growth of Co-operative Movement in International level, Co-operation in the post industrial revolution of Great Britain | <ul style="list-style-type: none"><li>• To understand Origin of Co-operative Movement in the World</li><li>• To understand Growth of Co-operative Movement in International level</li></ul> |
| <b>2</b>        | <b>Co-operation in Social and Economic Systems</b>                    | Co-operation in Capitalistic Systems- Co-operation in Socialistic System-Cooperation in Mixed Economy                                                                               | <ul style="list-style-type: none"><li>• To understand Co-operation in Capitalistic Systems</li><li>• To understand Socialistic System-Cooperation in Mixed Economy</li></ul>                |
| <b>3</b>        | <b>Co-operative Movement in the world</b>                             | The International Cooperation Alliance (ICA) Co-operative Movement in the UK,USA, India, China, Japan and Israel, World's largest co-operative                                      | <ul style="list-style-type: none"><li>• To understand The International Cooperation Alliance</li><li>• To understand Co-operative Movement in Various nation</li></ul>                      |



|          |                                                        |                                                                                                    |                                                                           |
|----------|--------------------------------------------------------|----------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|
| <b>4</b> | <b>Role of Co-operative Movement in Global Economy</b> | The impact of Co-operative Movement for the development of world economy, Problems and Suggestions | To understand the Role of Role of Co-operative Movement in Global Economy |
|----------|--------------------------------------------------------|----------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|

### Teaching Methodology

| <b>Topic No.</b> | <b>Total Lectures</b> | <b>Innovative Methods to be used</b>                                                                                                                                                     | <b>Film Shows and AV Application</b>                                                                    | <b>Project</b>                                            | <b>Expected Outcome</b>                                                |
|------------------|-----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|-----------------------------------------------------------|------------------------------------------------------------------------|
| <b>1</b>         | 12                    | Pre reading, Class discussion, Review of Article for understand Recent scenario of International Co-operative Movement, Group discussion ,PPT                                            | Short Film Show on International Co-operative Movement, A.V. Application (Audio and Visual Application) | Review on Report of International Co-operative Movement   | Understanding of basic knowledge ofInternational Co-operative Movement |
| <b>2</b>         | 12                    | Guest Lectures of eminent personalities in co-operative sector, experience sharing, Pre reading, Class discussion, examples through newspapers and internet resources, case studies, PPT | You Tube Video                                                                                          | Project Report on Co-operation in Capitalistic Systems    | Understanding Co-operation in Social and Economic Systems              |
| <b>3</b>         | 12                    | Organise workshop for students, Pre reading, Class discussion, examples through newspapers and internet resources. case studies, Power point presentation                                | Short film show of International Co-operative Movement                                                  | Review on World's largest co-operative                    | Understanding International Cooperation Alliance                       |
| <b>4</b>         | 12                    | Pre reading, Library visit, Class discussion, examples through newspapers and internet resources, Guest Lectures of eminent personalities, PPT                                           | Presentation through Audio and Visual resources                                                         | Project Report on problems of GlobalCo-operative movement | Understanding Role of Role of Co-operative Movement in Global Economy  |

### Method of Evaluation

| Subject  | Internal Evaluation                                                                              | External Evaluation                                                          | Suggested Add on Course                                                                      |
|----------|--------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
| Unit-I   | Class participation, Assignment, Library Work, Presentation, Unit Test, Mid-Semester Examination | Semester Examination-10% MCQ<br>70% Descriptive Questions<br>20% Short Notes | Review of Article on International Co-operative Movement                                     |
| Unit-II  | Seminar, Assignment, Library Work, Unit Test, Mid-Semester Examination                           | Semester Examination-10% MCQ<br>70% Descriptive Questions<br>20% Short Notes | Seminar on Co-operation in Social and Economic Systems                                       |
| Unit-III | Class participation, Assignment, Library Work, Unit Test, Mid-Semester Examination               | Semester Examination-10% MCQ<br>70% Descriptive Questions<br>20% Short Notes | Eminent person Guest Lecture                                                                 |
| Unit-IV  | Class participation, Case Studies, Assignment, Library Work, Unit Test, Mid-Semester Examination | Semester Examination-10% MCQ<br>70% Descriptive Questions<br>20% Short Notes | Group Discussion on The impact of Co-operative Movement for the development of world economy |

### References

| Sr. No | Title of Book                                                                      | Author/s                       | Publication          | Place     |
|--------|------------------------------------------------------------------------------------|--------------------------------|----------------------|-----------|
| 1      | International Co-operative Movement                                                | W.P.Watkins                    |                      |           |
| 2      | International Co-operative Movement                                                | Johnston Birchall              |                      |           |
| 3      | Co-operation and Rural Development                                                 | Principal Dr.NitinGhorpade     | Success              | Pune      |
| 4      | New Dimensions of Co-operative Management                                          | G.S. Kamat                     | Himalaya Publication | New Delhi |
| 5      | Cases in Co-operative Management                                                   | G.S. Kamat                     | Himalaya Publication | New Delhi |
| 6      | Co-operative Organisation and Management                                           | K.K.Taimani                    |                      |           |
| 7      | Human Resource Management Practices in Co-operative sector                         | Principal Dr.ShaikhAftab Anwar | Idea Publication     | New Delhi |
| 8      | <a href="http://www.International">www.International</a> Co-operation Alliance     |                                |                      |           |
| 09     | Journal of Commerce and Management Thought(JCMT)                                   |                                |                      |           |
| 10     | Journal Co-operative Organization and Management , Journal of Co-operative studies |                                |                      |           |

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## M. Com. Part I (Semester II)

### Group D (Cooperation & Rural Development) - Special Paper IV

**Subject Name: -Co-operative Management and Education**

**Course Code: - 210**

**Depth of Programme: - Fundamental Knowledge**

| Unit No. | Unit Title                                      | Contents                                                                                                                                                                                                                                                                                                                                                                                                     | Purpose Skills to be developed                                                                                                                                                                                                                                                                                                         |
|----------|-------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1        | <b>Introduction Co-operation and Management</b> | Integration of Co-operation and Management, Importance of Co-operative Management, Professionalization of Cooperative Management.                                                                                                                                                                                                                                                                            | <ul style="list-style-type: none"><li>• To understand Integration of Co-operative Management</li><li>• To understand Importance of Co-operative Management</li></ul>                                                                                                                                                                   |
| 2        | <b>Structure of Co-operative organisation</b>   | Organizational Structure of Co-operatives-Organization Chart for Large Scale Cooperative business, Co-operative banks , Communication and Leadership in Cooperative Organization – Federal Structure of Co-operative Organization , Audit and Taxation of Co-operative Organization                                                                                                                          | <ul style="list-style-type: none"><li>• To understand Organizational Structure of Co-operatives-Organization</li><li>• To understand the Co-operative banks</li><li>• To understand Communication and Leadership in Cooperative Organization</li><li>• To understand Audit process and Taxation of Co-operative Organization</li></ul> |
| 3        | <b>Co-operatives Education and Training</b>     | Importance, Need, Role of Institutions in the Co-operative Training, Vaikuntbhai Mehata National Institute of co-operative management , Institute of Rural Management Anand (IRMA), Job Oriented Cooperative Training – National Co-operative Union of India, National Education Centre for Co-operative – National Council for Co-operative Training, Regional Institute of Co-operative Management – State | <ul style="list-style-type: none"><li>• To understand Importance, Need and Role of Institutions in the Co-operative Training</li><li>• To understand Various Co-operative Education and Training Institutions</li></ul>                                                                                                                |

|          |                                                      |                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                             |
|----------|------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|          |                                                      | Cooperative Union – District Co-operative Union, Dr.VithalraoVikhePatil Institute of Co-operative Management ,Pune                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                             |
| <b>4</b> | <b>Special Study of Co-operatives in Maharashtra</b> | a) Co-operative Sugar Factory- Growth role of Co-op. Sugar Factory in Rural Development<br>B) Dairy Co-operatives progress and problems<br>c) Management of Co-operative Housing Society<br>d) Agricultural and Non-agricultural Credit Co-op. Societies<br>E) Urban Co-operative Credit Societies | <ul style="list-style-type: none"> <li>• To understand the Role of Co-operative Sugar factory in Rural Development</li> <li>• To study Management of Co-operative Housing Society</li> <li>• To understand the work of Agricultural and Non-agricultural Credit Co-op. Societies</li> </ul> |

### Teaching Methodology

| Topic No. | Total Lectures | Innovative Methods to be used                                                                                                                                                                         | Film Shows and AV Application                                                               | Project                                                      | Expected Outcome                                                                                                             |
|-----------|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|--------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|
| <b>1</b>  | 12             | Pre reading, Class discussion, examples through newspapers and internet resources. Case studies of Co-operative Bank for understand Recent scenario in Co-operative Management , Group discussion     | Short Film Show on Co-operative Management, A.V. Application (Audio and Visual Application) | Project Report on Importance of Co-operative Management      | Understanding of basic knowledge of Co-operative Management.<br>Understanding Professionalization of Cooperative Management. |
| <b>2</b>  | 12             | Guest Lectures of eminent personalities in co-operative sector, experience sharing, Pre reading, Class discussion, examples through newspapers and internet resources, case studies, PPT, study visit | You Tube Video                                                                              | Review of Structure of Co-operatives-Organization            | Understanding Organizational Structure of Co-operatives-Organization                                                         |
| <b>3</b>  | 12             | Organise workshop for students, Pre reading, Class discussion, examples through newspapers and internet                                                                                               | Short film show of Various Co-operative                                                     | Project on Role of Institutions in the Co-operative Training | Understanding The role of Various Co-operative Education and Training                                                        |

|          |    |                                                                                                                                                |                                                 |                                                      |                                                             |
|----------|----|------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|------------------------------------------------------|-------------------------------------------------------------|
|          |    | resources. case studies, Power point presentation, Interview of Co-operative Bank Manager, Field visit                                         | Education and Training Institutions             |                                                      | Institutions in Co-operative Management                     |
| <b>4</b> | 12 | Pre reading, Library visit, Class discussion, examples through newspapers and internet resources, Guest Lectures of eminent personalities, PPT | Presentation through Audio and Visual resources | Project on Dairy Co-operatives progress and problems | Understanding Special Study of Co-operatives in Maharashtra |

### Method of Evaluation

| <b>Subject</b> | <b>Internal Evaluation</b>                                                                       | <b>External Evaluation</b>                                                   | <b>Suggested Add on Course</b>                                                           |
|----------------|--------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|
| Unit-I         | Class participation, Assignment, Library Work, Presentation, Unit Test, Mid-Semester Examination | Semester Examination-10% MCQ<br>70% Descriptive Questions<br>20% Short Notes | Seminar/Workshop on Co-operative Management                                              |
| Unit-II        | Seminar, Assignment, Library Work, Unit Test, Mid-Semester Examination                           | Semester Examination-10% MCQ<br>70% Descriptive Questions<br>20% Short Notes | Study visit to Co-operative Organisation                                                 |
| Unit-III       | Class participation, Assignment, Library Work, Unit Test, Mid-Semester Examination               | Semester Examination-10% MCQ<br>70% Descriptive Questions<br>20% Short Notes | At list one field visit to Education and Training Institution of Co-operative Management |
| Unit-IV        | Class participation, Case Studies, Assignment, Library Work, Unit Test, Mid-Semester Examination | Semester Examination-10% MCQ<br>70% Descriptive Questions<br>20% Short Notes | Review of Training Institution of Co-operative Management                                |

## References

| Sr. No | Title of Book                                                                      | Author/s                             | Publication          | Place     |
|--------|------------------------------------------------------------------------------------|--------------------------------------|----------------------|-----------|
| 1      | Co-operation and Rural Development                                                 | Principal Dr.NitinGhorpade           | Success              | Pune      |
| 2      | New Dimensions of Co-operative Management                                          | G.S. Kamat                           | Himalaya Publication | New Delhi |
| 3      | Cases in Co-operative Management                                                   | G.S. Kamat                           | Himalaya Publication | New Delhi |
| 4      | Co-operative Organisation and Management                                           | K.K.Taimani                          |                      |           |
| 5      | Human Resource Management Practices in Co-operative sector                         | Principal Dr.ShaikhAftab Anwar       | Idea Publication     | New Delhi |
| 6      | Co-operative Management and Administration                                         | I L O                                |                      |           |
| 7      | Consumer Co-operation in India                                                     | G.S. Kamat                           |                      |           |
| 8      | Co-operation                                                                       | Prof L.P. Wakale and Dr. G.H.Barhate | Sheth Publishing     | Mumbai    |
| 9      | NCCT. in                                                                           |                                      |                      |           |
| 10     | Anand (IRMA). In                                                                   |                                      |                      |           |
| 11     | Journal of Commerce and Management Thought(JCMT)                                   |                                      |                      |           |
| 12     | Journal Co-operative Organization and Management , Journal of Co-operative studies |                                      |                      |           |

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## **M. Com. Part I (Semester II)**

### **Group E (Business Practices & Environment) - Special Paper III**

**Subject: - Modern Business Practices**

**Course Code:-211**

**Objectives of the course:**

- 1) To understand objectives and functions of Chamber of Commerce and Trade Associations
- 2) To understand the objectives and functions of public enterprises
- 3) To know agricultural business practices
- 4) To understand allied agricultural business

**Depth of Programme: - Fundamental Knowledge**

| <b>Unit No.</b> | <b>Unit Title</b>                                  | <b>Contents</b>                                                                                                                                                                                                                                                               | <b>Purpose Skills to be developed</b>                                                                                                                                                                                                                                                        |
|-----------------|----------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>1</b>        | <b>Chambers of Commerce and Trade Associations</b> | Maharashtra Chamber of Commerce, Industries and Agricultural and their local branches, MahrathaChamber of Commerce, Industries & Agriculture, Indian Merchants, Objectives and Functions, Federation of Indian Chamber of Commerce and Industries (FICCI) -Role and Functions | <ul style="list-style-type: none"><li>• To understand the nature and scope of Maharashtra and MahrathaChamber of Commerce</li><li>• To understand the objectives and functions of Industries, Agriculture and Indian Merchants</li><li>• To understand role and functions of FICCI</li></ul> |
| <b>2</b>        | <b>Public Enterprises and Public Utilities</b>     | Objectives, functions and Organization of public Enterprises and Public Utility – Management practices of Public enterprises in India –                                                                                                                                       | <ul style="list-style-type: none"><li>• To understand the Objectives, functions and Organization of public Enterprises and Public Utility</li><li>• To understand various aspects of Public Enterprises viz its management, autonomy and its control</li></ul>                               |

|          |                                        |                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                               |
|----------|----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|          |                                        | Efficiency – Autonomy and control of public Enterprises – recent practices and policies in public Enterprises and Public Utilities                                                                                                                                                                                                                          | <ul style="list-style-type: none"> <li>To study recent practices and policies in public Enterprises and Public Utilities</li> </ul>                                                                                                                                                                                                                           |
| <b>3</b> | <b>Agricultural Business Practices</b> | Characteristics of Agriculture Business – Nature of Indian Agriculture – Government policies related to agricultural business - Problems and prospects of Agricultural Business – Agricultural Taxation policy, Agricultural products and Farms Services - Nature and disposal of Agricultural By - products - Farm waste - cost of recycling of farm waste | <ul style="list-style-type: none"> <li>To gain the fundamental knowledge about agricultural business</li> <li>To evaluate the performance agricultural business, its problems and prospects</li> <li>To understand latest Agricultural Taxation policy</li> <li>To understand the nature and disposal of Agricultural By - products and Farm waste</li> </ul> |
| <b>4</b> | <b>Allied agricultural businesses</b>  | Dairy Poultry – Bio – Manures, etc. WTO and its impact on agri-business practices                                                                                                                                                                                                                                                                           | <ul style="list-style-type: none"> <li>To understand the fundamental knowledge regarding Dairy and Poultry</li> <li>To find out the impact of WTO on agri-business practices</li> </ul>                                                                                                                                                                       |

### Teaching Methodology

| <b>Topic No.</b> | <b>Total Lectures</b> | <b>Innovative Methods to be used</b>                                                                                                                                                                                   | <b>Film Shows and A.V. Application</b>                    | <b>Project</b>                                                                                      | <b>Expected Outcome</b>                                                                                             |
|------------------|-----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------|-----------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>1</b>         | 12                    | Guest Lectures of eminent personalities in Maharashtra and Mahratha Chamber of Commerce and their experience sharing, Pre reading, Class discussion, examples from real life through newspapers and internet resources | Film Show on Chamber of Commerce<br>Film on FICCI         | Project on Maharashtra and Mahratha Chamber of Commerce<br>Project on Trade Associations            | Understanding of basic knowledge of Chamber of Commerce and their working<br>Understanding the functioning of FICCI |
| <b>2</b>         | 12                    | Pre reading, Class discussion, examples from real life through newspapers and internet resources. Case studies of Public Enterprises and                                                                               | You Tube Video on Public Enterprises and Public Utilities | Project Report on Objectives, functions and Organization of public Enterprises and Public Utilities | Learning the functioning of Public Enterprises and Public Utilities                                                 |



|   |    |                                                                                                                                                                                                      |                                                                                           |                                                          |                                                                                                                                            |
|---|----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|----------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|
|   |    | Public Utilities                                                                                                                                                                                     |                                                                                           |                                                          |                                                                                                                                            |
| 3 | 16 | Debate on Burning and real life issues such related with Agriculture Business and Agricultural Taxation policy, Class discussion, examples from real life through newspapers and internet resources. | PowerPoint Presentation on Agricultural Business and Agricultural Taxation policy         | Project on Agricultural Business and government policies | Evaluate the performance of Agricultural Business and its development in India<br>Understanding the nature of Agricultural Taxation policy |
| 4 | 08 | Pre reading, Class discussion, examples from real life through newspapers and internet resources, case studies, Field visit to Dairy and Poultry                                                     | Presentation on working of Dairy and Poultry and impact of WTO on agri-business practices | Project on working of Dairy and Poultry activities       | Understanding the procedure of Dairy and Poultry and impact of WTO on agri-business practices                                              |

### Method of Evaluation

| Subject  | Internal Evaluation                                                                | External Evaluation                                                          | Suggested Add on Course                                     |
|----------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------|-------------------------------------------------------------|
| Unit-I   | Class participation, Assignment, Library Work, Unit Test, Mid-Semester Examination | Semester Examination-10% MCQ<br>70% Descriptive Questions<br>20% Short Notes | Functioning of Maharashtra and Mahratha Chamber of Commerce |
| Unit-II  | Seminar, Assignment, Library Work, Unit Test, Mid-Semester Examination             | Semester Examination-10% MCQ<br>70% Descriptive Questions<br>20% Short Notes | Add on course on Business Enterprises and Public Utilities  |
| Unit-III | Class participation, Assignment, Library Work, Unit Test, Mid-Semester Examination | Semester Examination-10% MCQ<br>70% Descriptive Questions<br>20% Short Notes | Agro Tourism and Agriculture Business                       |
| Unit-IV  | Class participation, Case Studies,                                                 | Semester Examination-10% MCQ                                                 | Management of Dairy and Poultry                             |

|  |                                                               |                                              |            |
|--|---------------------------------------------------------------|----------------------------------------------|------------|
|  | Assignment, Library Work, Unit Test, Mid-Semester Examination | 70% Descriptive Questions<br>20% Short Notes | activities |
|--|---------------------------------------------------------------|----------------------------------------------|------------|

## References

| Sr. No | Title of Book                           | Author/s           | Publication                               | Place     |
|--------|-----------------------------------------|--------------------|-------------------------------------------|-----------|
| 1      | Principles of Practice of Marketing     | C.B.Mamoria        | KitabMahal                                | New Delhi |
| 2      | Commodity Marketing                     | P.L.Gadgil         | ShubhadaSarswat,DistributiveTrade         | Pune      |
| 3      | Business Environment Text & Cases       | Francis Cherunilam | Himalaya Publishing House Pvt.Ltd.        | Mumbai    |
| 4      | Regulated Markets                       | W.R.Natu           | Asia Publishing House                     | Mumbai    |
| 5      | Financial Derivatives & Risk Management | O. P.Agarwal       | Himalaya Publishing House Pvt.Ltd.        | Mumbai    |
| 6      | Bombay Money Market.                    | B.AParekh          | Bombay <a href="#">A.R. Sheth and Co.</a> | Mumbai    |

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## **M. Com. Part I (Semester II)**

### **Group E (Business Practices & Environment) - Special Paper IV**

**Subject: - Business Environment Analysis**

**Course Code:-212**

#### **Objectives of the course:**

- 1) To understand Indian Industrial Environment
- 2) To understand financial environment and institutions
- 3) To know environmental analysis and global environment
- 4) To understand problems and growth and remedies thereof

#### **Depth of Programme: - Fundamental Knowledge**

| <b>Unit No.</b> | <b>Unit Title</b>                 | <b>Contents</b>                                                                                                                                                                                 | <b>Purpose Skills to be developed</b>                                                                                                                                                                                                                                |
|-----------------|-----------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>1</b>        | Indian Industrial Environment     | Growth of industries in public & private sectors in India – small and cottage industries mergers and acquisitions, Foreign investment-Foreign Technology and MNCS                               | <ul style="list-style-type: none"><li>• To understand the nature and Growth of public and private sectors in India</li><li>• To mergers and acquisitions of small and cottage industries</li><li>• To understand role of foreign investment and technology</li></ul> |
| <b>2</b>        | Financial Environment of Business | Indian Money Market - Growth of capital Market in India - Banking financial institutions - Role of Public, Private, and Co-operative Banks - Role of foreign banks and non Banking Institutions | <ul style="list-style-type: none"><li>• To understand the nature and growth of Indian Money Market and Capital Market</li><li>• To understand the role of Public, Private, Co-operative Banks, Foreign Banks and non</li></ul>                                       |

|   |                        |                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                               |
|---|------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   |                        |                                                                                                                                                                                                                                                                                                                                                                                                                                  | Banking institutions                                                                                                                                                                                                                          |
| 3 | Environmental Analysis | Meaning and importance - Techniques of Analysis- Verbal and Written Information Search and scanning, Spying, Forecasting, Limitations of these techniques, Competitions analysis - Rivalry Amongst existing firms, threat of newentrants threat of substitutes - Bargaining power of suppliers and buyers, Global Environment Natural, Social, Cultural, Demographic and Technological environment and its impact on world trade | <ul style="list-style-type: none"> <li>To gain the fundamental knowledge about Environmental Analysis and its techniques</li> <li>Understanding various types of Business environment and their impact on business and world trade</li> </ul> |
| 4 | Problems of growth     | Unemployment, Poverty, Regional Imbalance, Social injustice, Parallel economy, Lack of technical knowledge and information                                                                                                                                                                                                                                                                                                       | <ul style="list-style-type: none"> <li>To understand and evaluate the issues like Unemployment, Poverty, Regional imbalance, Parallel economy etc.</li> </ul>                                                                                 |

### Teaching Methodology

| Topic No. | Total Lectures | Innovative Methods to be used                                                                                                                             | Film Shows and A.V. Application                                        | Project                                                                                                                                      | Expected Outcome                                                                                                                     |
|-----------|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|
| 1         | 12             | Pre reading, Class discussion, examples from real life through newspapers and internet resources, Debate                                                  | Film Show on Small and Cottage Industries and mergers and acquisitions | Project on Foreign Investment and Foreign Technology<br>Project on Mergers and Acquisitions                                                  | Understanding of mergers and acquisitions of small and cottage industries<br>Understanding Foreign Investment and Foreign Technology |
| 2         | 12             | Pre reading, Class discussion, examples from real life through newspapers and internet resources. Case studies of Public, Private, and Co-operative Banks | You Tube Video on Public, Private, and Co-operative Banks              | Project Report on Indian Money Market and capital Market in India<br>Project on comparative study of Public, Private, and Co-operative Banks | Learning the on Indian Money Market and capital Market<br>Understanding comparative study of Public, Private, and Co-operative Banks |

|   |    |                                                                                                                           |                                                                                                              |                                                                                              |                                                                                                                                            |
|---|----|---------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|
| 3 | 16 | Pre reading, Class discussion, case studies, debate on impact of various types of environments on world trade             | PowerPoint Presentation on types of business environment                                                     | Project on types of business environment<br>Project on techniques of analysis of environment | Evaluate various types of business environment<br>Understanding techniques of analysis of environment                                      |
| 4 | 08 | Pre reading, Class discussion, debate on the issues like Unemployment, Poverty, Regional imbalance, Parallel economy etc. | You Tube Video and Film Show on issues like Unemployment, Poverty, Regional imbalance, Parallel economy etc. | Project on problems of growth of business                                                    | Understanding the seriousness, causes and remedies of various issues like Unemployment, Poverty, Regional imbalance, Parallel economy etc. |

### Method of Evaluation

| Subject  | Internal Evaluation                                                                              | External Evaluation                                                          | Suggested Add on Course                                                                                    |
|----------|--------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|
| Unit-I   | Class participation, Assignment, Library Work, Unit Test, Mid-Semester Examination               | Semester Examination-10% MCQ<br>70% Descriptive Questions<br>20% Short Notes | Foreign Investment and Foreign Technology                                                                  |
| Unit-II  | Seminar, Assignment, Library Work, Unit Test, Mid-Semester Examination                           | Semester Examination-10% MCQ<br>70% Descriptive Questions<br>20% Short Notes | Nature, Scope and Working of Indian Money Market and capital Market                                        |
| Unit-III | Class participation, Assignment, Library Work, Unit Test, Mid-Semester Examination               | Semester Examination-10% MCQ<br>70% Descriptive Questions<br>20% Short Notes | Techniques of Business Environment Analysis                                                                |
| Unit-IV  | Class participation, Case Studies, Assignment, Library Work, Unit Test, Mid-Semester Examination | Semester Examination-10% MCQ<br>70% Descriptive Questions<br>20% Short Notes | Critical Study of Social issues like Unemployment, Poverty, Regional Imbalance, Social injustice, Parallel |

|  |  |  |         |
|--|--|--|---------|
|  |  |  | economy |
|--|--|--|---------|

## References

| Sr. No | Title of Book                                    | Author/s                        | Publication                               | Place  |
|--------|--------------------------------------------------|---------------------------------|-------------------------------------------|--------|
| 1      | Economic Environment SYBA                        | K Misha, Puri                   | Himalaya Publishing House Pvt.Ltd.        | Mumbai |
| 2      | Bombay Money Market.                             | B.AParekh                       | Bombay <a href="#">A.R. Sheth and Co.</a> | Mumbai |
| 3      | Global Economy and Business                      | Francis Cherunilam              | Himalaya Publishing House Pvt.Ltd.        | Mumbai |
| 4      | Business Environment                             | Chllaaghan, Ellison EdwardAmold |                                           |        |
| 5      | Journal of Commerce and Management Thought(JCMT) |                                 |                                           |        |
| 6      | Economic and Polictical Weekly.                  |                                 |                                           |        |

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**M. Com. Part I (Semester II)**  
**Group F (Business Administration) - Special Paper III**

**Subject : - Business Ethics & Professional Values**

**Course Code No: 213**

**Objectives of the course**

1. To raise the students general awareness on the ethical dilemmas at work place
2. To understand the differing perceptions of interest in business related solutions
3. To present the concept of Corporate Social Responsibility and explore its relevance to ethical obligations and ethical ideals present in the relationship between employers and employees
4. To investigate whether ethics set any boundaries on competition , marketing, sales and advertising
5. To enable students to validate or correct , personal ideas about various ethical perspectives
6. To enable students to develop their own considered judgment about issues in Business Ethics
7. To foster more careful, disciplined thinking in trying to resolve issues in business ethics
8. To prepare students to play a constructive role in improving the sustainable development with which they may become involved

**Depth of the program – Fundamental Knowledge**

| <b>Unit No.</b> | <b>Unit Title</b>                                                  | <b>Contents</b>                                                                                                                                                                                                                                                                                                                                                      | <b>Purpose Skills to be developed</b>                                                                                                     |
|-----------------|--------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| <b>1</b>        | <b>Business Ethics and Professional Values</b>                     | a. Business Ethics – Introduction, Meaning, Scope , Principles , importance , Code of Ethics and Theories<br>b. Professional Values – Meaning , Significance , Scope and Human Values<br>c. Ethical Decision Making – Meaning, determinants, process of ethical decision making                                                                                      | 1. Understanding Knowledge of established methodologies of solving ethical problems<br>2. Recognizing significance of Professional Values |
| <b>2</b>        | <b>Corporate Social Responsibility and Corporate Governance</b>    | a. CSR – Introduction , advantages , scope for CSR in India , Legal provisions for CSR, Forms of CSR and Indian Corporations<br>b. Corporate Governance – concept Objectives , features , advantages , code whistle blowing , types arguments and justification<br>c. Value Based Management – meaning, benefits and methods =, Vedic Management for business ethics | 1. Knowing CSR and its scope and forms<br>2. Analysis of Corporate Governance and Value Based Management                                  |
| <b>3</b>        | <b>Indian Ethical Practices</b>                                    | a. Indian Ethical Practices Finance<br>b. Indian Ethical Practices Marketing<br>c. Indian Ethical Practices Information Technology<br>d. Ethics at work place<br>e. Indian Ethical Practices HRM                                                                                                                                                                     | Recognizing the unethical issues in Finance , Marketing , IT , HRM and at workplace                                                       |
| <b>4</b>        | <b>Emerging issues in Business Ethics and Environmental issues</b> | a. Ethics in Environment – environmental crisis , issues relating to environmental degradation , natural resources depletion and pollution<br>b. Sustainable Development – Meaning, Principles. Goals of Sustainable Development, Strategy to achieve Sustainable                                                                                                    | 1. Recognizing environmental issues and its impact on Business<br>2. Achieving Sustainable Development                                    |



|  |  |             |  |
|--|--|-------------|--|
|  |  | Development |  |
|--|--|-------------|--|

### Teaching Methodology

| Topic No. | Total Lectures | Innovative methods to be used                                       | Film shows and AV Applications                                                  | Project                                                                                   | Expected Outcome                                                      |
|-----------|----------------|---------------------------------------------------------------------|---------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|
| 1         | 12             | Case study for Ethical Values and Decision making                   | PPT and examples of Indian and Foreign Companies                                | Collect Cases of Ethical Value Decisions                                                  | To understand How companies ethically operate                         |
| 2         | 12             | PPT and Comparative study of CSR practices and Corporate governance | Case Study of any Organization                                                  | Collection of Data and information on CSR practices and Corporate Governance of a company | To understand how CSR activities help the society for better living   |
| 3         | 12             | Guest Lectures by Experts from corporate                            | PPT on possible ethical practices in different areas of Business Administration | Case study of ethical practices adopted by a company                                      | To understand how ethical practices can be adopted in different areas |

|   |    |                                                                                     |                                                                                                                         |                                                                             |                                                                                 |
|---|----|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|---------------------------------------------------------------------------------|
|   |    |                                                                                     |                                                                                                                         |                                                                             | of business                                                                     |
| 4 | 12 | How Business Administration can be environment friendly ( case study with examples) | Video Clippings of different corporate organizations working towards sustainable development and environment protection | Case study on Sustainable Development Project undertaken by an organization | Awareness on the importance of environmental issues and Sustainable Development |

### Method of Evaluation

| Subject    | Internal Evaluation                                   | External Evaluation         | Suggested Add on Course                                  |
|------------|-------------------------------------------------------|-----------------------------|----------------------------------------------------------|
| Unit – I   | Internal Class Room Test for Conceptual understanding | As per University structure | Library assignment for conceptual understanding          |
| Unit – II  | Case Study presentation                               | As per University structure | 15 days course on CSR including Visit to an organization |
| Unit – III | Paper Presentation                                    | As per University structure | Listing out the various unethical practices in           |

|           |                                                                                                                                                               |                             |                                                         |
|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|---------------------------------------------------------|
|           |                                                                                                                                                               |                             | different areas of Business Administration              |
| Unit – IV | Report on work of an organization for Sustainable Development<br><br>OR<br><br>Visit to an organization to study the consideration of Sustainable Development | As per University structure | One month Certificate course on Sustainable Development |

## References :

### List of Books Recommended :-

1. Ethics in Management – By S.S.Sherlekar (Himalaya Publication)
2. Business Ethics and Corporate Governance – By S.S.Khanka(S.Chand Publication)
3. Business Ethics and Corporate Governance – By S.K.Bhatia (Deep and Deep sons)
4. Management by Values – By S.K.Chakraborti( Oxford University Press)
5. E- Commerce – A study in Business Etics – By Rituparna Raj (Himalaya Publication).
6. E- Commerce and It's Applications – By Dr. U.S. Pandey , Rahul Srivastava and Saurabh Shukla.(S.Chand Publication)

7. The age of Sustainable goals – By Jeffery D. Sachs and Ki Moon Ban( Columbia University Press)
8. Atlas of Sustainable Development Goals 2017: from World Development Indicators – by World Bank( World Bank Publication)
9. Business Ethics and Corporate Governance – By A.C.Fernando ( Dorling Kindersly)
10. Corporate Governance: Principle , Policies and Practices – By Bob Tricker (Oxford University Press)

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**M. Com. Part I (Semester II)**  
**Group F (Business Administration) - Special Paper IV**

**Subject : - Elements of Knowledge Management**

**Course Code – 214**

### Objectives of the course

- 1 To develop Analytical and Research oriented skills among the students.
- 2 To understand value application and relevance of Knowledge management in today's corporate world.
- 3 To promote research and innovation ideas based on Knowledge Management.
- 4 To enhance knowledge level and practice of linking theoretical background with applied Social Science.

Depth of the program – Fundamental Knowledge

| Unit No. | Unit Title                                          | Contents                                                                                                                                                                                                                                     | Purpose Skills to be developed                                 |
|----------|-----------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|
| 1        | <b>Introduction to Knowledge Management</b>         | a Knowledge Management - Concept , Meaning , Definition , Nature and Relevance of it in today's Business world.<br>b Knowledge Management Process<br>c Approaches to Knowledge Management<br>d. Difference between information and knowledge | Developing Conceptual Skill and Improving analytical Ability . |
| 2        | <b>Tools and Techniques of Knowledge Management</b> | a Concept , Meaning , Types of Knowledge sharing<br>b System of Presenting Knowledge<br>c Role of Knowledge Management in Management of Change<br>d. Measurement of Knowledge<br>e. Role of a Leader in Knowledge Management                 | Technical and Practical Oriented Skills                        |
| 3        | <b>Cross Functional areas and Knowledge</b>         | a. Finance and Knowledge Management<br>b. Marketing and Knowledge Management<br>c. E- Commerce and Knowledge Management<br>d. TQM and Knowledge Management                                                                                   | Value based and Application Oriented Skills                    |

|          |                             |                                                                                                                                                                                                                                                                                                                                                     |                                      |
|----------|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|
|          | <b>Management</b>           | <ul style="list-style-type: none"> <li>e. CRM and Knowledge Management</li> <li>f. Human Resource and Knowledge Management</li> </ul>                                                                                                                                                                                                               |                                      |
| <b>4</b> | <b>Knowledge Strategies</b> | <ul style="list-style-type: none"> <li>a. Meaning , Nature , Scope and knowledge strategy creation</li> <li>b. Using Knowledge Management to safeguard Intellectual Property</li> <li>c. Knowledge engineering for IT based services</li> <li>d. Future Prospects of Knowledge Intensive Business Services and its impact on the economy</li> </ul> | Administrative and Management skills |

### Teaching Methodology

| <b>Topic No.</b> | <b>Total Lectures</b> | <b>Innovative methods to be used</b>   | <b>Film shows and AV Applications</b> | <b>Project</b>            | <b>Expected Outcome</b>     |
|------------------|-----------------------|----------------------------------------|---------------------------------------|---------------------------|-----------------------------|
| 1                | 12                    | Case Study and PPT                     | PPT                                   | Home Assignment           | Conceptual Clarity          |
| 2                | 14                    | Group Discussion                       | Corporate Cases and Discussions on it | Written Test              | Analytical ability          |
| 3                | 10                    | Multiple Choice Question and Interview | Online Multiple Choice Question Test  | Report Writing            | Application Oriented Skills |
| 4                | 12                    | Report Writing                         | Referring to various websites         | Discussion with exercises | Managerial skills           |

### **Method of Evaluation**

| <b>Subject</b> | <b>Internal Evaluation</b>       | <b>External Evaluation</b> | <b>Suggested Add on Course</b>     |
|----------------|----------------------------------|----------------------------|------------------------------------|
| Unit – I       | Home Assignment                  | Written exam               | Visit to Corporates                |
| Unit – II      | Continuous Evaluation/PPT        | Written exam               | Report on Field Visit              |
| Unit – III     | Continuous Evaluation/ MCQ       | Written exam               | Interaction with experts           |
| Unit – IV      | Continuous Evaluation/Case Study | Written exam               | Guest lectures on concerned topics |

**References :****List of Books Recommended :-**

- 1 Knowledge Management – By Elias and Hassan Gazai ( Pearson Publication)
- 2 E-World Emerging Education Pvt. Ltd. – By Arpita Gopal and Chandranil Singh
- 3 Knowledge Management Toolkit – By Amrit Tiwan
- 4 Knowledge Management Field Work – By Bukowitz W. R. and Williams R. I.
- 5 Building the Knowledge Management Network – By Egaallo C.F.
- 6 Change Management for Competitive Success – By Pettigrew A., Whipp R.,(Infinity Books)



## Group G (Advanced Banking & Finance) - Special Paper III

**Subject : Banking Law and Practices**

**Course code: 215**

**Objectives:**

1. To enable students to acquire sound Knowledge of banking laws and practices in India.
2. To make the students aware about the latest developments in the field of banking law.
3. To enable the students to understand modern banking practices.
4. To enable the students to establish a link between the legal provisions and the practical aspects of banking.

| Unit No. | Topic                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | No. of Periods | Teaching Method                                                                    |
|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|------------------------------------------------------------------------------------|
| 01       | <b>Introduction to Prevention of Money Laundering Act, 2002 :-</b> 16<br><br>Provisions relating to: Preliminary (Section 1 and 2), Offence of money laundering (Section 3 and 4) ,Attachment, adjudication and confiscation (Section 5 and 11), Obligation of banking companies, financial institutions and intermediaries (Section 12 and 15) Summons, searches and seizures (Section 16 and 24) The RBI guidelines regarding prevention of money laundering, The Prevention of Money Laundering (Amendment) Act, 2012 | 12             | Lecture,<br>PPT,<br>Group Discussion, Library Work,<br>Assignment, Use of internet |
| 02       | <b>The Foreign Exchange Management Act, 1999</b><br><br>Provisions relating to: Preliminary (Sec 1-2), Regulation and management of foreign exchange (Sec 3 to 9) Authorized person (Section 10 to 12) Contravention and penalties (Section 13 to 15)Adjudication and appeal (Sections 16 to 21 and sections 34-35) Directorate of enforcement (section 36 to 38).                                                                                                                                                       | 10             | Lecture,<br>PPT,<br>Group Discussion, Library Work,<br>Assignment, Use of internet |

|    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |           |                                                                                    |
|----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|------------------------------------------------------------------------------------|
| 03 | <b>Asset - Liability Management :-12</b><br><br>Definition of assets and liabilities, Asset liability mismatches on the grounds of locations, maturity, return and currency Risks while managing the assets and liabilities: Liquidity risk, Interest rate risk, Pre-mature withdrawal and pre-payment risk, Price Risk, Foreign exchange and sector based risk, Strategies to manage these risks, RBI guidelines for asset and liability management. Management of loan portfolio with special reference to Non Performing Assets (NPAs): Definition of NPA, Income Recognition and Asset Classification Norms (IRAC Norms), Reasons for rising NPAs, Strategic approach in reduction of Non Performing Assets, Management of investment Portfolio- Regulatory aspects, Overview of Basel I , II , and III                                                 | 12        | Lecture,<br>PPT,<br>Group Discussion, Library Work,<br>Assignment, Use of internet |
| 04 | <b>Hi-tech banking and Mergers and Acquisition in banking sector and Banking Ombudsman Scheme 2006:-12</b><br><br><b>A. Hi-tech banking and Mergers and Acquisition in banking sector:</b><br><br>Role and uses of Technology upgradation- Impact of Technology on Banks- Protecting the confidentiality and secrecy of data, Meaning of Merger and Acquisition: Recent cases of mergers and acquisition in Indian Banking sector, Consolidation of Banks, Impact of mergers amongst Public Sector Banks<br><br><b>B. Banking Ombudsman Scheme 2006:-</b><br><br><b>I. Role of Banking Ombudsman:</b> Grounds of Complaint, Procedure for Filing Complaint; Power to Call for Information, Settlement of Complaint by Agreement, Award<br><br><b>II. The Banking Codes and Standards Board of India : Customer Service , Grievances Redressal Mechanism</b> | 14        | Lecture,<br>PPT,<br>Group Discussion, Library Work,<br>Assignment, Use of internet |
|    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Total- 48 |                                                                                    |

## **References,**

1. Justin Paul and Padmalatha Suresh; Management of Banking and Financial Services
2. Gordon and Natarajan; Banking Theory, Law and Practice- by Himalaya Publishing House
3. Joshi Vasant C. and Joshi Vinay V.; Managing Indian Banks- The Challenges Ahead- Sage Publication Ltd.
4. Singh, Agarwal (2011); Internet Banking Technology, Raj Publishing House, Jaipur.
5. Banking Law and Practices- Mr. Prakash Misal, Success Publications.
5. All relevant and recent Bare Acts, Indian Institute of Bankers: Laws and Practices relating to banking
6. Indian Institute of Banking and Finance; Principles and Practices of Banking, Macmillan Publisher India Ltd.
7. Legal and Regulatory Aspects of Banking– Published by Indian Institute of Banking & Finance.
8. All relevant and recent Bare Acts, Indian Institute of Bankers: Laws and Practices relating to banking
9. All journals published by Indian Institute of Banking and Finance
10. Indian Banking Associations Bulletin
11. RBI Bulletin
12. Customer Service & Banking Codes and Standards: IIBF Publication
13. [www.rbi.org.in](http://www.rbi.org.in)

**M.Com. Semester II**  
**Subject: Advanced Banking and Finance**  
**Course Code:215 & 216**  
**Format of Question Paper**

**Time: 3.00 Hours**

**Total Marks: 50**

|                                                                                                                                                                               |                                    |                        |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|------------------------|
| <b>Notes :</b> 1. Attempt any Three Questions from Q.No.1 to 4<br>2. Question No.5 is compulsory. Attempt any Two short Notes<br>3. Figures to the right indicates full marks |                                    |                        |
| <b>Q.1</b>                                                                                                                                                                    |                                    | <b>14</b>              |
| <b>Q.2</b>                                                                                                                                                                    |                                    | <b>14</b>              |
| <b>Q.3</b>                                                                                                                                                                    | a)<br>b)                           | <b>07</b><br><b>07</b> |
| <b>Q.4</b>                                                                                                                                                                    | a)<br>b)                           | <b>07</b><br><b>07</b> |
| <b>Q.5</b>                                                                                                                                                                    | <b>Write short notes (Any two)</b> | <b>08</b>              |
|                                                                                                                                                                               | a)                                 |                        |
|                                                                                                                                                                               | b)                                 |                        |
|                                                                                                                                                                               | c)                                 |                        |
|                                                                                                                                                                               | d)                                 |                        |

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## M. Com. Part I (Semester II)

### Group G (Advanced Banking & Finance) - Special Paper IV

**Subject :- Monetary Policy**

**Course code: 216**

**Objectives:**

1. To create awareness regarding the objectives and importance of monetary policy.
2. To make the students aware about the latest developments in the field of monetary policy committee in India.
3. To enable the students to understand the role of RBI in financial inclusion.
4. To acquaint students with the recent policy changes announced by RBI.

| Unit No. | Topic                                                                                                                                                                                                                                                | No. of Periods | Teaching Method                                                                                   |
|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|---------------------------------------------------------------------------------------------------|
| 01       | <b>Monetary Policy and Macro-economic environment management:</b><br><br>Objectives of monetary policy: Price stability, Generation of employment, Exchange Rate Stability, Balanced growth etc., conflict between objectives: Growth v/s Inflation. | 12             | Lecture,<br><br>PPT,<br><br>Group Discussion,<br>Library Work,<br><br>Assignment, Use of internet |
| 02       | <b>RBI's Monetary Policy Committee and the Instruments:</b><br><br>A. Formation of Monetary Policy Committee: Purpose, Functions, Constitution and Decision                                                                                          | 12             | Lecture,<br><br>PPT,<br><br>Group Discussion,<br>Library Work,                                    |

|    |                                                                                                                                                                                                                                                                                                     |    |                                                                                                              |
|----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|--------------------------------------------------------------------------------------------------------------|
|    | <p>Making;</p> <p><b>B. Fiscal Policy v/s Monetary Policy</b></p> <p><b>C. Instruments of monetary policy -: Mechanism and Effectiveness of the instruments like- Bank Rate, Cash Reserve Ratio, Statutory Liquidity Ratio, Repo Rate, Reverse Repo Rate, Marginal Standing Facilities Rate</b></p> |    | Assignment, Use of internet                                                                                  |
| 03 | <p><b>RBI's Monetary Policy:</b></p> <p>A. A review of monetary policy of the Reserve Bank of India in the last five Years –</p> <p>B. .Recent policy changes announced by the R.B.I.</p>                                                                                                           | 10 | <p>Lecture,</p> <p>PPT,</p> <p>Group Discussion,</p> <p>Library Work,</p> <p>Assignment, Use of internet</p> |
| 04 | <p><b>Reserve Bank of India and Financial Inclusion</b></p> <p>A. Meaning of financial literacy and importance of financial literacy</p> <p>B. Meaning of financial inclusion and importance of financial inclusion</p> <p>C.Role of RBI in Financial Inclusion</p>                                 | 14 | <p>Lecture,</p> <p>PPT,</p> <p>Group Discussion,</p> <p>Library Work,</p> <p>Assignment, Use of internet</p> |

|  |                                                                                                                                                                                         |          |  |
|--|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|--|
|  | <b>D.R.B.I. and Rural credit: Priority Sector Advances, Role of NABARD</b><br><br><b>E. Microfinance: Meaning of microfinance, functions of microfinance, progress of microfinance.</b> |          |  |
|  |                                                                                                                                                                                         | Total-48 |  |

#### List of Books and Journals

- 1) Monetary & Financial Sector Reforms in India – Y. Venugopal Reddy.
- 2) Business Aspects in Banking and Insurance- O.P. Agarwal, Himalaya Publishing House
- 3) Banking Theory and Practice- K.C. Shekhar and LekshmyShekhar, Vikas Publishing House Pvt. Ltd.
- 4) Money, Banking, International Trade And Public Finance- M.L. Jhingan, Vrinda
- 5) Indian Economy: Essays on money and finance, Dr. C.Rangarajan
- 6) Monetary Economics for India, Dr. Narendra Jadhav
- 7) rsaaLrajaomd` 32016´ :BaartIyaAqa-vyavasqaa , sa@saosapiblakoSana , puNao.
- 8) maulaaNaIema.yau.32017´ :svayaMsahayyatasamaUhvasaUxmaiva%tvvyavasqaapna , sa@saosapiblakoSana , puNao.
- 9) Govt. of India- Economic Survey
- 10) R.B.I.: Functions and Working – R.B.I. Publication.
- 11) R.B.I. Bulletins.
- 12) R.B.I. Annual Reports.

13) Trends & Progress of Banking in India- R.B.I. Annual

14) Annual Report on Trend and Progress of Banking in India.

### **M. Com. Part I (Semester II)**

#### **Group H (Advanced Marketing) - Special Paper III**

**Subject: Customer Relationship Management & Retailing**

**Course Code -: 217**

#### **Objectives of the course**

- 1 To understand the importance of CRM
- 2 To make students aware of the latest development in CRM
- 3 To get students acquainted about eCRM and its tools
4. To help students understand various issues related with CRM implementation

#### **Depth of the program – Detail Knowledge**

#### **Objective of the Program**

- a. To equip and train Post Graduate students to accept the challenges in the field of marketing by providing opportunities to study and analyze advanced marketing techniques.
- b. To develop students' independent logical thinking and facilitate personality development.
- c. To prepare the students for seeking suitable careers in the field of marketing.
- d. To impart the knowledge about how to collect the data and interpret it.
- e. To develop among students Communication and Analytical skills



| Unit No | Unit Title                                           | Contents                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Purpose Skills to be developed                                                                      |
|---------|------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|
| 01      | <b>Emerging CRM</b>                                  | <p><b>Introduction:</b> Evolution of Relationship as a Marketing tool, Emergence of CRM Practice/ Factors responsible for the growth of CRM. CRM Cycle, Importance of CRM</p> <p><b>Emerging CRM</b><br/>Introduction, Customer Development Process, customer Retention, Customer Retention Management, Reasons for Customer Switching and Strategies for Retention, Importance of customer retention, Customer Recall Management, Customer Recall Strategies<br/>CRM a Cost benefit analysis.</p> | To identify CRM factors which are responsible for the growth of CRM and also emerging trends in CRM |
| 02      | <b>CRM and I.T</b>                                   | eCRMan I.T Tool, e CRM in Business, Features of e- CRM, Technologies of E CRM, Important CRM Softwares—Oracle, Clarify, People Soft and My Sap CRM. Applications of e CRM,                                                                                                                                                                                                                                                                                                                         | To enable the students about eCRM and IT                                                            |
| 03      | <b>Latest Development in CRM</b>                     | Changing Roles of CRM , Customer Experience Management, Customer Profitability, Customer Classification based on Profitability, Customer Profitability as a strategic Management Tool, Customer Profitability and company Value, Customer Experience Management and Customer Profitability Management, Customer Lifetime Value                                                                                                                                                                     | To get familiar withthe latest development in CRM                                                   |
| 04      | <b>CRM Implementation Issues &amp; People factor</b> | <p><b>CRM Implementation Issues :</b><br/>Challenges of CRM Implementation, Essentials of CRM Principle, Customer Satisfaction, Importance of Customer Satisfaction, Customer Expectation, Customer Perception.</p> <p><b>People factor in CRM—</b><br/>Customer Centric Organisational Structure, Employee Organisation Relationship, Employee Customer Orientation</p>                                                                                                                           | To get acquainted about CRM implementation issues.                                                  |

**Teaching methodology**

| <b>Topic No.</b> | <b>Total Lectures</b> | <b>Innovative methods to be used</b>                                                          | <b>Film shows and AV Applications</b> | <b>Project</b>                             | <b>Expected Outcome</b>                                                                                |
|------------------|-----------------------|-----------------------------------------------------------------------------------------------|---------------------------------------|--------------------------------------------|--------------------------------------------------------------------------------------------------------|
| 01               | 14                    | Guest Lecture,<br>Presentation of the students and also videos which are available on youtube | Videos on Youtube                     | N.A                                        | Student Will understand the concept & Importance of CRM and also about emerging CRM                    |
| 02               | 10                    | Field visit to IT industry<br><br>Guest Lecture of IT Expert<br><br>Case Study Method         | Videos on Youtube                     | Report based on field visit to IT industry | Student will get in depth knowledge about eCRM, it's technologies and also various important softwares |
| 03               | 10                    | Guest Lecture, Case Study Method, Group Discussion                                            | Videos on Youtube                     | N.A                                        | Students will get acquainted about the latest development in CRM                                       |
| 04               | 14                    | Guest Lecture, Case Study Method, Presentation                                                | Videos on Youtube                     | N.A.                                       | Students will understand about the challenges in implementing CRM and people factor in CRM             |

**Method of Evaluation**

| <b>Subject</b> | <b>Internal Evaluation</b>                                              | <b>External Evaluation</b> | <b>Suggested Add on Course</b> |
|----------------|-------------------------------------------------------------------------|----------------------------|--------------------------------|
| Unit – I       | Class Test, Group Discussion, Presentation, Case Study, Home Assignment | Written Examination        | N.A.                           |
| Unit – II      | Class Test, Group Discussion, Presentation, Case Study, Home Assignment | Written Examination        | N.A.                           |
| Unit – III     | Class Test, Group Discussion, Presentation, Case Study, Home Assignment | Written Examination        | N.A.                           |
| Unit – IV      | Class Test, Group Discussion, Presentation, Case Study, Home Assignment | Written Examination        | N.A.                           |

**References**

| <b>Sr. No.</b> | <b>Title of the Book</b>                                 | <b>Author/s</b>                           | <b>Publication</b>                 | <b>Place</b> |
|----------------|----------------------------------------------------------|-------------------------------------------|------------------------------------|--------------|
| 1              | Customer Relationship Management: Concept & Technologies | Francis Butle                             | Elsevier                           | Hungary      |
| 2              | Customer Relationship Management : A Strategic Approach  | LakshmanJha                               | Global India Publications Pvt Ltd. | New Delhi    |
| 3              | Customer Relationship Management: A Global Perspective   | Gerhard Rabb, RiadAjami, VidyaranaGargeya | Routledge                          | London       |
| 4              | Customer Relationship Management:                        | JagdishSheth, AtulParatiyar               | Tata Mc-Graw Hill                  | New Delhi    |

|    |                                                                   |                          |                                            |            |
|----|-------------------------------------------------------------------|--------------------------|--------------------------------------------|------------|
|    | Emerging Concepts, Tools, and Applications                        |                          | Publication Company                        |            |
| 5  | Customer Relationship Management:<br>Concept, Strategy, and Tools | V.Kumar, Werner Reinartz | Elsevier                                   | Hungary    |
| 6  | Effective Customer Relationship<br>Management                     | Amy Sauers               | Cambria Press                              | New York   |
| 7  | Customer Relationship Management                                  | R.K Sungadhi             | New Age International<br>Publishers        | New Delhi  |
| 8  | Customer Relationship Management                                  | Subhasish Das            | Excel Books                                | New Delhi  |
| 9  | Customer Relationship Management<br>Concept & Cases               | Alok Kumar Rai           | Prentice Hall of India<br>Private Limited, | New Delhi. |
| 10 | Customer Relationship Management,                                 | S. Shanmugasundaram      | Prentice Hall of India<br>Private Limited, | New Delhi. |
|    |                                                                   |                          |                                            |            |

### **M. Com. Part I (Semester II)**

#### **Group H (Advanced Marketing) - Special Paper IV**

**Subject Name :-Service Marketing**

**Course code :-218**

### Objectives of the course

1. To train the students in the concept of services and a comparison skills between types of goods and types of services.
2. To familiarize students about how to design services mix with reference to product & price
3. To make students aware about how to design services mix with reference to promotion and distribution
4. To identify consumer perception and how to develop consumer trust, goodwill and loyalty.

Depth of the program – Detailed Knowledge

### Objective of the Program

- d. To equip and train Post Graduate students to accept the challenges in the field of marketing by providing opportunities to study and analyze advanced marketing techniques.
- e. To develop students' independent logical thinking and facilitate personality development.
- f. To prepare the students for seeking suitable careers in the field of marketing.
  - d. To impart the knowledge about how to collect the data and interpret it.
  - e. To develop among students Communication and Analytical skills

| Unit No | Unit Title                      | Content                                                                                                                                                                                                          | Skills to be developed                                                                                                    |
|---------|---------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|
| 01      | <b>Introduction to Services</b> | Meaning, Definition and Characteristics of Services, Types of Services, Core and Augmented Services, Difference between goods and Services, Relevance, changes and trends in the present growing service sector. | To develop understanding of the concept of services and a comparison skills between types of goods and types of services. |

|    |                                                         |                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                         |
|----|---------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| 02 | <b>Designing Suitable Services Marketing Mix Part 1</b> | Designing of Services Mix with reference to Product and Price: Service Development Strategies, The Service Delivery Process, Pricing of Services, Service Pricing Strategies                                                                                                                                                                                                 | To develop analytical skills related to designing of Product Mix and pricing Mix strategies.                                                            |
| 03 | <b>Designing Suitable Services Marketing Mix Part 2</b> | Designing The service Mix with reference to Promotion and Distribution: Developing the Services Communication Strategy, challenges associated with the development of the services communication strategy Managing the firms physical evidence, the development of servicescapes, Managing the senses when developing services capes, Defining and Measuring Service Quality | To develop quality consensus of service delivery and to enable them to measure service quality and its flow of delivery of various networking channels. |
| 04 | <b>Effective Management of Service Consumer</b>         | Managing Service Consumers, Managing Consumer Service Perceptions, Defining and Measuring Consumer Satisfaction. Customer Loyalty and Retentions                                                                                                                                                                                                                             | To develop skills in identifying consumer perception and how to develop consumer trust, goodwill and loyalty.                                           |

### Teaching methodology

| Topic No. | Total Lectures | Innovative methods to be used | Film shows and AV Applications | Project | Expected Outcome |
|-----------|----------------|-------------------------------|--------------------------------|---------|------------------|
|-----------|----------------|-------------------------------|--------------------------------|---------|------------------|

|    |    |                                                                               |                   |     |                                                                                                                                                             |
|----|----|-------------------------------------------------------------------------------|-------------------|-----|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 01 | 12 | Guest Lecture, Presentation of the students and Lectures available on Youtube | Videos on Youtube | N.A | Students will understand various approaches to study marketing and also get sufficient knowledge about the factors which influencing marketing environment. |
| 02 | 12 | Guest Lecture, Case Study Method, Presentation, Group Discussion              | Videos on Youtube | N.A | Students will get in-depth knowledge about Product Mix and Price Mix                                                                                        |
| 03 | 12 | Guest Lecture, Case Study Method, Presentation, Group Discussion              | Videos on Youtube | N.A | Students will understand about Place Mix and Promotion Mix                                                                                                  |
| 04 | 12 | Guest Lecture, Case Study Method, Presentation, Group Discussion              | Videos on Youtube | N.A | Students will aware about various tools of Public Relation and also e-marketing promotion                                                                   |

### Method of Evaluation

| Subject | Internal Evaluation | External Evaluation | Suggested Add on |
|---------|---------------------|---------------------|------------------|
|         |                     |                     |                  |

|            |                                                                               |                     |               |
|------------|-------------------------------------------------------------------------------|---------------------|---------------|
|            |                                                                               |                     | <b>Course</b> |
| Unit – I   | Class Test, Group Discussion,<br>Presentation, Case Study, Home<br>Assignment | Written Examination | N.A.          |
| Unit – II  | Class Test, Group Discussion,<br>Presentation, Case Study, Home<br>Assignment | Written Examination | N.A.          |
| Unit – III | Class Test, Group Discussion,<br>Presentation, Case Study, Home<br>Assignment | Written Examination | N.A.          |
| Unit – IV  | Class Test, Group Discussion,<br>Presentation, Case Study, Home<br>Assignment | Written Examination | N.A.          |

## References



| <b>Sr. No.</b> | <b>Title of the Book</b>                           | <b>Author/s</b>                          | <b>Publication</b>                 | <b>Place</b>  |
|----------------|----------------------------------------------------|------------------------------------------|------------------------------------|---------------|
| 1              | Marketing Management                               | Arun Kumar, Rachana Sharma.              | Atlantic Publishers & Distributors | New Delhi     |
| 2              | Marketing Management                               | Amar Jyoti                               | Gennext Publishers                 | New Delhi     |
| 3              | Services Marketing Concepts Applications and Cases | M.K. Rampal and S.L. Gupta               | Galgotia Publishing Co             | New Delhi     |
| 4              | Services Marketing                                 | S.M. Jha                                 | Himalaya Publishing House          | Delhi         |
| 5              | Services Marketing Text and Cases                  | Steve Baron and Kim Harris               | MacMillian Business                | London        |
| 6              | Selling the invisible                              | Harry Beckwith                           | Business Plus                      | Boston        |
| 7              | Services Marketing                                 | Peter Mudie and Anjela Pierrie           | Butterworth-Heinemann              | Great Britain |
| 8              | Services Marketing Concepts Strategies and Cases   | K. Douglas Hoffman and John E.G. Bateson | Cengage Learning                   | USA           |

### **M Com Part I (Semester II) Question Paper Pattern for University Exam**

**Common Paper Pattern for all subjects except Cost Accounting, Management Accounting and Financial Accounting papers.**

**Instruction for the students:**

**1. Question 1 and 6 are compulsory.**

**2. Answer any only three questions from Q no.2 to 5.**

| Q No | Compulsory/Choice             | Nature of Question        | Marks           | Total Marks |
|------|-------------------------------|---------------------------|-----------------|-------------|
| Q1   | Compulsory Question           | MCQ                       | 6 Marks         | 6 Marks     |
| Q2   | Write any three from Q2 to Q7 | Long Answer Question      | 14 Marks        |             |
| Q3   | Write any three from Q2 to Q7 | Long Answer Question      | 14 Marks        |             |
| Q4   | Write any three from Q2 to Q7 | Long Answer Question      | 14 Marks        |             |
| Q5   | Write any three from Q2 to Q7 | Long Answer Question      | 14 Marks        | 42 Marks    |
| Q6   | Compulsory Question           | Write any two short notes | 6 Marks<br>X 2Q | 12 Marks    |

**Total 60 Marks**

**Instruction for the Paper Setters:**

|   |                                                                                                      |
|---|------------------------------------------------------------------------------------------------------|
| 1 | Q2 to Q5 to have at least two parts.( 2+10 or 6+6 or 3+9 or 4+8) as per requirement and suitability. |
| 2 | In Q6. Four short notes one from each chapter.                                                       |
| 3 | Q2 to Q5 Four Long answer questions from each chapter.                                               |

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**T.Y.B.Com. (Regular & External students 2013 Pattern)**

**Compulsory Paper**

**Subject Name:- Advanced Accounting.**

**Course Code:- 302**

**Objectives :-**

- ◆ To impart the knowledge of various accounting concepts
- ◆ To instill the knowledge about accounting procedures, methods and techniques.
- ◆ To acquaint them with practical approach to accounts writing by using software package.

**TERM-I**

| <b>Unit No.</b> | <b>Topic and Contents</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <b>No. of Lectures</b> |
|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| 1.              | <b>Accounting Standards &amp; Financial Reporting (Introduction to IFRS-Fair Value Accounting) :-</b><br>Brief Review of Indian Accounting Standard:- AS-3,AS-7,AS-12,AS- 15, AS-17 to AS-25 simple practical examples of application nature                                                                                                                                                                                                                                 | 12                     |
| 2.              | <b>Final Accounts of Banking Companies:-</b><br>* Introduction of Banking Company- Legal Provisions - Non Performing Assets (NPA) - Reserve Fund - Acceptance, Endorsements & Other Obligations - Bills for Collection - Rebate on Bills Discounted - Provision for Bad and Doubtful Debts - Preparation of Final Accounts in vertical form as per Banking Regulation Act 1949.<br>* Introduction to Core Banking System.                                                    | 12                     |
| 3.              | <b>Insurance Claim Accounts:-</b><br><b>A. Claim for Loss of Stock</b> - Introduction - Procedure for Calculation - Average Clause - Treatment of Abnormal items of goods - Under & Overvaluation of Stock.<br><b>B. Claim for Loss of Profit</b> - Introduction - Indemnity under Policy - Some important terms - Procedure for ascertaining claims.<br><b>C. Claim for Loss of Fixed Assets</b> - Introduction - Some important terms - Procedure for ascertaining claims. | 12                     |
| 4.              | <b>Final Accounts of Co-operative Societies :-</b><br>a. Credit Co-operative Societies :-<br>b. Consumer Co-operative Societies:-<br>Meaning - Allocation of Profit as per Maharashtra State Co-operative Societies Act. Preparation of Final Accounts of Credit Co-operative Societies and Consumer Co-operative societies.                                                                                                                                                 | 12                     |
|                 | <b>TOTAL</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <b>48</b>              |

**TERM - II**

|           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |           |
|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| <b>#5</b> | <b>Computerized Accounting Practices :-</b><br><b>A. Overview &amp; Evolution of GST:</b><br><i>Introduction to GST-Key concepts- Taxes under GST- Central GST- State GST- Union Territory GST- Integrated GST- Cess</i><br><b>B. Registration:</b><br><i>Threshold for Registration-Regular Tax Payer- Composition Tax. Payer-Casual Taxable Person- Non Resident Taxable Person- Unique Identification Number - Registration Number Format.</i><br><b>C. Supply Under GST:</b><br><i>Supply - Valuation of Supply (Numerical on Valuation and Calculation of Tax) - Place of Supply.</i><br><b>D. Income Tax: Tax Deducted at Source (TDS)</b><br><i>Including entries with the help of Accounting Software. (Demonstration and Hands Experience.)</i> | <b>12</b> |
|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|



|    |                                                                                                                                                                                                                                                                                                                                                 |           |
|----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| 6  | <b>Branch Accounts:-</b><br>Stock and Debtors System:- Introduction - Types of Branches - Goods Supplied at Cost & Invoice Price                                                                                                                                                                                                                | 12        |
| 7  | <b>Single Entry System:-</b><br>Conversion of Single Entry into Double Entry :- Introduction - Preparation of Cash Book - Total Debtor Account - Total Creditor Account - Final Accounts.                                                                                                                                                       | 12        |
| 8. | <b>Analysis of Financial Statements :-</b><br>Ratio Analysis:- Meaning - Objectives - Nature of Ratio analysis - Problems on Ratio Analysis restricted to the following Ratio only - *Gross Profit Ratio *Net Profit Ratio * Operation Ratio *Stock Turnover Ratio *Debtor Turnover Ratio *Current Ratio *Liquidity Ratio *Debt to Equity Ratio | 12        |
|    | <b>Total</b>                                                                                                                                                                                                                                                                                                                                    | <b>48</b> |

#### Allocation of Marks :-

|                    |             |
|--------------------|-------------|
| <b>Theory :-</b>   | <b>30%</b>  |
| <b>Problems :-</b> | <b>70%</b>  |
| <b>Total :-</b>    | <b>100%</b> |

#### Recommended Books :-

1. Advanced Accounts : By M.C.Shukla & S.P.Grewal( S.Chand & Co.Ltd. New Delhi)
2. Advanced Accountancy : By S.P. Jain & K.N.Narang (Kalyani Publishers, New Delhi)
3. Advanced Accountancy : By R.L.Gupta & M.Radhaswamy (Sultan Chand & Sons, New Delhi)
4. Advanced Accounting : By Dr. K.N. Jagtap, Dr. S. Zagade.
5. Student Guide to Accounting Standards : D.S.Rawat (Taxman, New Delhi)
6. Accounting Standards : Sanjeev Singhal.
7. Principal of Management Accounting : Dr. S.N.Maheshwari.
8. Advanced Management Accounting : Ravi Kishor.

#### # (For GST) :-

1. Dr. S. N. Maheshwari: Corporate Accounting (Vikas Publishing House Pvt. Ltd. New Delhi)
2. Guidance Notes issued by Institute of Chartered Accountants of India on:
  - a) Accounting for Goods and Service Tax:
  - b) Accounting for Fringe Benefits Tax:
  - c) Accounting for Corporate Dividend Tax:
3. Dr. Vinod Singhania : Direct Taxes, Law and Practice, Taxman Publication, New Delhi.

# **Savitribai Phule Pune University Pune**

## **Syllabus of First Year B.Com (Skill Based) for Hearing Impaired Students**

### **1) INTRODUCTION**

This syllabus for B.Com (Skill Based) Degree Course is developed for hearing impaired students of Savitribai Phule Pune University Pune. This syllabus of B.Com (Skill Based) Degree is for Hearing Impaired Students and it will be introduced in the following order

- i) First Year B.Com(Skill Based)
- ii) Second Year B.Com. (Skill Based)
- iii) Third Year B.Com. (Skill Based)

This B.Com.(Skill Based) Degree Course will consist of three Years. The first year annual examination will be held at the end of the first year. The Second Year annual examination will be held at the end of the second year. The Third annual examination will be held at the end of the third year.

### **2) ELIGIBILITY**

1) No Candidates shall be admitted to enter the First Year of the B.Com.(Skill Based) Degree Course unless he/she has passed the Higher Secondary School Certificate Examination of the Maharashtra State Board of Higher Secondary Education Board OR Other equivalent board or University with English as a passing subject.

2) No candidate shall be admitted to the annual examination of the First year B.Com (Skill Based) unless he/ she has satisfactorily kept two terms for the course at the college at the college affiliated to this University.

3) No candidate shall be admitted to the annual examination of the Second Year unless he/she has kept two terms satisfactorily for the course at the college affiliated to this University.

4) No candidate shall be admitted to the Third year of the B.Com. (Skill Based) Degree Course, unless he/she has passed in all the papers at the First Year B.Com(Skill Based) Examination and has satisfactorily kept two terms for the second year and also two terms for the third year of B.Com(Skill Based) Satisfactorily in a college affiliated to this University.

### **3) A.T.K.T. Rules:**

As far as A.T.K.T. is concerned, a student who fails in two theory and one practical head of Passing at F.Y.B.Com(Skill Based) may be admitted to S.Y.B.Com(Skill Based) . Likewise a student who fails in the two theories and one practical head of passing at S.Y.B.Com(Skill Based).may be admitted to T.Y.B.Com(Skill Based) . But a student passing S.Y.B.Com(Skill Based) but fails in any subject at F.Y.B.Com(Skill Based) cannot be admitted to T.Y.B.Com (Skill Based) .

### **4) Structure of B.Com. (Skill Based) Course.**

## F.Y. B.Com(Skill Based) course for Hearing Impaired

| Paper No | S.No. | Group No.                            | Subjects In the Group                           | Marks     | Hours | Options for students             | Division of marks First year Exam |               |              | Total Marks |
|----------|-------|--------------------------------------|-------------------------------------------------|-----------|-------|----------------------------------|-----------------------------------|---------------|--------------|-------------|
| 101      | 1     | Group A                              | Indian Sign Language ( ISL)                     | 100       | 144   | Compulsory Subject               | Theory 20                         | Practical 60  | Internal 20  | 100         |
| 102      | 2     | Group B ( Languages)                 | Functional English                              | 100       | 144   | Any One Language from This Group | Theory 60                         | Practical 20  | Internal 20  | 100         |
|          |       |                                      | Functional Marathi                              | 100       |       |                                  |                                   |               |              |             |
|          |       |                                      | Functional Hindi                                | 100       |       |                                  |                                   |               |              |             |
| 103      | 3     | Group C (Compulsory Theory Subjects) | Financial Account                               | 100       | 144   | Compulsory Subject               | Theory 60                         | Practical 20  | Internal 20  | 100         |
| 104      | 4     |                                      | Economics                                       | 100       | 144   | Compulsory Subject               | Theory 60                         | Practical 20  | Internal 20  | 100         |
| 105      | 5     | Group D (Optional Subject )          | Business Environment & Entrepreneurship         | 100       | 144   | Any one subject From this group  | Theory 60                         | Practical 20  | Internal 20  | 100         |
|          |       |                                      | Banking and Finance                             | 100       |       |                                  |                                   |               |              |             |
|          |       |                                      | Consumer Protection and Business Ethics         | 100       |       |                                  |                                   |               |              |             |
|          |       |                                      | Essentials of E-Commerce                        | 100       |       |                                  |                                   |               |              |             |
|          |       |                                      | Mathematics and Statistics                      | 100       |       |                                  |                                   |               |              |             |
| 106      | 6     | Group E (Skill based Subjects )      | Computer Fundamentals                           | 100       | 144   | Compulsory Subject               | Theory 20                         | Practical 60  | Internal 20  | 100         |
| 107      | 7     | Group F (Skill based Subjects )      | Cutting and Sewing                              | 100       | 144   | Any One subject from This Group  | Theory 20                         | Practical 60  | Internal 20  | 100         |
|          |       |                                      | Beatification                                   | 100       |       |                                  |                                   |               |              |             |
|          |       |                                      | Photography                                     | 100       |       |                                  |                                   |               |              |             |
|          |       |                                      | Hand and Machine Embroidery                     | 100       |       |                                  |                                   |               |              |             |
|          |       |                                      | Repairing and Maintenance of Electronic devices | 100       |       |                                  |                                   |               |              |             |
|          |       | Total Subject 7                      |                                                 | Total 700 | 1008  | Total Subject 7                  | Theory 340                        | Practical 220 | Internal 140 | 700         |

**Total 190 days 1008 hours for Theory and Practical and 132 hours for Admission, Examination and Other works.**

### (5) Examinations

- There shall be an examination at the end of the First Year which shall be called “Annual Examination”.
- The Annual Examination of subject Compulsory Indian Sign Language from Group A will have practical examination of marks 60. And theory exam of only 20 marks.

3. There will be Theory Examination of 60 marks and practical examination of 20 marks for all languages (Group B) and Economics compulsory paper (Group C ) and Optional Papers ( Group D)
4. The annual Examination of Compulsory Paper Financial Accounting in Group C and all skill based papers in Group E and Group F will have Practical examination of 60 marks and Theory examination of 20marks.
5. There will be internal 20 marks for each subject which will be given by college for internal tutorials and tests
6. The practical examination will be held only at the end of the year.
7. The practical Examination wherever laid down will be conducted before the commencement of the Annual (Theory) examination.
8. For practical examination for 60 marks and 20 marks of First Year B.COM (Skill Based)will be carried out with appointing both internal examiners. For practical examination at Second and Third Year B.COM(Skill Based)both the examiners will be external.
9. Practical examination centre is the college running this course. College will take the responsibility of arranging the practical examinations.
10. Every student must have complete practical related work prescribed in each term.

## **6. WORKLOAD**

As it is unique and first college for Hearing Impaired in University as per the requirement of hearing impaired students hours prescribed for theory and Practical may vary. Prescribed allotted hours are 1.5 times more than hearing students. In beginning it is 1.5 times more than present University norms of workload for lectures, tutorials and practical's per subject in respect of F.Y B.Com.( Skill Based) Course. It is fully depends on the requirement as per the rate of achievement of skills and subject related concepts of Hearing Impaired students.

## **7. UNIVERSITY TERMS**

The dates for the commencement and conclusion of the first and the second terms shall be Determined by the University Authorities. The terms can be kept only by duly admitted Students. The present relevant ordinances pertaining to grant of terms will be applicable. In an extraordinary conditions College authority may apply to university to get permission to change the term as per requirement.

## **8. VERIFICATION AND REVALUATION**

The candidate may apply for verification and revaluation or result through Principal of the College which will be done by the University/College as per ordinance framed in that behalf.

## **9. RESTRUCTURING OF COURSES**

This new revised structure shall be made applicable to the college for hearing Impaired. The College under this structured Programmed shall revise their structure in the light of the new structure of theory and Practical to be introduced

## **10. SETTING OF QUESTION PAPERS**

- 1) A candidate shall have the option of answering the question in every subject.
- 2) The question papers shall be framed so as to ensure that no part of the syllabus is left out of study by a student.
- 3) The question paper shall be balanced in respect of various topics outlined in the syllabus.
- 4) The question papers shall have most of all types of short answer type questions. Considering Lack of Language Development of Hearing Impaired students, As far as possible Long answer Questions will be in adapted form. Each long answer question will be divided in short answer sub questions to get answer of long question from HI student.
- 5) There shall be no overall option in the question paper; instead, there shall be internal option such as either/ or and three/four short answers out of five/six etc.

**11.** The subject wise Syllabus for F.Y.B.Com. (Skill Based) Course shall be as given in the following pages.

## **Syllabus of F.Y. B.Com.( Skill Based) for H.I Students.**

F.Y. B.com.  
Compulsory Language Paper  
Language - Indian Sign Language

Paper No. 101

Total Marks 100  
(Theory 20, Practical 60, Internal 20)

Objectives-

1. Develop skills necessary to sustain brief communication in sign language.
2. Express grammatically correct sentences in Indian Sign Language.
3. Communicate using nonverbal expression to convey messages in sign.
4. Creatively express in ISL i.e. Stories, anecdotes, poetry and songs.
5. Appreciate the linguistic and cultural diversity of Deaf people and behave with respect and understanding

| Unit No. | Topic                                                                                                                                                                                                                                                                              | No. of Lectures |           | Total Hours | Total Marks (Th –Theory , P- Practical ) |    |                                |
|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|-----------|-------------|------------------------------------------|----|--------------------------------|
|          |                                                                                                                                                                                                                                                                                    | Theory          | Practical | 144         | Th                                       | P  | Internal                       |
|          | Section I                                                                                                                                                                                                                                                                          |                 |           |             |                                          |    |                                |
| 1        | Introduction to Language. Origin of Sign language. History of sign language, ISL principles Introduction/orientation<br><br>Sign Language as a structured language. Benefits of Sign Language to Deaf community. Deaf culture and the Deaf community, Law and the deaf Terminology | 20              | 5         | 25          | 5                                        | 10 | Internal test and tutorials 20 |
| 2        | Linguistics of sign language. Phonetics , Phonology, (Morphology) Vocabulary, Grammar ( Syntax), ( semantics) Sentence structure, Pragmatics                                                                                                                                       | 10              | 5         | 15          | 5                                        | -  |                                |
| 3        | ISL Signing : -<br>Finger spelling.<br>Nonverbal Communication & Visual readiness/awareness activities<br>Colors, People/family members, Numbers, Foods, Animals, School signs, Places, Possessives, Interrogatives (who, what, where, etc...)                                     | 5               | 20        | 25          | 2                                        | 10 |                                |
|          | Section II                                                                                                                                                                                                                                                                         |                 |           |             |                                          |    |                                |
| 4        | Time and daily activities, Negation, Classifiers settings and the visual picture, Signs in nature.                                                                                                                                                                                 | 2               | 20        | 22          | -                                        | 5  |                                |
| 5        | Basic conversation / dialogue<br>Introducing Oneself<br>Giving Directions<br>Exchanging Personal Information<br>Describing Others<br>Talking About Surroundings<br>Making Requests<br>Telling Where You Live<br>Talking About Family And Occupations                               | 3               | 20        | 23          | 2                                        | 10 |                                |
| 6        | From setting to storytelling ,More verbs, Dramatic signing, , More idioms, More technical aspects of signing                                                                                                                                                                       | 2               | 15        | 17          | 1                                        | 7  |                                |
| 7        | Remedial grammar                                                                                                                                                                                                                                                                   | 2               | 15        | 17          | 5                                        | 8  |                                |



|                                                                                                                                                                                                  |    |     |     |    |    |    |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|-----|-----|----|----|----|
| a) Parts of Speech And Its Types<br>b) Tenses and concord<br>c) Articles and Voices<br>d) Common Indian errors<br>2. Understanding a passage-its content and structure<br>3. Use of a dictionary |    |     |     |    |    |    |
|                                                                                                                                                                                                  | 44 | 100 | 144 | 20 | 60 | 20 |

Pattern of Theory Question Paper

| S.NO | Question                                                             | Nature of Question                                                                         | Marks |
|------|----------------------------------------------------------------------|--------------------------------------------------------------------------------------------|-------|
| 1    | Question 1<br>Any five from given seven questions                    | Objective Question<br>(Fill in the blanks, Multi choice Questions, Answer in one sentence) | 10    |
| 2    | Question 2<br>(Answer any five questions from given seven questions) | Short answer questions (Answer in four to five lines, Write information and Short notes.)  | 10    |
|      |                                                                      | Total                                                                                      | 20    |

Pattern of Practical Exam Paper

| S.N | Question | Nature of Question                                       | Marks 60 |
|-----|----------|----------------------------------------------------------|----------|
| 1   | 1        | Report of Practical work completed in the year( Journal) | 5        |
| 2   | 2        | Sign the given words<br>( 5 OUT OF 7)                    | 5        |
| 3   | 3        | Identify and write the signed word<br>( 5 OUT OF 7)      | 10       |
| 4   | 4        | Sign the given Sentences<br>( 5 OUT OF 7)                | 10       |
| 5   | 5        | Identify and write the signed sentences<br>( 5 OUT OF 7) | 10       |
| 6   | 6        | Sign the story<br>(One out of two )                      | 10       |
| 7   | 7        | Conversation on given topic.<br>( One out of two)        | 10       |
|     |          | Total                                                    | 60       |

F.Y. B.Com  
Optional Language Paper  
Language - Functional English

Paper No. 102

Total Marks 100  
(Theory 60, Practical 20, Internal 20)

### Objectives

1. Introducing major features of spoken English
2. Creating awareness about using language according to the situation
3. Helping learners overcome common problems of Indian speakers of English
4. Reinforcement of grammar studied up to std. XII

## 5. Helping learners acquire the basic skills of effective writing.

| Unit No. | Topic                                                                                                                                                                                                                                                                                                                                                                              | No. of Lectures |           | Total Hours | Total Marks (Th –Theory , P- Practical ) |    |          |
|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|-----------|-------------|------------------------------------------|----|----------|
|          |                                                                                                                                                                                                                                                                                                                                                                                    | Theory          | Practical |             | Th                                       | P  | Internal |
|          | Section I                                                                                                                                                                                                                                                                                                                                                                          |                 |           |             |                                          |    |          |
| 1        | An Introduction to English Language and Language Skills<br>Definition of Language, Levels of Linguistic Analysis Verbal and non verbal communication,<br>Language Skills<br>Hearing, speaking, reading, writing, communication, Program Planning skills , Comparing, Introductory speech, Introduction of guest, Welcoming. Vote of thanks ,<br>Organs of speech, Speech mechanism | 15              | 5         | 20          | 10                                       | 5  | 20       |
| 2        | 1. Remedial grammar<br>a) Parts of Speech And Its Types<br>b) Tenses and concord<br>c) Articles and Voices<br>d) Common Indian errors<br>2. Understanding a passage-its content and structure<br>3. Use of a dictionary                                                                                                                                                            | 16              | 8         | 24          | 10                                       | 5  |          |
| 3        | Communication skills :<br>1. Taking Leave<br>2. Introducing Yourself<br>3. Introducing People to One Another<br>4. Making Requests and Asking for Directions<br>5. Making and Accepting an Apology<br>6. Inviting and Accepting/Declining an Invitation<br>7. Making a Complaint                                                                                                   | 5               | 15        | 20          | 10                                       | 5  |          |
|          | Section II                                                                                                                                                                                                                                                                                                                                                                         |                 |           |             |                                          |    |          |
| 4        | <b>Letter Writing</b> - Making a Complaint, Congratulating, Expressing Sympathy and Offering Condolences , Making Suggestions, Offering Advice and Persuading , Expressing Agreement/Disagreement and Seeking Clarification.                                                                                                                                                       | 20              | 10        | 30          | 10                                       |    |          |
| 5        | <b>Writing a paragraph-</b> (Guided composition) . Information Transfer - Converting information in charts, tables, diagrams etc . Preparation of own CV. Writing various Applications, Writing and Sending E-mail.                                                                                                                                                                | 20              | 10        | 30          | 10                                       |    |          |
| 6        | <b>Group Discussion and Interview and Interviewing Skills-</b> Initiating – Continuing- Concluding a group Discussion. Preparing for Interview - Facing Interview - Interview Techniques, Interviewing Techniques.                                                                                                                                                                 | 10              | 10        | 20          | 10                                       | 5  |          |
|          |                                                                                                                                                                                                                                                                                                                                                                                    | 86              | 58        | 144         | 60                                       | 20 | 20       |

### Pattern of Question Paper

| S.NO | Question   | Nature of Question | Marks |
|------|------------|--------------------|-------|
| 1    | Question 1 | Objective Question | 10    |

### Pattern of Practical Examination

F.Y. B.Com (Skill Based)  
Optional Language Paper

Language - ú¾µÖÖ¾ÖÆüÖ×,ü ú'Ö,üÖšüß

Paper No. 102

Total Marks 100  
(Theory 60, Practical 20, Internal 20)

## Objectives

1. 'Ö,üÖšÿß ³ÖÖÂÖê“µÖÖ Ã¼ÖÿÖÖ“Öß †Öêâû Ö úᵒᵑ-Ö ᵑêü Öê.
2. ×¾Ö×ᵹÖÂ™ü -ÖĬÂÖÖ Öß, ×¾Ö×ᵹÖÂ™ü -Ö×,üĬÂÖÖÖßŸÖ, ¾µÖ¾ÖÆüÖ,üÖŸÖ 'Ö,üÖšÿß ³ÖÖÂÖê“ÖÖ ^ÖµÖÖê Ö úÃÖÖ ú,üÖ¾ÖÖ µÖÖ²ÖÖ²ÖŸÖ 'ÖÖ×ÆüŸÖß ᵑêü Öê.
3. 'Ö,üÖšÿß ³ÖÖÂÖÖ ²ÖÖê»ÖŸÖÖ-ÖÖ µÖê ÖÖ·µÖÖ ÃÖÖ'ÖÖ-µÖ †ü“Ö Öß ᵑæü,ü ú,ü µÖÖÃÖÖšÿß 'ÖᵑüŸÖ ú,ü Öê.
4. ‡µÖᵑÖÖ ᵑüÆüÖ¾Öß -ÖµÖÖŸÖ †³µÖÖÃÖ»Öê»µÖÖ 'Ö,üÖšÿß ³ÖÖÂÖê“µÖÖ ¾µÖÖ ú,ü ÖÖ“Öê ᵑüæÿß ú,ü Ö ú,ü Öê.
5. -ÖĬ³ÖÖ¾Öß »Öê Ö-ÖÖ“Öß -ÖĬÖÖÖ×'Ö ú úÖĭᵹÖ»µÖê ÃÖÖ-ÖÖ×ᵑüŸÖ ú,ü µÖÖÃÖ †¬µÖµÖ-ÖÖÖÖÃÖ 'ÖᵑüŸÖ ú,ü Öê.

| Unit No. | Topic                                                                                                                                                                                                                                                                                                                                                                                    | No. of Lectures |           | Total Hours | Total Marks<br>(Th –Theory , P- Practical) |   |          |
|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|-----------|-------------|--------------------------------------------|---|----------|
|          |                                                                                                                                                                                                                                                                                                                                                                                          | Theory          | Practical | 144         | Th                                         | P | Internal |
|          | Section I                                                                                                                                                                                                                                                                                                                                                                                |                 |           |             |                                            |   |          |
| 1        | <p>□□□□□ ••• □□□□□ □□□□□□</p> <p>1) □□□□ □□□□□ □□□? □□□□□□□□</p> <p>□□□□□ □□□□□□□□□□□□ □□□□</p> <p>/□□□□□□, □□□□□ -□□□□□□</p> <p>□□□□□□□,</p> <p>2) □□□□□ □□□□□□□ - □□□□□,</p> <p>□□□□□, □□□□, □□□□, □□□□□□,</p> <p>□□□□□□□□ □□□□□□ □□□□□□□</p> <p>□□□□□□□□□□, □□□□□□□□□□□,</p> <p>□□□□□, □□□□□□, □□□□□□</p> <p>, □□□□□, □□□□ □□□□□□□.</p> <p>3) □□□□□□□□□□□, □□□□□</p> <p>□□□□□□□□□</p> | 15              | 5         | 20          | 10                                         |   | 20       |
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|          | Section II                                                                                                                                                                                                                                                                                                                                                                               |                 |           |             |                                            |   |          |
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| 5        | <p>□□□□□□□□ □□□□□□□□□ -</p> <p>□□□□□□□□ □□□□□□□□□□□□□</p> <p>□□□□□□□□ □□□□□, □□□□□/□□□□□ •</p> <p>□□□□□□□□□□□ □□□□□□□□□□□.</p> <p>□□□□□□□□□□ □□□□□□□□□□□</p> <p>□□□□□□□□□ □□□□□□□ □□□□□□□,</p>                                                                                                                                                                                           | 20              | 10        | 30          | 10                                         | 5 |          |

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|   |                                                                                                                                                                                      | 86 | 58 | 144 | 60 | 20 | 20 |

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| 5      | □□□□□□ 5<br>( □□□ □□□□ □□□ □□□□<br>□□□□)             | □□□□□□□□□□                                                                                              | 12  |
| 6      | □□□□□□ 6<br>( □□□□ □□□□□ •□□□□□□□□ )                 | □□□□□□□□□□□□□□□□ ( 10 □□ 15 □□□<br>□□□□□□ )<br>□□□□□□□□ /□□□□□□□□ / □□□□□□□□                            | 6   |
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- $\text{ØÆü}\text{æüß} \text{ êü } \text{üÖ}^2\text{æü}^3\text{Öêæü}, \text{¾ÖYÖÖ}-\text{Öß} \text{ êü } \times\text{'Ö}\mu\text{Ö}'\text{Ö}, \text{ úÖ,ü} \text{ ú}, \text{Ø}\text{'Ö} \text{ Ö}, \text{¾Ö}\text{'Ö}-\text{Ö}, \text{ØÆü}\text{æüß} \text{ üÖ}^2\text{æü}\text{Ö¾Ö}\text{'Öß}, \text{'ÖÖ}\times, \text{ü}^3\text{ÖÖ}\times\text{ÄÖ} \text{ ú } \text{üÖ}^2\text{æü}\text{Ö¾Ö}\text{'Öß}, \text{¾ÖÖ}\text{Æ}\mu\text{ÖÖÖ}\text{üÖ} \text{ †Ö}\times\text{æü} \text{ üß } \cdot\text{ÖÖ}-\text{Ö} \text{ úÖ,üß} \text{ æêü}-\text{ÖÖ} \dots$
- $\text{ØÆü}\text{æüß} \text{ }^3\text{ÖÖÄÖÖ} \text{ êü } \text{úÖ}\mu\text{ÖÖÖ}\text{'Ö}\mu\text{Öß}-\text{Ö} \text{ Y'ÖÖê } \text{¾ÖÖ} \text{¾}\mu\text{Ö¾Ö}\text{ÆüÖ,üÄÖê} \text{"}\text{üÖ}_i\text{ÖÖê} \text{ úÖê } \text{†¾Ö} \text{ ÖYÖ} \text{ ú,üÖ}-\text{ÖÖ} \dots$
- $\text{ØÆü}\text{æüß} \text{ } \text{†}\times^3\text{Ö¾}\mu\text{ÖÜ}\text{ÆYÖ} \text{ úÖ} \text{ úÖ}\text{ü}_i\text{Ö}\text{'Ö}^2\text{æüÖ}-\text{Öê} \text{ êü } \times\text{'Ö}\mu\text{Öê} \text{ ÄÖÖ,ü}\text{'Öê} \text{ Ö}-\text{Ö}, \text{ÄÖÖ} \text{ Öê}-\text{Ö} \text{ Ö}, \text{×}-\text{Ö}^2\text{ÖÖ}-\text{Ö}, \text{ ú}\text{'Ö}-\text{ÖÖ}\times\text{¾ÖÄYÖÖ,ü} \text{ êü } \text{'Öê} \text{ Ö}-\text{Ö} \text{ üß } \cdot\text{ÖÖ}-\text{Ö} \text{ úÖ,üß} \text{¾ÖÖ} \text{æüÖÆü,ü} \text{ Ö æêü}-\text{ÖÖ} \dots$
- $\text{'Ö,üÖsüß} \text{¾ÖÖ} \text{ †Ö} \text{ Ö}\text{üê}\text{'ÖßÄÖê } \text{ØÆü}\text{æüß} \text{'Öê} \text{ †}-\text{Öä¾ÖÖæü} \text{ üß } \text{Ö'ÖYÖÖ} \text{ ×¾Ö} \text{ ú}\times\text{ÄÖYÖ} \text{ ú,ü-Öê} \text{ êü } \times\text{'Ö} \text{ †}-\text{Öä¾ÖÖæü} \text{ üß } \text{ÄÖÖêæüÖÆü,ü} \text{ Ö } \cdot\text{ÖÖ}-\text{Ö} \text{ úÖ,üß} \text{ æêü}-\text{ÖÖ} \dots$

| Unit No. | Topic     | No. of Lectures |           | Total Hours | Total Marks<br>(Th –Theory , P- Practical) |   |          |
|----------|-----------|-----------------|-----------|-------------|--------------------------------------------|---|----------|
|          |           | Theory          | Practical |             | Th                                         | P | Internal |
|          | Section I |                 |           |             |                                            |   |          |
| 1        | ú<br>:    | 14              | 4         | 18          | 5                                          | 2 | 20       |
| 2        | -<br>:    | 14              | 4         | 18          | 5                                          | 2 |          |
| 3        |           | 14              | 4         | 18          | 5                                          | 2 |          |

|   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |     |    |     |    |    |    |
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|   | Section II                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |     |    |     |    |    |    |
| 4 | <p>□□□□□□□□□□□□□□</p> <p>□□□□ □□□□□□ □□□□□□□□</p> <p>□□□□□□□□□□□□ - □□□□□□□□□□ □□□□□□</p> <p>, □□□□, •••, □□□□, □□□□□□, □□□□□□, □□□□□□□□</p> <p>□□□□□□□□</p> <p>□□□□□□ □□□□ □□□□ - □□□□□□ ••••</p> <p>□□□□□□□□□□ ••• □□□□ □□□□□□□□ □□□□□□□□</p> <p>□□□□□□□□ - □□□□□□□□□□</p> <p>□□□□□□□□, □□□□□□□□□□ • □□□□□□□□□□</p>                                                                                                                                                                   | 14  | 4  | 18  | 10 | 4  |    |
| 5 | <p>□□□□□□□□□□□□ □□□□□□</p> <p>□□□□□□□□ □□□ □□□□□□□□</p> <p>□□□□□□□□□□□□ □□□□□□□□ □□□□□□□□</p> <p>□□□□□□□□□□□□ □□□□□□ □□ □□□□□□□□□□□□</p>                                                                                                                                                                                                                                                                                                                                                | 14  | 4  | 18  | 5  | 2  |    |
| 6 | <p>□□□□□□□□□□□□ □□□□□□□□□□</p> <p>□□□□□□□□□□□□ □□□□□□□□□□ - □□□□□□□ ••</p> <p>□□□□□□□□□□</p> <p>□□□□□□□□□□□□ □□□□□□□□□□□□ □□□□□□□□□□</p> <p>□□□□□□□□□□ □□ □□□□□□□□</p> <p>□□□□□□□ □□□□ (Official Letter)</p> <p>□□□□□□□□□□ □□□□ (Demi-official Letter)</p> <p>□□□□□□□ (Memorandum)</p> <p>□□□□□□□□ (Circular)</p> <p>□□□□□□□□□ (Endorsement)</p> <p>□□□□□□□□□ (Reminder)</p> <p>□□□□□□□□ (Acknowledgement)</p> <p>□□□□□□□ (Tender)</p> <p>□□□□□□ (Notice)</p> <p>□□□□□□□□□ (Report)</p> | 14  | 4  | 18  | 10 | 2  |    |
| 7 | <p>□□□□□□□□ □□□□□□</p> <p>□□□□□□□□ □□ □□□□□ □□□ □□□□□□□□</p> <p>□□□□□□□□ □□ □□□□□□□□ □□□□□□</p> <p>□□□□□□□□ □□ □□□□□□□□</p> <p>□□□□□□□□ □□□□□□□□ □□□□□□□□□ □</p> <p>□□□□□□□□ □□ □□□□□□□□□□</p>                                                                                                                                                                                                                                                                                          | 14  | 4  | 18  | 10 | 2  |    |
| 8 | <p>□□□□□□□□</p> <p>□□□□□□□□ □□□□ □□□□ □□□□□□□□□□</p> <p>□□□□□□ ( □□□□□□ ) □□□□□□ □□□□□□ □□</p> <p>□□□□□□□□□ □□□□□□</p> <p>□□□□□□□ □□ □□□□</p> <p>□□□□□□ □□ □□□□□ □□□□□ □□□□□ □□□□□ □□</p> <p>□□□□□□□□□□</p>                                                                                                                                                                                                                                                                             | 14  | 4  | 18  | 10 | 4  |    |
|   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 120 | 24 | 144 | 60 | 20 | 20 |

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Total Marks 100  
(Theory 60, Practical 20, Internal 20)

### Objectives -:

1. To impart the knowledge of various accounting concepts



2. To instill the knowledge about accounting procedures, methods and techniques.
3. To acquaint them with practical approach to accounts writing by using software package.

| Unit No. | Topic                                                                                                                                                                                                                                                                                                                                                    | No. of Lectures         |           | Total Hours | Total Marks  |           |          |
|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|-----------|-------------|--------------|-----------|----------|
|          |                                                                                                                                                                                                                                                                                                                                                          | Theory                  | Practical |             | Theory       | Practical | Internal |
|          | <b>Section I</b>                                                                                                                                                                                                                                                                                                                                         |                         |           |             |              |           |          |
| 1.       | <b>Piecemeal Distribution of Cash</b><br>Meaning and Introduction, Surplus Capital Method and Maximum Loss Method <b>Practical- (Version ERP 9 Tally )</b>                                                                                                                                                                                               | 16<br>(Manual problems) | 4         | 20          | 10+1         | 20        | 20       |
| 2.       | <b>Amalgamation of Partnership Firms:-</b><br>Meaning and Introduction, Objectives, Methods of accounting<br><b>Practical- (Version ERP 9 Tally )</b>                                                                                                                                                                                                    | 16<br>(Manual problems) | 4         | 20          | 10+2         |           |          |
| 3.       | <b>Conversion of a partnership firm into a limited company</b><br>Meaning and introduction, objectives, effects, methods of calculation of purchase consideration (Net Asset and Net Payment method), accounting procedure in the books of the firm and balance sheet of new company<br><b>Practical- (Version ERP 9 Tally )</b>                         | 16<br>(Manual problems) | 4         | 20          | 10+2         |           |          |
| 4.       | <b>Computerized Accounting Environment</b><br>Meaning and Introduction, application of accounting software package, Voucher entry through software package.                                                                                                                                                                                              | 8                       | 8         | 16          | 5+1          |           |          |
|          | <b>Section II</b>                                                                                                                                                                                                                                                                                                                                        |                         |           |             |              |           |          |
| 5.       | <b>Introduction and Relevance of Accounting Standards</b><br>Overview of Accounting Standards in India-Concept, Need, Scope and Importance. Study of AS- 1, AS- 2, AS- 4 and AS- 9 <b>Practical- (Version ERP 9 Tally )</b>                                                                                                                              | 12                      | --        | 12          | 7+2          |           |          |
| 6.       | <b>Royalty Accounts [excluding sub-lease]:</b><br>Royalty, Minimum Rent, Short Workings, Recoupment of Short Working, Lapse of Short Working. Journal Entries and Ledger Accounts in the Books of Landlord and Lessee. <b>Practical- (Version ERP 9 Tally )</b>                                                                                          | 16<br>(Manual problems) | 4         | 20          | 10+1         |           |          |
| 7.       | <b>Hire Purchase and Installment System:[Excluding H. P. Trading]</b><br>Basic Concepts and Distinction, Calculation of Interest and Cash Price, Journal Entries And Ledger Accounts in The Books of Purchaser and Seller <b>Practical- (Version ERP 9 Tally )</b><br>( Chapter 6 and 7 should be in first term and chapter 2 should be in second term ) | 16<br>(Manual problems) | 4         | 20          | 8+2          |           |          |
| 8.       | <b>Departmental Accounts</b><br>Meaning and Introduction, Methods and Techniques, Allocation of expenses, Inter Departmental Transfers, Provision for unrealized profits <b>Practical- (Version ERP 9 Tally )</b>                                                                                                                                        | 12<br>(Manual problems) | 4         | 16          | 8+1          |           |          |
|          | <b>Total</b>                                                                                                                                                                                                                                                                                                                                             | <b>112</b>              | <b>32</b> | <b>144</b>  | <b>68+12</b> | <b>20</b> |          |

#### Books -

1. Financial Accounting: By P. C. Tulsian (Tata McGraw-Hill Publishing Co. Ltd. New Delhi)
2. Financial Accounting: By A. Mukharji & M. Hanif (Tata McGraw-Hill Publishing Co. Ltd. New Delhi)
3. Financial Accounting: By S.N. Maheshwari & S.K. Maheshwari (Vikas Publishing House Pvt. Ltd)
4. Financial Accounting: By Dr. K.N. Jagtap, Dr. S. Zagade & Dr. A.H. Gaikwad (Success Publications, Pune)

5. Advanced Accounts: By M.C. Shukla & S.P. Grewal (S.Chand & Co. Ltd. New Delhi)  
 6. Advanced Accountancy: By S.P. Jain & K.N. Narang ( Kalyani Publishers, New Delhi)  
 7. Advanced Accountancy: By R.L.Gupta & M. Radhaswamy (Sultan Chand & Sons, New Delhi)

**Question Paper Pattern**  
**Financial Accounting (F.Y.BCOM)**

- Q. 1 Objective Types Question (All Unit)**  
 a) Fill in the Blanks (5 Marks)  
 b) True or False (5 Marks)
- Q.2 Manual Problem (14 Marks)** (Unit-1)  
 (Piecemeal Distribution of Cash)  
 OR
- Q.2 Manual Problem (14 Marks)** (Unit-2)  
 (Amalgamation of Partnership Firm)
- Q.3 Manual Problem (12 Marks)** (Unit-3)  
 (Conversion of a Partnership Firms)  
 OR
- Q.3 Manual Problem (12 Marks)** (Unit-6)  
 (Royalty Account)
- Q.4 Hire Purchase & Installment System (12 Marks)** (Unit-7)  
 OR
- Q.4 Manual Problem (12Marks)** (Unit-8)  
 (Departmental Accounting)
- Q.5 Short Note (Any - 3) (12 Marks)** (All Unit)

**F.Y. B.Com (Skill Based).**  
**Compulsory Paper 2- Economics**

Paper No. 104

Total Marks 100  
 (Theory 60, Practical 20, Internal 20)

**Objectives :-**

1. To expose Students of Commerce to basic micro economic concepts and inculcate an analytical approach to the subject matter.
2. To stimulate the student interest by showing the relevance and use of various economic theories.
3. To apply economic reasoning to problems of business.

| Unit No. | Topic                                                                                                                                                                                                    | No. of Lectures |           | Total Hours | Total Marks (Th –Theory , P- Practical ) |     |          |
|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|-----------|-------------|------------------------------------------|-----|----------|
|          |                                                                                                                                                                                                          | Theory          | Practical |             | Th 60                                    | P20 | Internal |
|          | Section I                                                                                                                                                                                                |                 |           |             |                                          |     |          |
| 1        | INTRODUCTION.<br>1.1 Meaning, Nature and Scope of Business Economics- (Micro)<br>1.2 Difference between Micro and Macro Economics.<br>1.3 Tools for Analysis a. Functional Relationships b. Schedules c. | 16              | 8         | 24          | 10                                       | 4   | 20       |

|   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |    |    |    |    |   |  |
|---|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|----|----|----|---|--|
|   | <p>Graphs d. Equations</p> <p><b>1.4 Goals of firms</b></p> <p><b>a) Economic Goals of Firms</b></p> <ol style="list-style-type: none"> <li>1. Profit Maximization</li> <li>2. Shareholders Wealth Maximization</li> <li>3. Management Reward Maximization</li> <li>4. Growth of the firm</li> <li>5. Sales maximization</li> <li>6. Long run survival</li> </ol> <p><b>b) Non-Economic goals</b></p> <ol style="list-style-type: none"> <li>1. Political power, Prestige</li> <li>2. Social responsibility and welfare</li> <li>3. Goodwill of employees</li> </ol> <p>(Practical- Visit to small scale industry and IT Industry and preparation of report )</p>                                                                                                                                                                                                                                                                                                                                  |    |    |    |    |   |  |
| 2 | <p><b>DEMAND ANALYSIS</b></p> <p><b>2.1 Elasticity of Demand</b>, Types of Elasticity, Price Elasticity, Income Elasticity and Cross Elasticity.</p> <p><b>2.2 Consumer Behavior</b></p> <p><b>a) Marginal Utility Approach - Limitations</b></p> <p>b) Indifference Curve Analysis - Concept - Characteristics - Consumer Equilibrium</p> <p><b>2.3 Demand Forecasting and Estimation</b></p> <p>a) Meaning and objectives of Demand Forecasting</p> <p>b) Methods of Demand Forecasting</p> <p>c) Descriptive Analysis of</p> <p><b>i) Direct Methods</b></p> <ol style="list-style-type: none"> <li>1) Consumer Survey</li> <li>2) Expert opinion</li> <li>3) Simulating market situation</li> <li>4) Controlled Market Experiments</li> </ol> <p><b>ii) Indirect Methods</b></p> <ol style="list-style-type: none"> <li>1) Simple correlation</li> <li>2) Trend Projections</li> </ol> <p>(Practical- Survey on Deaf consumers and write their views on marketing situations/ conditions )</p> | 14 | 10 | 24 | 10 | 4 |  |
| 3 | <p><b>PRODUCTION AND COST ANALYSIS</b></p> <p>3.1 Production Function – Meaning</p> <p>3.2 Law of Variable Proportions - The Three Stages</p> <p>3.3 Law of Returns to Scale - The Three Stages</p> <p>3.4 Economies and Diseconomies of Scale – Internal and External</p> <p>3.5 Cost Analysis – Types of Costs</p> <p>a) Types of Costs 1) Total cost 2) Average Cost 3) Marginal Cost 4) Opportunity cost</p> <p>b) Behavior of Cost Curves 1) In the Short Run 2) In the Long Run</p> <p>(Practical – Sums based on cost analysis )</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 18 | 6  | 24 | 10 | 3 |  |
|   | <b>SECTION II</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |    |    |    |    |   |  |
| 4 | <p><b>REVENUE BEHAVIOUR</b></p> <p>4.1 Meaning and Importance of Revenue Concepts</p> <p>4.2 Total Revenue (TR), Average Revenue (AR) Marginal Revenue (MR).</p> <p>4.3 Relationship between Total Revenue, Average Revenue and Marginal Revenue</p> <p>(Practical-Practical knowledge regarding Revenue Behavior )</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 12 | 12 | 24 | 10 | 3 |  |
| 5 | <p><b>PRICING UNDER VARIOUS MARKET CONDITIONS</b></p> <p>5.1 Perfect Competition – Features and equilibrium</p> <p>5.2 Monopoly– Features and equilibrium, Price Discrimination</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 12 | 12 | 24 | 10 | 3 |  |

|   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |    |    |     |    |    |    |
|---|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|----|-----|----|----|----|
|   | 5.3 Monopolistic competition - Features and equilibrium<br>5.4 Oligopoly – Features<br>(Practical-Report writing on pricing under various market conditions. Example- Rise in price of vegetables/fruits/ groceries according to market condition )                                                                                                                                                                                                                                                                                                                                                                                                                    |    |    |     |    |    |    |
| 6 | <b>FACTOR PRICING</b><br><b>6.1</b> Marginal Productivity theory of Distribution.<br><b>6.2</b> Rent a) Theories of Rent i) Ricardian Theory of Rent ii) Modern Theory of Rent<br><b>6.3</b> WAGES - i) Backward sloping Supply curve of Labor. ii) Collective Bargaining & Trade Unions<br><b>6.4</b> INTEREST - a) Theories of Interest –<br>i) Loanable Fund Theory of Interest<br>ii) Keynes Liquidity Preference Theory of Interest<br><b>6.5</b> PROFIT –<br>a) Theories of Profit –<br>i) Dynamic Theory of Profits<br>ii) Innovation Theory of Profit<br>iii) Risk and Uncertainty Theory of Profit<br>(Practical- Diagrams , Sums And Graphs, Tables, Charts) | 14 | 10 | 24  | 10 | 3  |    |
|   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 86 | 58 | 144 | 60 | 20 | 20 |

### Reference Book -

1. Economics – Samuelson P. A. and Nordhaus W. D. TataMcGraw Hill Publishing Co. Ltd. N.Delhi.
2. A text Book of Economic Theory – Stonier A. W. and Hague D. C. Longman Green and Co. London
3. Business Economics – V. G. Mankar, Macmillan India Ltd. N. Delhi.
4. Vyavasaik Arth Shastra (Sukshm) Dr. T. G. Gite, Atharv Publication. Pune
5. Modern Micro Economics – Theory and Applications H.L. Ahujna S. Chand and Co Ltd. N Delhi.
6. Business Economics – Dr. Girija Shankar – Atharv Publication, Pune.
7. Principals of Economics – N.Gregory Mankiw 6<sup>th</sup> edition 2012 Cengage learning india pvt ltd Delhi
8. Understanding Microeconomics- Robert L. Helibroner and Lester C. Thurow. Prentice Hall International Inc. London.
9. Micro Economic Theory An Analytical Approach – J M Joshi and R. Joshi Wishwa Prakashan (Division of Wiley Eastern Limited) N. Delhi.
10. Business & Managerial Economics (in the global Context) Sampat Mukherjee. New Central Book Agency, Calcutta.
11. Micro Economics Theory and Application D.N.Dwivedi Second Edition PEARSON.

### • Pattern of Question Paper

| Question No. | Nature of Question                                                                                | Marks    |
|--------------|---------------------------------------------------------------------------------------------------|----------|
| 1 .A         | Objective Type Questions Answer in a word/<br>One sentence (Solve any seven)                      | Marks 7  |
| 1 .B         | Objective Type Questions -<br>(Match the pairs, fill in the blanks, multiple<br>choice Questions) | Marks 6  |
| 2            | Answer the following Questions in one to two<br>sentences (Any 5)                                 | 10 Marks |
| 3            | Answer the following Questions in three to four<br>sentences (Any 5)                              | 15Marks  |
| 4            | Write short note with the help of sub questions<br>or given points on any 2                       | 10 marks |

|                                             |                                                                                                                   |          |
|---------------------------------------------|-------------------------------------------------------------------------------------------------------------------|----------|
| 5 (Long Question with 4 to 5 Sub questions) | Answer the following essay type questions in 15 to 20 lines (100 words) with the help of sub questions.( Any two) | 12 marks |
|                                             | Total                                                                                                             | 60       |

**F.Y. B.Com (Skill Based) .**

**Optional Subject 1**

**Name :- Business Environment & Entrepreneurship**

Paper No. 105

Total Marks 100

(Theory 60, Practical 20, Internal 20)

**Objectives :**

1. To make the students aware about the Business Environment.
2. To create entrepreneurial awareness among students,
3. To motivate students to make their mind set for taking up entrepreneurship as career.

**Paper No 105**

| Unit No. | Topic                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | No. of Lectures |                  | Total Hours | Total Marks |           |          |
|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|------------------|-------------|-------------|-----------|----------|
|          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Theory          | Practical /Visit | 144         | Theory      | Practical | Internal |
|          | <b>Section I</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                 |                  |             |             |           |          |
| 1.       | <b>Business Environment –</b><br>Concept- Importance of business environment<br>Inter relationship between environment and entrepreneur<br>Types of Environment<br>Inter relationship between environment and entrepreneur, Types of Environment- Natural, Economic - Political - Social - Technical - Cultural - Educational - Legal - Cross-cultural – Geographical etc.                                                                                                             | 16              |                  | 16          | 5+1         |           | 20       |
| 2        | <b>Environment Issues -</b><br>Protecting the Natural Environment – prevention of pollution and depletion of natural resources; conservation of natural resources, Opportunities in Environment                                                                                                                                                                                                                                                                                        | 18              |                  | 18          | 10+2        |           |          |
| 3.       | <b>Problems of growth Relevance to entrepreneurship - Unemployment-</b> Poverty-Regional imbalance- Social injustice- Inflation – Parallel Economy- Lack of Technical knowledge and information.                                                                                                                                                                                                                                                                                       | 20              |                  | 20          | 8+2         |           |          |
| 4.       | <b>The Entrepreneur-</b> Evolution of the term entrepreneur- Competencies of an entrepreneur - Distinction between entrepreneur and manager- Entrepreneur and enterprise - Entrepreneur and Entrepreneurship. Entrepreneur and Entrepreneurship                                                                                                                                                                                                                                        | 16              |                  | 16          | 5+1         |           |          |
|          | <b>Section II</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                 |                  |             |             |           |          |
| 5        | <b>Entrepreneurial Behavior -</b> Comparison between entrepreneurial and non-entrepreneurial Personality-Habits of Entrepreneurs - Dynamics of Motivation                                                                                                                                                                                                                                                                                                                              | 14              |                  | 14          | 5+2         |           |          |
| 6.       | <b>Entrepreneurship - Importance</b> of Entrepreneurship - Economic Development and Industrialization, Entrepreneurship in Economic Theory- Role of Entrepreneurship ~ Entrepreneur as a catalyst. ( <b>Practical</b> -How will you start your own Entrepreneurship? Write with beginning to End. How will you launch your product/ start your business? How will you attract customers for your product? At the end how will you make your profit and loss account and balancesheet ) | 20              |                  | 20          | 5+1         | 10        |          |
| 7.       | National Level Training Organizations in promoting entrepreneurship.<br>Entrepreneurship Development Institute of India (EDII)<br>State Level Training Organizations in promoting entrepreneurship<br>(1) MCED                                                                                                                                                                                                                                                                         | 16              | 4                | 20          | 5+2         | 5         |          |

|   |                                                                                                                                                                                    |            |          |            |              |           |           |
|---|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|----------|------------|--------------|-----------|-----------|
|   | (2) DIC<br>(3) Maratha Chamber of Commerce and their role.<br>(4) Local NGO's and their roles<br>(Practical- Visit to local NGO's supporting Entrepreneurship and Report Writing ) |            |          |            |              |           |           |
| 8 | Biographical study of entrepreneurs<br>i) Narayan R. Murthy<br>ii) Cyruas Poonawala<br>iii) Any successful Entrepreneur from your area (Milind Kamble)                             | 16         | 4        | 20         | 5+1          | 5         |           |
|   | <b>Total</b>                                                                                                                                                                       | <b>136</b> | <b>8</b> | <b>144</b> | <b>48+12</b> | <b>20</b> | <b>20</b> |

### Recommended Books

1. Dynamics of Entrepreneurship Development and Management - Desai Vasant – Himalaya Publishing House
2. Crusade - Shirke B.G. - Ameya Prakashan
3. Entrepreneurship - Robert D. Histrith - Tata McGraw Hill Publishing Co.
4. Entrepreneurial Development – Khanka - S. Chand.
5. Entrepreneurial Development – Gupta, Shrinivasan - S. Chand.
6. Essentials of Business Environment - K. Aswathappa - Himalaya Publishing House
7. Indian Economy - Dutta Sundaram –
8. A complete guide to successful Entrepreneurship – Pandya G. N. – Vikas Publishing House
9. Trainers Manuals - NIESBUD, New Delhi.
10. Trainers Manuals - NIMID, Mumbai,
11. Business Environment - Francis Cherunilam – Himalaya Publishing House.
12. Business Environment - Tandon B C.
13. Udyog - Udyog Sanchalaya, Mumbai.
14. Environmental Studies basic concepts – U. K. Ahluwalia
15. Environmental Pollution & Health – U. K. Ahluwalia

### Recommended Journal

1. The Journal of Entrepreneurship EDI Ahmedabad.
2. Udyojak – M.C.E.D.
3. Government of Maharashtra Website
4. Government of India Website

### Pattern of Question paper

#### Q.1 Theoretical Background (14 Marks)

##### A) Theoretical Background (7 Marks)

##### B) Theoretical Background (7 Marks)

#### Q.2 Theoretical Background (12 Marks)

OR

#### Q.2 Theoretical Background

##### A) Theoretical Background (6 Marks)

##### B) Theoretical Background (6 Marks)

#### Q.3 Theoretical Background (12 Marks)

OR

#### Q.3 Theoretical Background (12 Marks)

#### Q.4 Theoretical Background (10 Marks)

OR

#### Q.4 Theoretical Background (10 Marks)

**Q. 5 Short Note (Any 3) (12 Marks)**

**F.Y. B.Com (Skill Based) .**  
**Optional Subject 2**  
**Banking and Finance**  
**[Fundamentals of Banking]**

Paper No. 105

Total Marks 100  
(Theory 60, Practical 20, Internal 20)

**Objective:**

1. To acquaint the students with the fundamentals of banking.
2. To develop the capability of students for knowing banking concepts and operations.
3. To make the students aware of banking business and practices.
4. To give thorough knowledge of banking operations.
5. To enlighten the students regarding the new concepts introduced in the banking system.

| Unit No. | Topic                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | No. of Lectures |                  | Total Hours | Total Marks |              |             |
|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|------------------|-------------|-------------|--------------|-------------|
|          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Theory          | Practical /Visit | 144         | Theory 60   | Practical 20 | Internal 20 |
|          | <b>Section I</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                 |                  |             |             |              |             |
| 1.       | <b>Evolution of banking</b><br>1.1 Origin, Meaning and Definition of 'Bank'<br>1.2 Evolution of banking- Europe, USA & Asia<br>1.3 Evolution of banking in India.<br>1.4 Structure of Indian Banking System                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 16              |                  | 16          | 5+1         |              | 20          |
| 2        | <b>Functions of Bank</b><br><b>2.1 Primary functions:</b><br>A) Accepting deposits: Demand deposits: Current and Savings; No Frills Account, Time deposits-Recurring and Fixed deposits, Flexi Deposits (Auto Sweep)<br>B) Granting Loans and Advances- Term Loan, Short term credit, Overdraft, Cash Credit, Purchasing, Discounting of bills,<br><b>2.2 Secondary functions:</b><br>A) Agency Functions- Payment and Collection of Cheques, Bills and Promissory notes, Execution Of standing instructions, Acting as a Trustee, Executor.<br>B) General Utility Functions: Safe Custody, Safe deposit vaults, Remittances of funds, Pension Payments, Acting as a dealer in foreign exchange.<br>( Practical- Visit to Nationalized bank and write report) | 18              |                  | 18          | 10+2        | 5            |             |
| 3.       | <b>Procedure for opening and operating of deposit account</b><br>3.1 Procedure for Opening of Deposit Account: Know Your Customer- Needs and Norms (KYC Norms), Application form, Introduction, Proof of residence, Specimen signature and Nomination: Their Importance<br>3.2 Procedure for Operating Deposit Account: Pay-in-slips, Withdrawal slips, Issue of pass book, (Current Savings or Recurring deposits), Issue of Cheque book, Issue of fixed deposit receipt, Premature encashment of fixed deposits and loan against fixed deposit. Recurring                                                                                                                                                                                                   | 18              | 2                | 20          | 8+2         | 5            |             |

|           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |            |           |            |              |           |  |
|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|-----------|------------|--------------|-----------|--|
|           | deposits:<br>Premature encashment and loan against recurring deposit.<br>3.3 a) Closure of accounts<br>b) Transfer of accounts to other branches/Banks<br>3.4 Types of account holders<br>a) Individual account holders- Single or joint, Illiterate, Minor, Married woman, Pardahnashin woman, Nonresident accounts<br>b) Institutional account holders- Sole proprietorship, Partnership firm, Joint stock company, Hindu undivided family, Clubs, Associations and Societies and Trusts.<br>( Practical- Fill all above mentioned forms and make journal of it) |            |           |            |              |           |  |
| <b>4.</b> | <b>Methods of Remittances</b><br>4.1 Demand drafts, bankers' Cheques and Truncated Cheques<br>4.2 Mail transfer, Telegraphic transfer,<br>4.3 Electronic Funds Transfer- RTGS, NEFT and SWIFT                                                                                                                                                                                                                                                                                                                                                                      | <b>14</b>  | <b>2</b>  | <b>16</b>  | <b>5+1</b>   |           |  |
|           | <b>Section II</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |            |           |            |              |           |  |
| <b>5</b>  | <b>5. Lending principles, Credit Creation and Balance Sheet of a bank</b><br>5.1 Safety, Liquidity, Profitability, Diversification of risks<br>Conflict between liquidity and profitability<br>5.2 Multiple Credit Creation: Process and Limitations<br>5.3 Balance sheet of a commercial bank.<br>(Practical- Illustrations of commercial bank balance sheet Minimum 5)                                                                                                                                                                                           | <b>14</b>  | <b>6</b>  | <b>14</b>  | <b>5+2</b>   | <b>5</b>  |  |
| <b>6.</b> | <b>Negotiable Instruments</b><br>6.1 Definition, meaning and characteristics of Promissory note, Bill of Exchange and Cheque<br>6.2 Types of Cheques- Bearer, Order and Crossed<br>6.3 Types of Crossing- General and Special.                                                                                                                                                                                                                                                                                                                                     | <b>18</b>  | <b>2</b>  | <b>20</b>  | <b>5+1</b>   |           |  |
| <b>7.</b> | <b>Endorsement</b><br>7.1 Definition and meaning of endorsement<br>7.2 Types of endorsement- Blank, Full or Special, Restrictive, Partial, Conditional, Sans Recourse, Facultative.                                                                                                                                                                                                                                                                                                                                                                                | <b>14</b>  |           | <b>20</b>  | <b>5+2</b>   |           |  |
| <b>8</b>  | <b>Technology in Banking</b><br>8.1 Need and importance of technology in banking<br>8.2 E-Banking: ATM, Credit card, Debit card, Tele Banking, Mobile Banking, Net Banking, SWIFT (Society for Worldwide Inter-bank Financial Telecommunication)<br>8.3 Concept and benefits of Core Banking Solution.<br><br>(Practical- How to use internet banking and Importance of Internet Banking)                                                                                                                                                                          | <b>16</b>  | <b>4</b>  | <b>20</b>  | <b>5+1</b>   | <b>5</b>  |  |
|           | <b>Total</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <b>128</b> | <b>16</b> | <b>144</b> | <b>48+12</b> | <b>20</b> |  |

#### Books

- 1.Practice and Law of Banking- G.S.Gill
2. Banking: Law and Practice- P.N. Varshney
3. Banking: Theory and practice- E.Gordon, K. Talraj
4. Banking: Law and practice in India- Tannan
5. Banking: Law and practice in India- Maheshwari
6. Fundamentals of Banking- Dr. G.V.Kayandepatil, Prof. B.R.Sangle, Dr.



7. G.T.Sangle, Prof. N.C.Pawar
8. Banking: Law and Practice- Prof. Mugle
9. Banking and financial system - Vasant Desai
10. Banking theory and practice- K.C.Shekhar
11. Fundamentals of banking'- Dr. R.S.S.Swami
12. Annual Report on trends and progress of banking in India- R.B.I.
13. Toor N. S., Handbook of Banking Information

#### **Pattern of Question paper**

**Q.1 Theoretical Background (14 Marks)**

**A) Theoretical Background (7 Marks)**

**B) Theoretical Background ( 7 Marks )**

**Q.2 Theoretical Background (12 Marks)**

**OR**

**Q.2 Theoretical Background**

**A) Theoretical Background ( 6 Marks )**

**B) Theoretical Background ( 6 Marks )**

**Q.3 Theoretical Background (12 Marks)**

**OR**

**Q.3 Theoretical Background (12 Marks)**

**Q.4 Theoretical Background (10 Marks)**

**OR**

**Q.4 Theoretical Background (10 Marks)**

**Q. 5 Short Note (Any 3) (12 Marks)**

**F.Y. B.Com (Skill Based) .**

**Optional Paper 3**

**Consumer Protection and Business Ethics**

Paper No. 105

Total Marks 100

(Theory 60, Practical 20, Internal 20)

**Objectives:**

- 1) To acquaint the students with consumer and consumer movement.
- 2) To make the students aware about consumer rights, duties and mechanism for resolving their disputes.
- 3) To make students aware about role of united nations and consumers' associations in protection of consumers.
- 4) To make the students aware about laws relating to consumers.
- 5) To acquaint the students with role of Business Ethics in various functional areas

| Unit No. | Topic                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | No. of Lectures |                 | Total Hours | Total Marks |           |          |
|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|-----------------|-------------|-------------|-----------|----------|
|          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Theory          | Practical/Visit | 144         | Theory      | Practical | Internal |
|          | <b>Section I</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                 |                 |             |             |           |          |
| 1.       | 1. 1. Consumer: Concept, Meaning, Definition and Features<br>1. 2. Problems of consumers: Rural and urban, Its Nature and Types<br>1. 3. Consumerism – Meaning, objectives, Benefits-Consumerism in India<br>1. 4. Rights, Duties and Responsibilities of Consumers.<br>1. 5. Consumer Movement-Meaning-Definition-Importance, Scope and Features<br>1. 6. Development of Consumer Movement in India- Problems and Prospects.                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 16              |                 | 16          | 5+1         |           | 20       |
| 2        | <b>Voluntary Consumer Organizations (VCO) and Consumer Protection:</b><br>2. 1. VCO: Origin, Importance, Functions and Limitations<br>2. 2. Challenges before VCOs<br>2. 3. Role of Voluntary Consumer Organization in Consumer Protection in the area of marketing & Advertisements.<br>2. 4. Consumer Education-Meaning-Definition-Objectives<br>Practical: visit to Voluntary Consumer organization and write report                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 16              | 4               | 20          | 10+2        | 10        |          |
| 3.       | <b>United Nations Guidelines for Consumer Protection:</b> 3. 1. United Nations and Consumer Protection<br>3. 2. United Nations Guidelines for Consumer protection, 1985.<br>3.2.1. Objectives.<br>3.2.2. General principles.<br>3.2.3. Guidelines<br>a) Physical Safety<br>b) Promotion and protection of consumers' economic interests<br>c) Standards for the safety and quality of consumer goods and services<br>d) Education and Information Programme<br>e) Promotion of Sustainable Consumption                                                                                                                                                                                                                                                                                                                                                                                   | 18              |                 | 18          | 8+2         |           |          |
| 4.       | <b>Consumer Protection Act, 1986</b><br>4. 1. Background – Need-Scope and Features<br>4. 2. Definitions- Consumer-Goods-Services- Complaints, Complainant- Defect in Goods- Deficiency in Services, Unfair Trade Practices, Restricted Trade Practices.<br>4.3.Consumer Protection Councils-Composition-Working-and Objectives of:<br>a) District Consumer Protection Council<br>b) State Consumer Protection Council<br>c) National Consumer Protection Council<br>4. 4. Mechanism for Redressal-Composition and working of- Consumer Disputes Redressal Agencies:<br>a) District Consumer Disputes Redressal Forum<br>b) State Consumer Disputes Redressal Commission<br>c) National Consumer Disputes Redressal Commission<br>4. 5. Procedure of filing complaints<br>(Practical: Visit to District Consumer Protection Council and report writing & Procedure of Filing complaints ) | 16              |                 | 16          | 5+1         |           |          |
|          | <b>Section II</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                 |                 |             |             |           |          |
| 5        | <b>An overview of various Laws for the Protection of Consumers:</b><br>5. 1. The Bureau of Indian Standards Act, 1986 (Sections - 1,10,11,14,33)<br>5. 2. The Competition Act, 2002 (Sections – 1, 3 to 6)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 14              |                 | 14          | 5+2         | 10        |          |

|    |                                                                                                                                                                                                                                                                                                                                                                              |            |          |            |              |           |           |
|----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|----------|------------|--------------|-----------|-----------|
|    | 5. 3. Right to Information Act, 2005 (Sections – 1 to 11, 18, 19 and 20)<br>5. 4. Food Safety and Standards Act, 2006 (Sections– 1 to 3, 18 to 28)<br><b>(Practical – Collection of information about New trends in various laws for protection of consumers)</b>                                                                                                            |            |          |            |              |           |           |
| 6. | <b>Protection of Consumer against Standard Form of Contract:</b><br>6. 1. Nature and Relevance of Standard Form of Contract<br>6. 2. Judicial Response to Standard Form of Contract in India and abroad<br>6. 3. Legislative Reforms                                                                                                                                         | 20         |          | 20         | 5+1          |           |           |
| 7. | <b>Conceptual Framework of Business Ethics:</b><br>7. 1. Concept of Ethics: Its Meaning and Nature<br>7. 2. Definition importance and Scope of Business Ethics<br>7. 3. Types of Business Ethics; viz:-<br>i. Professional business ethics<br>ii. Ethics of accounting information<br>iii. Ethics of Production<br>iv. Ethics of intellectual property skill, knowledge etc. | 20         |          | 20         | 5+2          |           |           |
| 8  | <b>Business Ethics in Modern Times:</b><br>8. 1. Social Responsibilities of Business<br>8. 2. Business Ethics and Environmental Issues: Indian and International level - Green initiatives<br>8. 3. Management and Ethics<br>i. Ethical Issues in Marketing<br>ii. Ethical Issues in Human Resource Management                                                               | 20         |          | 20         | 5+1          |           |           |
|    | <b>Total</b>                                                                                                                                                                                                                                                                                                                                                                 | <b>140</b> | <b>4</b> | <b>144</b> | <b>48+12</b> | <b>20</b> | <b>20</b> |

#### BOOKS-

1. Law of Consumer Protection in India- P.K. Majumdar (2011), Orient Publishing Co. New Delhi.
2. Practical Guide to Consumer Protection Law, Anup K. Kaushal (2006), Universal Law Publishing Co, New Delhi.
3. Consumer Protection Laws, Prof. Rakesh Khanna, (2005) Central Law Agency, Alahabad.
4. Business Ethics and Corporate Governance, S.K. Bhatia 92005),
5. Consumer Protection Law, Dr. S. R. Myneni, (2010), Asia Law House, Hyderabad.
6. Law of Consumer Protection, Dr. Gurbax Singh, Bharat Law Publication, Jaipur

#### Pattern of Question paper

#### Q.1 Theoretical Background (14 Marks)

##### A) Theoretical Background (7 Marks)

##### B) Theoretical Background (7 Marks)

#### Q.2 Theoretical Background (12 Marks)

OR

#### Q.2 Theoretical Background

##### A) Theoretical Background (6 Marks)

##### B) Theoretical Background (6 Marks)

#### Q.3 Theoretical Background (12 Marks)

OR

#### Q.3 Theoretical Background (12 Marks)

#### Q.4 Theoretical Background (10 Marks)

OR

#### Q.4 Theoretical Background (10 Marks)

#### Q. 5 Short Note (Any 3) (12 Marks)

**F.Y. B.Com (Skill Based) .**  
**Optional Paper 4**  
**Essentials of E-Commerce**

Paper No. 105

Total Marks 100  
 (Theory 60, Practical 20, Internal 20)

**Objective:**

To make a student familiar with the mechanism of conducting business transactions through electronic media. Learning Outcomes: After completing this course, a student is expected to be able to

- ✂ explain various components of e-commerce,
- ✂ understand the dynamics of e-commerce,
- ✂ appreciate the Internet technology and its utility in commercial activities,
- ✂ understand the methodology of online business dealings using e-commerce infrastructure.

| nit No. | Topic                                                                                                                                                                                                        | No. of Lectures |           | Total Hours | Total Marks (Th –Theory , P- Practical ) |      |             |
|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|-----------|-------------|------------------------------------------|------|-------------|
|         |                                                                                                                                                                                                              | Theory          | Practical |             | Th 60                                    | P 20 | Internal 20 |
|         | Section I                                                                                                                                                                                                    |                 |           |             |                                          |      |             |
| 1       | <b>Overview of Electronic Commerce (EC):</b><br>Concept, features, and functions of e-commerce, e-commerce practices v/s traditional practices, scope and limitations of e-commerce.                         | 12              | 2         | 14          | 6                                        | 2    |             |
| 2       | <b>Fundamental of e-commerce:</b><br>Definition and types of e-commerce: B2B, B2C, C2C, and P2P, B2B service provider, e-distributor, procurement and just-in-time delivery.                                 | 14              |           | 14          | 6                                        |      |             |
| 3       | <b>Infrastructure:</b><br>Internet and its role in e-commerce, procedure of registering Internet domain, establishing connectivity to Internet, tools and services of Internet                               | 14              | 2         | 16          | 6                                        | 2    |             |
| 4       | <b>E-Payment:</b><br>Transactions through Internet, requirements of e-payment systems, functioning of debit and credit cards, pre and post payment services.                                                 | 10              | 6         | 16          | 6                                        | 4    |             |
| 5       | <b>Digital economy:</b><br>Major characteristics, economic rules, impact on trading and intermediaries, impact on business processes and functional areas in banking, financial and insurance organizations. | 10              | 2         | 12          | 6                                        | 2    |             |
|         | Section II                                                                                                                                                                                                   |                 |           |             |                                          |      |             |
| 6       | <b>E-Marketing:</b><br>Market place v/s Market space, impact of e-commerce on market, marketing issues in e-marketing, direct marketing, one-to-one marketing.                                               | 10              | 2         | 12          | 6                                        | 2    |             |
| 7       | <b>E-Finance:</b><br>Areas of e-finance, e-banking, traditional v/s e-banking, trading v/s e-trading, importance and advantages of e-trading, operational aspects of e-trading.                              | 10              | 2         | 12          | 6                                        | 2    |             |
| 8       | <b>E-Ticketing:</b><br>Online booking systems, online booking procedure of railways, airlines, tourist and religious places, hotels and entertainment industry.                                              | 10              | 2         | 12          | 6                                        | 2    |             |
| 9       | <b>E-Commerce in India:</b><br>State of e-commerce in India, problems and opportunities in e-commerce in India, legal issues, Social and Ethical Issues, future of e-commerce, Mobile Commerce               | 12              | 2         | 12          | 6                                        | 2    |             |
| 10      | <b>Security in e-commerce:</b>                                                                                                                                                                               | 10              | 6         | 16          | 6                                        | 2    |             |

|                                                                                                                           |     |    |     |    |    |    |  |
|---------------------------------------------------------------------------------------------------------------------------|-----|----|-----|----|----|----|--|
| Setting up Internet security, maintaining secure in Formation, encryption, digital signature and other security measures. |     |    |     |    |    |    |  |
|                                                                                                                           | 112 | 32 | 144 | 60 | 20 | 20 |  |

Reference Books:

1. Daniel Amor, E Business R(Evolution), Pearson Edude.
2. Krishnamurthy, E-Commerce Management, Vikas Publishing House.
3. David Whiteley, E-Commerce: Strategy, Technologies and Applications, Tata McGraw Hill.
4. P. T. Joseph, E-Commerce: A managerial Perspectives, Tata McGraw Hill.
5. Doing Business on the Internet E-COMMERCE (Electronic Commerce for Business): S. Jaiswal, Galgotia Publications.
6. C.S.V.Murthy: E-Commerce-Concepts, Models & Strategies, Himalaya Publishing.
7. Kamallesh K Bajaj & Debjani Nag: E-Commerce, the Cutting Edge of Business- Tata McGraw-Hill, New Delhi.

### Pattern of Question paper

#### Q.1 Theoretical Background (14 Marks)

##### A) Theoretical Background (7 Marks)

##### B) Theoretical Background ( 7 Marks )

#### Q.2 Theoretical Background (12 Marks)

OR

#### Q.2 Theoretical Background

##### A) Theoretical Background ( 6 Marks )

##### B) Theoretical Background ( 6 Marks )

#### Q.3 Theoretical Background (12 Marks)

OR

#### Q.3 Theoretical Background (12 Marks)

#### Q.4 Theoretical Background (10 Marks)

OR

#### Q.4Theoretical Background (10 Marks)

#### Q. 5 Short Note (Any 3) (12 Marks)

### F.Y. B.Com.( Skill Based) Optional Paper 5 Mathematics and Statistics

Paper No. 105

Total Marks 100  
(Theory 60, Practical 20, Internal 20)

1. To prepare for competitive examinations
2. To understand the concept of Simple interest, compound interest and the concept of EMI.
3. To understand the concept of shares and to calculate Dividend
4. To understand the concept of population and sample.
5. To use frequency distribution to make decision.
6. To understand and to calculate various types of averages and variations.
7. To understand the concept and application of profit and loss in business.
8. To solve LPP to maximize the profit and to minimize the cost.
9. To use correlation and regression analysis to estimate the relationship between two variables.
10. To understand the concept and techniques of different types of index numbers.

| Unit No. | Topic                                                                                                                                                                                                                                                                                                                                                      | No. of Lectures |                  | Total Hours | Total Marks |       |             |
|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|------------------|-------------|-------------|-------|-------------|
|          |                                                                                                                                                                                                                                                                                                                                                            | Theory          | Practical /Visit | 144         | Th 60       | Pr 20 | Internal 20 |
|          | <b>Section I</b>                                                                                                                                                                                                                                                                                                                                           |                 |                  |             |             |       |             |
| 1.       | <b>Pre-requisites ( For objective type questions only)</b><br>1. Natural Numbers and Integers<br>2. H.C.F and L.C.M.<br>3. Fractions- addition, subtraction multiplication and division of two or more fractions<br>4. Laws of Indices<br>5. Ratio and Percentage<br>6. Proportion and partnership                                                         | 12              | 2                | 14          | 4           |       |             |
| 2.       | <b>Interest</b><br>1. Simple Interest<br>2. Compound interest (nominal and effective rate of interest )<br>3. Equated Monthly Installments (EMI)<br>(Reducing and flat rate of interest)<br>4. Examples                                                                                                                                                    | 14              | 2                | 16          | 7           | 2     |             |
| 3.       | <b>Shares and dividends</b><br>1. Concept of Shares, face value, market value, Net Asset Value<br>2. Equity Shares and Preference shares<br>3. Dividend<br>4. Bonus Shares<br>5. Examples                                                                                                                                                                  | 10              | 2                | 12          | 4           | 2     |             |
| 4.       | <b>Population and Sample</b><br>1. Definition and concept of Statistics<br>2. Scope of Statistics in Economics, Management Science and Industry<br>3. Concept of Population and Sample<br>4. Methods of Sampling: Simple Random Sampling and Stratified , Random Sampling (Description of procedures only)                                                 | 10              | 2                | 12          | 4           | 2     |             |
| 5.       | <b>Measures of central tendency</b><br>1. Variables Qualitative and Quantitative, Raw data, Classification of data,<br>2. Frequency distribution, cumulative frequency distribution,<br>3. Histogram (finding mode graphically) Ogive curves and its uses.<br>4. Measures of central tendency: Mean, Median for ungrouped and Grouped data.<br>5. Examples | 10              | 6                | 16          | 5           | 4     |             |
|          | <b>Section II</b>                                                                                                                                                                                                                                                                                                                                          |                 |                  |             |             |       |             |
| 6.       | <b>Profit and Loss</b><br>1. Concept of Cost Price, Marked Price and Selling Price<br>2. Trade Discount and Cash Discount<br>3. Commission and Brokerage<br>4. Examples                                                                                                                                                                                    | 12              |                  | 12          | 5           |       |             |
| 7.       | <b>Linear Programming Problems ( For two Variables only)</b><br>1. Definition and terms in a L.L.P.<br>2. Formulation of L.L.P.<br>3. Solution by Graphical Method<br>4. Examples                                                                                                                                                                          | 12              | 2                | 14          | 5           | 2     |             |
| 8.       | <b>Measures of dispersion</b>                                                                                                                                                                                                                                                                                                                              | 16              |                  | 16          | 6           |       |             |

|            |                                                                                                                                                                                                                                                                                                                              |            |           |            |           |           |           |
|------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|-----------|------------|-----------|-----------|-----------|
|            | 1. Concept of Dispersion<br>2. Measures of Dispersion – Range, Variance and Standard Deviation (S.D.) for Grouped and ungrouped data<br>3. Measures of relative dispersion- Coefficient of range and coefficient of Variation<br>4. Examples                                                                                 |            |           |            |           |           |           |
| <b>9.</b>  | <b>Correlation and Regression (08)</b><br>1. Concept of Bivariate data, correlation using scatter diagram<br>2. Karl Pearson's Coefficient correlation for ungrouped data<br>3. Spearman's Rank correlation coefficient<br>4. Concept of regression, lines of regression<br>5. Regression as prediction Model<br>6. Examples | <b>10</b>  | <b>6</b>  | <b>16</b>  | <b>10</b> | <b>4</b>  |           |
| <b>10.</b> | <b>Index number (08)</b><br>1. Concept of Index Number<br>2. Construction of Price Index Number<br>3. Laspeyre's, Paasche's and Fisher's Method<br>4. Family Budget and Aggregate Expenditure Method.<br>Concept of – Cost of Living /Consumer Price<br>5. Index Number,SENSEX and NIFTY<br>6. Examples                      | <b>12</b>  | <b>4</b>  | <b>16</b>  | <b>10</b> | <b>4</b>  |           |
|            | <b>Total</b>                                                                                                                                                                                                                                                                                                                 | <b>118</b> | <b>26</b> | <b>144</b> | <b>60</b> | <b>20</b> | <b>20</b> |

#### **Recommended Books:**

1. Practical Business Mathematics by S.A.Bari (New Literature Publishing Company)
2. Business Mathematics by V.K.Kapoor (Sultan Chand And Sons)
3. Fundamentals of Statistics by S.C.Gupta (Himalaya Publishing House)
4. Basic Statistics by B.L.Agrawal (New Age International Publishers)
5. Statistical Methods by S.P.Gupta (Sultan Chand And Sons)

#### **Pattern of Question paper**

##### **Q.1 Theoretical Background (14 Marks)**

##### **Q.1 Theoretical Background**

##### **A) Theoretical Background (7 Marks)**

##### **B) Theoretical Background ( 7 Marks )**

##### **Q.2 Theoretical Background (12 Marks)**

**OR**

##### **Q.2 Theoretical Background**

##### **A) Theoretical Background ( 6 Marks )**

##### **B) Theoretical Background ( 6 Marks )**

##### **Q.3 Theoretical Background (12 Marks)**

**OR**

##### **Q.3 Theoretical Background (12 Marks)**

##### **Q.4 Theoretical Background (10 Marks)**

**OR**

##### **Q.4Theoretical Background (10 Marks)**

##### **Q. 5 Short Note (Any 3) (12 Marks)**

## Skill Based Subjects

### F.Y. B.Com (Skill Based) . Skill Based Compulsory Paper Computer Fundamentals

Paper No. 106

Total Marks 100  
(Theory 20, Practical 60, Internal 20)

#### Objective:

1. To make the students familiar with Computer environment.
2. To make the students familiar with the basics of Operating System and business communication tools.
3. To make the students familiar with basics of Network, Internet and related concepts.
4. To make awareness among students about applications of Internet in Commerce.
5. To enable students to develop their own web site.

| nit No. | Topic                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | No. of Lectures |                  | Total Hours | Total Marks |              |          |
|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|------------------|-------------|-------------|--------------|----------|
|         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Theory          | Practical /Visit | 144         | Theory 20   | Practical 60 | Internal |
|         | <b>Section I</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                 |                  |             |             |              |          |
| 1.      | <b>1. Introduction to Computer Fundamentals</b><br>Introduction to Computer ,Computer System Hardware<br>Computer Memory, Input and Output Devices<br>Interaction between User and Computer, Introduction to Free and Open Source Software, Definition of Computer Virus, Types of Viruses, Use of Antivirus software                                                                                                                                                                              | 2               | 13               | 15          | 2           | 5            | 20       |
| 2       | <b>Basics of Operating System</b><br>Definition of Operating System<br>Objectives, types, and functions of Operating Systems<br>Working with Windows Operating System: Introduction, The Desktop, Structure of Windows, Windows Explorer, File and Folder Operations, The Search, The Recycle Bin, Configuring the Screen, Adding or Removing New Programs using Control Panel, Applications in windows (Paint, Notepad, WordPad, Calculator)                                                      | 2               | 13               | 15          | 2           | 5            |          |
| 3.      | <b>Introduction to Business Communication Tools [12]</b><br><b>MS-Word:</b> Introduction, Starting MS-Word, MS-Word Screen and its Components, Elementary Working with MS-Word<br><b>MS-Excel:</b> Introduction, Starting MS-Excel, Basics of Spreadsheet, MS-Excel Screen and Its Components, Elementary Working with MS-Excel<br><b>MS-Powerpoint:</b> Introduction, Starting MS-PowerPoint, Basics of PowerPoint, MS-PowerPoint Screen and Its Components, Elementary Working with MSPowerPoint | 2               | 13               | 15          | 2           | 5            |          |
| 4.      | <b>Introduction to Computer Network [06]</b><br>Introduction and Importance of Networking<br>Computer Network (LAN, WAN, MAN)<br>Network Components (Hub, Switch, Bridge, Gateway, Router, Modem) Network Topology, Wireless Networks                                                                                                                                                                                                                                                              | 2               | 13               | 15          | 1           | 5            |          |
| 5       | <b>Use of Computer in Commerce</b><br>Data Processing, Files and Records, File Organization (Sequential, Direct/Random, Index )                                                                                                                                                                                                                                                                                                                                                                    | 2               | 13               | 15          | 1           | 5            |          |



|    |                                                                                                                                                                                                                                                                                                                                                                                                      |    |     |     |    |    |    |
|----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|-----|-----|----|----|----|
|    | Computer Applications in Business – Need and Scope<br>Computer Applications in various fields of Commerce: Personnel Administration, Banking, Insurance and e-governance Introduction to E-Commerce, Evolution of E-Commerce, Role of E-Commerce, E-Commerce Framework, E-Commerce Categories                                                                                                        |    |     |     |    |    |    |
| 6. | <b>Internet and Internet application</b><br>Introduction, Internet evolution, Working of Internet, Use of Internet, Overview of World Wide Web (Web Server and Client), Introduction to Search engine and Searching the Web<br>Downloading files, Introduction to Web Browsers<br>Working with E-mail (creation and use of the same)                                                                 | 2  | 13  | 15  | 2  | 5  |    |
|    | <b>Section II</b>                                                                                                                                                                                                                                                                                                                                                                                    |    |     |     |    |    |    |
| 7. | <b>Electronic Data Interchange</b><br>Introduction to EDI<br>EDI Architecture<br>Financial EDI<br>Overview of the technology involved in EDI                                                                                                                                                                                                                                                         | 2  | 8   | 10  | 2  | 5  |    |
| 8  | <b>Electronic Payment System</b><br>Introduction to EPS, Introduction to EFT (Electronic Fund Transfer), Introduction to SET (Secure Electronic Transaction)<br>Business requirement addressed by SET, Introduction to Digital Signature and Digital Certificates , Stages of SET,<br>Types of Payment System: Digital Cash, Electronic Cheque, Smart Card, Credit/Debit Card , RTGS, NEFT and SWIFT | 2  | 8   | 10  | 2  | 5  |    |
| 9  | <b>Introduction to HTML.</b><br>Introduction to HTML. Working of HTML<br>Creating and loading HTML page, tags<br>Structure of on HTML, Document, Stand Alone Tags<br>Formatting text, Adding Images<br>Creating hyper Links, Tables<br>Sending E-mails through Web Page<br>Sample web pages                                                                                                          | 2  | 8   | 10  | 2  | 5  |    |
| 10 | <b>Introduction To Web page Design</b><br>Introduction to Web design, Types of Web Pages<br>Web design Pyramid<br>Building web sites<br>Web development process model                                                                                                                                                                                                                                | 2  | 8   | 10  | 2  | 5  |    |
| 11 | <b>Designing The web pages</b><br>Page size, Page type, Page margin, Entrance page Exit page, Graphics in Webpage design<br>Animation Effect, Sound Effect<br>Color Effect<br>Uploading the web site (Web space, Domain Name, Hosting the web site)                                                                                                                                                  | 2  | 8   | 10  | 1  | 5  |    |
| 12 | <b>Internet Security</b><br>Security, Privacy<br>Ethical Issues & Cyber Law                                                                                                                                                                                                                                                                                                                          | 2  | 2   | 4   | 1  | 5  |    |
|    |                                                                                                                                                                                                                                                                                                                                                                                                      | 24 | 122 | 144 | 20 | 60 | 20 |

### Reference Books

1. Computer Fundamentals by: Anita Goel, Pearson Education India ISBN: 9788131742136
2. Connecting with Computer Science, by Greg Anderson, David Ferro, Robert Hilton, Course Technology, Cengage Learning, ISBN: 9781439080351
3. Fundamentals of Computer : For undergraduate courses in commerce and management, ITL Education Solutions Limited, Pearson Education, ISBN: 9788131733349
4. Introduction to Computer Science, 2/e, ITL Education Solutions Limited, Pearson Education, ISBN: 9788131760307
5. Frontiers of Electronic Commerce, Ravi Kalakota, Andrew B. Whinston, Pearson Education, ISBN: 9788177583922

6. Internet: The Complete Reference, Margaret Levine Young, Tata McGraw Hill Education Private Limited, ISBN: 9780070486997
7. Murach's HTML, XHTML and CSS: Training & Reference, Anne Boehm, Shroff/Murachs Publication, ISBN-9789350230954
8. On the Way to the Web: The Secret History of the Internet and Its Founders, A. Banks, Apress Publication, ISBN: 9781430208693
9. Computers and Commerce: A Study of Technology and Management at Eckert-Mauchly Computer Company, Engineering Research Associates, and Remington, Arthur L. Norberg, MIT Press (MA), ISBN: 9780262140904

**F.Y. B.Com (Skill Based) .**  
**Skill Based Optional Paper 1 :**  
**Machine and Hand Embroidery**

Paper No. 107

Total Marks 100  
 (Theory 20, Practical 60, Internal 20)

| Unit No. | Topic                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | No. of Lectures |           | Total Hours | Total Marks |           |          |
|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|-----------|-------------|-------------|-----------|----------|
|          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Theory          | Practical | 144         | Theory      | Practical | Internal |
|          | <b>Section I</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                 |           |             |             |           |          |
| <b>1</b> | <b>Introduction to embroidery and tools and equipment required for hand embroidery</b><br>1a. Appreciate the need of embroidery in garments 1b. Select appropriate tools and equipment for given embroidery work<br>Introduction to embroidery and tools and equipment required for hand embroidery.<br>1.1 Origin of embroidery<br>1.2 development of embroidery<br>1.3 importance of embroidery<br>1.4 Selection, use and maintenance of tools and equipment for embroidery<br>1.5 Various threads used in embroidery.<br>1.6 Accessories used in embroidery.<br>1.7 Various types of Needles and fabrics with its impact on quality parameters | <b>20</b>       |           | <b>20</b>   | <b>5</b>    |           |          |
| <b>2</b> | <b>Different types of Basic Embroidery Stitches</b><br>2a. Differentiate between different types of basic embroidery stitch. Note: After completion of each stitch demonstration should be given<br>2.1 Back stitch ( ^ » Ö™ü™üß-Ö )<br>2.2 Button Hole ( 2Ö™ü-Ö ÆüÖê»Ö )<br>2.3 Blanket stitch ( ‘ÖÖë Ö»üß™üÖ úÖ )<br>2.4 Chain stitch and Magic chain ( ÄÖÖ Öôûß™üÖ úÖ )<br>2.5 Laid and Couching /cording ( ú“ûß™üÖ úÖ )<br>2.6 Cross stitch ÎúÖðÃÖ Ã™üß“Ö<br>2.7 Feather stitch / Fly stitch ( ×-ÖÃÖÖ“ÖÖ™üÖ úÖ )<br>2.8 Satin stitch ( 3Ö,üß¾Ö™üÖ úÖ )                                                                                        | <b>5</b>        | <b>40</b> | <b>45</b>   | <b>5</b>    | <b>20</b> |          |

|          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |           |            |            |           |           |           |
|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|------------|------------|-----------|-----------|-----------|
|          | <p>2.9 Lazy –daisy stitch ( <math>\frac{3}{4}</math> EüÖ“ÖÖ™üÖ úÖ)</p> <p>2.10 Bullion and French knot ( <math>\frac{1}{2}</math> úß“ÖÖ™üÖ úÖ)</p> <p>2.11 Long and short stitch ( »ÖÖÓ²Ö <math>\frac{1}{2}</math> Ö× Ö <math>\frac{1}{2}</math> Öæü™üÖ úÖ)</p> <p>2.12 Herring bone (ÖÖ¿ÖÖ“ÖÖ úÖ™üÖ)</p> <p>2.13 Queens stich (ÖüÖ ÖÖ“ÖÖ™üÖ úÖ)</p> <p>2.14 ÖÖêÿÖß™üÖ úÖ</p> <p><b>Prepare samples of above embroidery stitches on 10”/10” fabric. The size of the design should be 5”/5”</b></p>                                                                                                                                                                                                                                                                                                                                                                  |           |            |            |           |           |           |
|          | <b>Section II</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |           |            |            |           |           |           |
| <b>3</b> | <p><b>Different types of Indian Embroideries</b></p> <p>3 a. Describe different Indian embroidery stitches.</p> <p>3 b. Explain usage of material and its explorations from historical and recent perspective</p> <p>3.1 Kashmiri stich</p> <p>3.2 Kashida (all types )</p> <p>3.3 Chamba Rumals of Himachal</p> <p>3.4 appliqué of Bihar Öð“Ö <math>\frac{3}{4}</math>Ö Ôú</p> <p>3.5 Bengal Kantha</p> <p>3.6 Chikankari of Luchnow (Uttar Pradesh)</p> <p>3.7 Kutch and Kathiawar embroidery of Gujarat ( Mirror Work <math>\frac{1}{2}</math>üÄÖê úÖ’Ö)</p> <p>3.8 Gold and silver embroidery (zardosi)</p> <p><b>(Prepare samples of above Indian embroidery on 10”/10” fabric. The size of the design should be 5”/ 5”. Also prepare a report indicating fabric used, type and size of needle, type of thread and amount of all the material consumed</b></p> | <b>5</b>  | <b>40</b>  | <b>45</b>  | <b>5</b>  | <b>20</b> |           |
| <b>4</b> | <p><b>Product Development</b></p> <p>Design a Product incorporating Traditional Embroidery</p> <p>Designing of Product with Application of Any Traditional Embroidery (Design any <b>Three products</b> with Traditional Embroidery from tablecloth, bag, cushion cover, set of three hankys, Dupatta , Two meter Border, batawa, Yock)</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <b>2</b>  | <b>12</b>  | <b>14</b>  | <b>5</b>  | <b>20</b> |           |
|          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <b>32</b> | <b>112</b> | <b>144</b> | <b>20</b> | <b>60</b> | <b>20</b> |

## STUDENT ACTIVITIES

Students will prepare File/journal for the above mentioned Experiments.

Students will prepare sample of above stitches on fabric. Student will collect photographs from internet which is related to field application of various topics as an assignment

## Pattern of Question Paper

| S.N. | Question                                                                                                                                                                                                                                                                                         | Marks     |
|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| 1    | <b>Journal</b><br>••••                                                                                                                                                                                                                                                                           | 20        |
| 2    | <b>Any five stitches in one design ( Give 10x10 piece of Cloth with design and ask to do embroidery work with using any five types of stitches )</b><br>□□□ □□□□□□□□□□ □□□□□□ 5<br>□□□□ □□□□□□ □□□□. (10*10 □□<br>•• □□□□ □□□□ □□□□□ □□□ □□□□□<br>□□□□□ □□□□□□ □□□ □□□□□□□□<br>□□□□ □□□□□□□ □□□□ | 40        |
|      | <b>Total</b>                                                                                                                                                                                                                                                                                     | <b>60</b> |

**F.Y. B.Com(Skill Based) .  
Skill Based Optional Paper 2 :  
Photography**

Paper No. 107

Total Marks 100  
(Theory 20, Practical 60, Internal 20)

| Unit No. | Topic                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | No. of Lectures |           | Total Hours | Total Marks |              |             |
|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|-----------|-------------|-------------|--------------|-------------|
|          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Theory          | Practical | 144         | Theory 20   | Practical 40 | Internal 20 |
|          | <b>Section I</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                 |           |             |             |              |             |
| 1        | <b>History of photography.</b><br>The birth of the camera,<br>The modernization of photography and film<br>The introduction of digital photography<br>The history of photo manipulation<br>( Location Visit )                                                                                                                                                                                                                                                                                                                              | 10              | 16        | 26          | 5           | 5            |             |
| 2        | <b>Introduction to photography and Photography equipment</b><br>Digital photography today and tomorrow,<br>Making money as a professional photographer,<br>The most common areas of photography ,<br>The equipment you'll need now or later,<br>How to avoid failure and achieve success,<br>Taking photos in public place Photography Equipments<br>Cameras, Lenses, Tripods, Monopods, Camera bags ,Digital storage                                                                                                                      | 14              | 10        | 24          | 5           | 5            |             |
| 3        | <b>Professional photography and A guide to your manual settings-</b><br>The do's and don'ts of professional photography,<br>How to avoid the mistakes amateurs often make,<br>What you should know about digital photography,<br>Tricks of the trade - how to shoot like a professional, The professional mindset - how to think and act like a professional,<br>Getting the right exposure, Setting aperture, Altering the shutter speed.<br>Understanding ISO, How aperture, shutter speed, and ISO work together, Other manual controls | 16              | 06        | 22          | 5           | 5            |             |
|          | <b>Section II</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                 |           |             |             |              |             |
| 4        | <b>Techniques for taking professional photographs and Lighting-</b> Tripods and their importance, Types of lenses.<br>Vantage points and how they affect your photo Lines, curves,                                                                                                                                                                                                                                                                                                                                                         | 04              | 20        | 24          | 5           | 15           |             |

|   |                                                                                                                                                                                                                                                                                                                                                          |    |    |     |    |    |    |
|---|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|----|-----|----|----|----|
|   | and shapes in your photographs, The importance of foreground interest, Rule of thirds, How background imagery influences your photos, The different types of lighting, The reflection of light, Outdoor lighting – sunlight, Recommended equipment for outdoor lighting, Introduction to indoor , lighting, Photographing indoors – the technical issues |    |    |     |    |    |    |
| 5 | <b>School photography</b> - Working on location, Preparing for a shoot Lighting and backgrounds, Posing your subjects, Dealing with problem subjects, Organization, Do's and don'ts of school, college and social photography, Freelance or employee?, Presenting your work                                                                              | 04 | 20 | 24  |    | 15 |    |
| 6 | <b>Sports photography</b> -Necessary equipment for sports photography, Mixing speed and focal length , Who to contact and where to shoot, Shooting football, Shooting basketball, Shooting tennis, Who buys sports photography and who sells it, How to be a freelance sports photographer working for yourself.                                         | 04 | 20 | 24  |    | 15 |    |
|   |                                                                                                                                                                                                                                                                                                                                                          | 52 | 92 | 144 | 20 | 60 | 20 |

**F.Y. B.Com (Skill Based) .**  
**Skill Based Optional Paper 3**  
**Cutting and Stitching**

Paper No. 107

Total Marks 100  
(Theory 20, Practical 60, Internal 20)

| Unit No. | Topic Practical                                                                                                                                                                                                                                                                                                                                                                                          | No. of Lectures |           | Total Hours | Total Marks |              |             |
|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|-----------|-------------|-------------|--------------|-------------|
|          |                                                                                                                                                                                                                                                                                                                                                                                                          | Theory          | Practical | 144         | Theory 20   | Practical 60 | Internal 20 |
|          | <b>Section I</b>                                                                                                                                                                                                                                                                                                                                                                                         |                 |           |             |             |              |             |
| 1        | Knowledge of Sewing Machines, General Safety. Knowledge of Handling of Sewing Machines and tools. Practice on Sewing Machine. · Sitting Posture – Eye, Hand & Foot coordination. · Speed Control · Types of various cloths                                                                                                                                                                               | 2               | 8         | 10          | 5           |              |             |
| 2        | 1)Running on <ul style="list-style-type: none"> <li>• Straight lines</li> <li>• Square</li> <li>• Zig Zag lines</li> <li>• Circle</li> </ul> 2) Practice of taking individual measurements.<br>3) Practice of taking measurements from garment.                                                                                                                                                          | 10              | 10        | 20          | 5           |              |             |
| 3        | 1) Practice of making Button holes by Hand Practice of fixing fasteners as Buttons, Hooks, Eyes, Press Studs.<br>2) Practice of making weave samples Prepare samples of Darts. Making Samples of Pleats                                                                                                                                                                                                  | 10              | 15        | 25          | 5           |              |             |
|          | <b>Section II</b>                                                                                                                                                                                                                                                                                                                                                                                        |                 |           |             |             |              |             |
| 4        | 1) Collect Sample Swatches Practice of corner, making Edge Finishing by facing, binding, lace, Frill, Hemming & piping. Prepare samples of Tucks Collection of Trimmings. Making Samples of Frills Making Samples of Necklines, Making Samples of Smoking.<br>2) Casing with Drawstring Casing with elastic Casing with Heading Inside Applied Casing Outside Applied Casing Making samples with Facings | 10              | 15        | 25          | 5           | 20           |             |
| 6        | 1. Samples of making different Pockets.<br>2. Samples of making Collars.                                                                                                                                                                                                                                                                                                                                 | 4               | 20        | 24          |             | 20           |             |

|   |                                                                                                                                                                                                                                                                              |    |     |     |    |    |    |
|---|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|-----|-----|----|----|----|
|   | 3. Samples of Sleeves with & without cuff                                                                                                                                                                                                                                    |    |     |     |    |    |    |
| 7 | Paper cutting & Stitching of Jhabla Different Types of Jhabla<br>And A line frock for 5 years old<br>Paper cutting & Stitching of Night Suit of small child<br>Paper cutting & Stitching of frock with Collar ( 8-10 years old girl) ( 15 hours Theory / 15 hours Practical) | 4  | 30  | 34  |    | 20 |    |
| 8 | Industrial visit                                                                                                                                                                                                                                                             |    | 6   | 6   |    |    |    |
|   |                                                                                                                                                                                                                                                                              | 40 | 104 | 144 | 20 | 60 | 20 |

### Practical Examination

#### Paper cutting and Stitching of Jhabla/A line frock 60

Theory – On first four chapters 20

### F.Y.B.COM (Skill Based) Skill Based Optional Paper 4 Beatification

Paper No. 107

Total Marks 100  
(Theory 20, Practical 60, Internal 20)

| Unit No. | Topic Practical                                                                                                                                                                                                                                                        | No. of Lectures |           | Total Hours | Total Marks |           |          |
|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|-----------|-------------|-------------|-----------|----------|
|          |                                                                                                                                                                                                                                                                        | Theor y         | Practical |             | Theory      | Practical | Internal |
|          | <b>Section I</b>                                                                                                                                                                                                                                                       |                 |           |             |             |           |          |
| 1        | Personal grooming Communication skills Body language. Professional image Telephone etiquettes Posture Wardrobe planning Stress management Time management Team work Leadership skills Human relations ( Theory- Introduction to the Beauty Industry Work Place Skills) | 6               | 4         | 10          | 4           |           | 20       |
| 2        | Trolley setting Sterilization and sanitization Disinfection procedures Maintenance of equipment. ( Theory-Sterilization and sanitization )                                                                                                                             | 4               | 20        | 24          | 2           | 10        |          |
| 3        | Trolley setting Client consultation Allergy test Explication Depilation ( Theory-Temporary hair removal)                                                                                                                                                               | 4               | 20        | 24          | 2           | 10        |          |
|          | <b>Section II</b>                                                                                                                                                                                                                                                      |                 |           |             |             |           |          |
| 4        | Trolley setting Client consultation Patch test procedure Allergy test Hair removal procedure Eyebrow threading Bleaching procedure( (Theory- Face hair removal )                                                                                                       | 4               | 20        | 24          | 4           | 10        |          |
| 5        | Trolley setting Client consultation Hand massage Arm massage Leg massage Nail shape Different types of Manicure Different types of Pedicure Nail art (Theory-Manicure and Pedicure)                                                                                    | 4               | 16        | 20          | 2           | 10        |          |
| 6        | Trolley setting Client consultation Skin analysis Different types of facials( Theory- facial)                                                                                                                                                                          | 4               | 16        | 20          | 4           | 10        |          |
| 7        | Trolley setting Client consultation Scalp analysis Hair problems Equipment usage: High frequency,                                                                                                                                                                      | 4               | 18        | 22          | 2           | 10        |          |

|  |                                                                                                                                          |    |     |     |    |    |  |
|--|------------------------------------------------------------------------------------------------------------------------------------------|----|-----|-----|----|----|--|
|  | infrared lamp, scalp steamer Head massage<br>Shampooing Conditioning ( at the rate of 1 day a week )( Theory-Hair Science and Hair Care) |    |     |     |    |    |  |
|  |                                                                                                                                          | 30 | 114 | 144 | 20 | 60 |  |

### Materials Required

□□Cosmetology kits and Salon Fundamentals Textbook

(Cosmetology kits are included in student fees)

### Students need to bring

□□Pens (black or blue)

□□Highlighters

## F.Y. B.Com (Skill Based) .

### Skill Based Optional Paper 5

### Repair and Maintenance of Domestic Electronic Appliances

Paper No. 107

Total Marks 100

(Theory 20, Practical 60, Internal 20)

| Unit No. | Topic Practical                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | No. of Lectures |           | Total Hours | Total Marks |              |             |
|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|-----------|-------------|-------------|--------------|-------------|
|          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Theory          | Practical | 144         | Theory 20   | Practical 60 | Internal 20 |
|          | <b>Section I</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                 |           |             |             |              |             |
| 1        | <b>Basics of electricity and Electrical Cables</b><br>Practice procedure for electrical and personal safety measures<br>Identify the Live, Neutral and Earth on power Socket<br>Construct a test lamp and use it to mains healthiness<br>Use a Tester to monitor AC power. Measure the voltage between the neutral and ground and rectify earthing<br>Identify and test different ac mains cables Skin the electrical wires /cables Measure the gauge of the wire using SWG<br>Make the mains cable for termination , Identify the primary and secondary cells . Measure and test the voltages of the given cells/battery using analog and digital Multi-meter<br>Charge and discharge the battery . Use a hydro-meter to measure the specific gravity of the secondary battery<br><b>Theory: Basic terms</b> electric charges, Potential difference, Voltage, Current, and Resistance. Basics of AC & DC. Terms such as positive cycle, negative cycle, Frequency, Time period, RMS, Peak value , peak to peak, instantaneous values, Insulators, conductors and semiconductor. Different type of electrical cables and their specifications. | 4               | 8         | 12          | 2           | 6            |             |
| 2        | <b>Multi-meter</b><br><b>Practical-</b> Cleaning the switch contacts using switch cleaning solution. Testing the fuse. Use the analog and digital Multi-meter to measure the DC voltage by doing measurement at the test points provided. Use the analog and digital Multi-meter to measure AC voltage measurement by doing measurement at the test points provided. Adjust the zero adjustment screw for proper zero setting with the help of a screw driver before using                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 4               | 8         | 12          | 2           |              |             |

|   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |   |   |    |   |   |  |
|---|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|---|----|---|---|--|
|   | <p>Multi-meter. Replace the battery in the Multi-meter. Replacing the open Fuse with correct rating</p> <p><b>Theory:</b> Precaution to be taken in handling an analog Multi-meter. Study of different controls on Millimeter, Principle of operation of Analog, Multi-meter. Precaution to be taken in Handling digital Multi-meter Frequently occurring problems in Analog millimeters and the remedial measures Precaution to be taken in handling digital Multi-meter, Familiarization with operation controls of digital Multi-meter Principle of operation of digital Multi-meter. Frequently occurring problems in Digital millimeters and the remedial measures)</p>                                                                                                                                                                                                                                                                                                                                                                                                                           |   |   |    |   |   |  |
| 3 | <p><b>Basic Electronics Components</b></p> <p>Identify the different types of resistors .Measure the resistor values using colour code and verify the reading by measuring in multi-meter .Identify the power rating using size</p> <p>Identify different inductors and measure the values using LCR meter ,Identify the different capacitors and measure capacitance of various capacitors using LCR meter</p> <p>Dismantle and identify the different parts of a relay</p> <p>Identify different types of mains transformers and test them</p> <p>Identify the primary and secondary transformer windings</p> <p>Measure the primary and secondary voltage of different transformers</p> <p><b>(Theory:</b> Resistor-definition, types of resistors, their construction &amp; specific use, color-coding, power rating. Types of inductors, specifications and applications. Types of capacitors, specifications and applications Working principle of a Transformer, Specifications of a transformer, Step-up, Step down and isolation transformers Fuse – types, use of fuses and its rating.)</p> | 4 | 8 | 12 | 2 | 6 |  |
| 4 | <p><b>Power supply</b></p> <p>Testing of active components .Practice soldering and de-soldering techniques .Assemble and test– half wave, full wave &amp; bridge rectifier circuits with and without filter. Identify the different types of fixed positive and negative regulator ICs (78/79 series)</p> <p>Identify the pins, Construct a fixed voltage regulator using 78xx/79xx series ICs .Construct a variable voltage regulator using LM 723. Observe the output voltage of different IC regulators by varying the input voltage .</p> <p><b>Theory:</b> Basic Electronics active components, testing of components, Working of half wave, full wave and bridge rectifier circuits. Voltage Regulator circuit. Applications of transistor – its uses .MOSFET – precautions when handling. DIAC, SCR, TRIAC - application Identify the pin diagram of Voltage regulator ICs</p>                                                                                                                                                                                                                  | 4 | 8 | 12 | 2 | 6 |  |
| 5 | <p><b>UPS/Inverter</b></p> <p>Installation of UPS and Inverters. Maintenance of batteries</p> <p>Dismantle the UPS and identify the major parts, Testing of major components, Testing of power modules, Charging, discharging and testing of batteries.</p> <p><b>(Theory:</b> Various types of batteries used in UPS and</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 4 | 8 | 12 | 2 | 6 |  |



|    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |    |    |     |    |    |    |
|----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|----|-----|----|----|----|
|    | Inverters and their maintenance. Different types of inverter, UPS, Working principle, specifications, explanation with the help of block diagram)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |    |    |     |    |    |    |
|    | <b>Section II</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |    |    |     |    |    |    |
| 6  | <b>SMPS</b> - Dismantle the given SMPS and find major sections/ ICs components. Measure voltages at vital points<br>Identify various input and output sockets / connectors of the given SMPS. Repairing of SMPS, simulating various faults diagnosing and rectifying it.<br>( <b>Theory:</b> Block Diagram of Switch mode power supplies and their working principles )                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 4  | 8  | 12  | 2  | 6  |    |
| 7  | <b>Washing machine</b><br>Installation of front load washing machine<br>Installation of top load washing machine<br>Identify the internal and external parts of semi-auto washing machine Identify the internal and external parts of fully automatic washing machine Operate semi-automatic washing machine<br>Operate fully-automatic washing machine Rectify the fault leading to not working of control panel switches. Rectify the fault leading to not working of pulsator / agitator. Rectify the fault leading to spin drier not working. Rectify the fault leading to one side rotation of motor. Rectify the fault leading to water inlet and outlet valves.<br>( <b>Theory:</b> Washing M/c: different types of machines, washing techniques, parts of manual, semi automatic and fully automatic machines, basic working principle of manual, semi automatic and fully automatic machines, study the working of motors, different types of timers, power supply circuits) | 4  | 8  | 12  | 2  | 6  |    |
| 8  | <b>Microwave oven</b><br>Identify the internal and external parts of micro wave oven.<br>Identify the different touch pad controls their functions<br>Testing of high voltage diode. Identify the HV capacitor and discharge it. Rectify the fault leading to fuse blows off when cooking is initiated. Rectify the fault leading to not responding of touch switches. ( front panel ) Rectify the fault leading to dead set. Rectify the fault leading to long cooking time. Precautions – importance of interlocking switch in performing maintenance ( <b>Theory:</b> Microwave oven: Different types of oven, study the various functions of Oven, Electrical wiring diagram of microwave oven, working of Power supply )                                                                                                                                                                                                                                                         | 8  | 12 | 20  | 2  | 6  |    |
| 9  | <b>Steam Iron</b><br>Dismantle and identification of various parts, wiring, tracing of various controls, Electronic circuits in steam Iron<br>Identify the faults in steam iron & rectify<br>( <b>Theory:</b> Principle of electric iron, parts of steam iron, thermostat heat controls)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 8  | 12 | 20  | 2  | 6  |    |
| 10 | <b>Electric Rice cooker</b><br>Identify various components of Electric rice cooker, controls and trace the circuit and rectify the simulated faults(Theory: Principle of working of rice cooker. Various parts & functions of rice cooker, temperature control and timer unit.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 8  | 12 | 20  | 2  | 6  |    |
|    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 48 | 96 | 144 | 20 | 60 | 20 |



## **VOCATIONALIZATION OF UNDERGRADUATE COURSES**

### **FUNCTIONAL ENGLISH**

#### **F. Y. B. A. Functional English**

**(w. e. f. 2019-2020)**

**(Choice Based Credit System)**

**(70-Semester-End Exam & 30-Internal Evaluation)**

### **Course Content**

#### **FYFE Paper 1- An Introduction to English Language and Writing Skills in English**

##### **Aims and Objectives**

1. To introduce students to Spoken English
2. To create awareness about using language according to the situation/context
3. To create an awareness among students about mispronunciation
4. To reinforce grammar studied up to std. XII
5. To help learners acquire the basic skills of effective writing

### **Semester I**

#### **Unit 1- Orientation**

- 1) Definition of Language, Levels of Linguistic Analysis, Verbal and Non Verbal Communication
- 2) Difference between Phonetics and Phonology
- 3) Organs of Speech and Speech Mechanism
- 4) Developing language habits listening, speaking, reading and writing

#### **Unit II- Remedial Grammar**

- 1) Parts of Speech
- 2) Tenses and Concord
- 3) Active and Passive Voice
- 4) Common Indian Errors

#### **Unit III- Language Skills**

- 1) Understanding a passage-its content and structure
- 2) Building Vocabulary
  - a) Synonyms and Antonyms
  - b) Lexical Web
  - c) Collocation
  - d) Use of a Dictionary and Thesaurus
- 3) Dialogue Writing

## **Semester II**

### **Unit I- Introduction to English Phonology**

- 1) Vowels, Consonants and Consonant Clusters
- 2) Syllable, Stress, Word Accent and Sentence Accent
- 3) Weak Forms, Rhythm and Intonation

### **Unit II- Writing Skills**

- 1) Paragraph Writing
- 2) Email Writing

### **Unit III- Information Transfer**

- 1) Converting information from charts, tables, diagrams etc verbally and vice-a-versa
- 2) Summerising, Note making and Note taking

### **Internal Evaluation 30 Marks**

- Mid Semester Examination – 20 Marks
- Home Assignments / Presentation / Field Visit Report / Library Work/ Class Tests- 10 Marks

#### **❖ Books Recommended**

- 1) Bansal and Harrion: Spoken English for India
- 2) Augustine, A.E. Joseph, K.V.: Macmillan Grammar, A Handbook, Macmillan India Ltd, Delhi 1986
- 3) Green, David: Contemporary English Grammar, Structure and Composition, Macmillan India Ltd, Madras, 1971
- 4) Narayan Swami, K.R.: Success with grammar and Compositon, Orient Longman, Hyderabad, 1995
- 5) Freeman, Serah: Written Communication in English, Orient Longman
- 6) Home Crofton: Essay, precise, composition and Comprehension Macmillan
- 7) Intyhira, S R. Saraswathi, S: Enrich Your English CIEEL OUP
- 8) Balasubramanian, T. (1981), a Text book of English Phonetics for Indian Students, Macmillion

**Question Paper Pattern**  
**FYBA Functional English**  
**(Choice Based Credit System-2019)**  
**(70-Semester-End Exam & 30-Internal Evaluation)**

**Paper I: An Introduction to English Language and Writing Skills in English**

**Internal Evaluation 30 Marks**

- Mid Semester Examination – 20 Marks
- Home Assignments / Presentation / Field Visit Report / Library Work/ Class Tests- 10 Marks

**Semester I**

**Marks: 70**

|        |                                                                            |    |
|--------|----------------------------------------------------------------------------|----|
| Que. 1 | Attempt the following in about 100 words each (2 out of 3)                 | 14 |
|        | (On Unit I)                                                                |    |
| Que 2  | Short notes (2 out of 3)                                                   | 14 |
|        | (On Unit I)                                                                |    |
| Que 3  | a) Fill in the blanks (any 7)                                              | 07 |
|        | (On Unit II)                                                               |    |
|        | b) Do as directed (any 7)                                                  | 07 |
|        | (On Unit II)                                                               |    |
| Que 4  | a) Attempt the following (On Unit III)                                     | 07 |
|        | (Synonyms and Antonyms, Lexical web and collocation)                       |    |
|        | b) Practical exercises on the use of dictionary                            | 07 |
| Que 5  | a) Read the following passage and answer the questions given below (any 7) | 07 |
|        | (On Unit III)                                                              |    |
|        | b) Write a dialogue on the following situations (Any one)                  | 07 |
|        | (On Unit III)                                                              |    |

**Question Paper Pattern**  
**FYBA Functional English**  
**(Choice Based Credit System-2019)**  
**(70-Semester-End Exam & 30-Internal Evaluation)**

**Paper I: An Introduction to English Language and Writing Skills in English**

**Semester II**

**Marks: 70**

|                                                                    |    |
|--------------------------------------------------------------------|----|
| Que. 1 a) Short notes (2 out of 3)                                 |    |
| (On Unit I)                                                        | 07 |
| b) Attempt the following in about 100 words each ( 2 out of 3)     | 07 |
| (On Unit I)                                                        |    |
| Que. 2 a) Transcribe the following words (any 7)                   | 07 |
| b) Mark appropriate intonation in the following sentences (any 7)  | 07 |
| Que. 3 Write a paragraph on the given topics (any 2 out of 3)      | 14 |
| Que 4 Write an email on the following situations (any 2 out of 3)  | 14 |
| Que 5 a) Read the following diagram and write a paragraph about it | 07 |
| b) Practical question on summarising or note making - taking       | 07 |

**VOCATIONALIZATION OF UNDERGRADUATE COURSES  
FUNCTIONAL ENGLISH**

**F. Y. B. A. Functional English**

**(w. e. f. 2019-2020)**

**(Choice Based Credit System)**

**(70-Semester-End Exam & 30-Internal Evaluation)**

**Course Content**

**FYFE Paper II- Oral Communication in English**

**Aims and Objectives**

1. To introduce students to Oral Skills in English
2. To introduce students to basics of computer
3. To introduce students to various conversational situations

**Semester I**

**Unit I- Conversational Skills I**

- 1) Greetings and Response to Greetings
- 2) Introducing Yourself
- 3) Introducing Others
- 4) Joining and Leaving a Conversation

**Unit II- Conversational Skills II**

- 1) Simple oral descriptions: describing familiar things, places, persons, pictures etc.
- 2) Describing simple events, routine activities of oneself and others

**Unit III- Key Competency Modules I**

- 1) Basics of Computer
- 2) MS Office: Word, Excel and Power Point Presentation

**Semester II**

**Unit I- Conversational Skills III**

- 1) Telling stories with the help of Points / Pictures
- 2) Asking questions to get Information
- 3) Agreeing, Partly Agreeing and Disagreeing
- 4) Inviting, Accepting and Declining Invitation

**Unit II- Conversational Skills IV**

- 1) Oral Presentation Skills
- 2) Group Discussion
- 3) Telephonic Communication

**Unit III: Key Competency Modules II**

- 1) Use of Internet – surfing, searching and downloading
- 2) Use of Mobile Apps for Improving Conversational Skills in English

**Internal Evaluation 30 Marks**

- Mid Semester Examination – 20 Marks
- Home Assignments/Presentation/ Field visit Report/Library Work/Class Tests/ Participation in activities of practical conversation - 10 Marks



**FYBA Functional English**  
**(Choice Based Credit System-2019)**  
**(70-Semester-End Exam & 30-Internal Evaluation)**

**Paper II: Oral Communication in English**  
**(This is entirely a Practical Paper)**

**Internal Evaluation 30 Marks**

- Mid Semester Examination – 20 Marks
- Home Assignments / Presentation / Field visit Report / Library Work/ Class Tests/ Participation in activities of practical conversation - 10 Marks

**Semester One**

**Marks: 70**

|        |                                                                      |    |
|--------|----------------------------------------------------------------------|----|
| Que. 1 | Practical Questions<br>(From Conversational Skills I)                | 14 |
| Que. 2 | Activities Question<br>(From Conversational Skills I)                | 14 |
| Que. 3 | Practical Questions on Unit Two<br>(From Conversational Skills II)   | 14 |
| Que. 4 | Activities on Unit Two<br>(From Conversational Skills II)            | 14 |
| Que. 5 | Practical Questions on Unit Three<br>(From Key Competency Modules I) | 14 |

**FYBA Functional English**  
**(Choice Based Credit System-2019)**  
**(70-Semester-End Exam & 30-Internal Evaluation)**

**Paper II: Oral Communication in English**  
**(This is entirely a Practical Paper)**

**Internal Evaluation 30 Marks**

- Mid Semester Examination – 20 Marks
- Home Assignments / Presentation / Field visit Report / Library Work/ Class Tests/ Participation in activities of practical conversation - 10 Marks

**Paper II: Oral Communication in English**

**Semester Two**

**Marks: 70**

|        |                                                                  |    |
|--------|------------------------------------------------------------------|----|
| Que. 1 | Practical Questions on Unit One<br>(Conversational Skills III)   | 14 |
| Que. 2 | Activities Question on Unit One<br>(Conversational Skills III)   | 14 |
| Que. 3 | Practical Questions on Unit Two<br>(Conversational Skills IV)    | 14 |
| Que. 4 | Activities on Unit Two<br>(Conversational Skills IV)             | 14 |
| Que. 5 | Practical Questions on Unit Three<br>(Key Competency Modules II) | 14 |

**Note: 1. Practical Questions should involve tasks such as listening, describing, conversations and role playing.**

**2. Activities should be aimed at testing conversational and computer skills.**



## सावित्रीबाई फुले पुणे विद्यापीठ, पुणे

**F. Y. B. A. मराठी**

**मराठी विषयाचा पुनर्रचित अभ्यासक्रम- जून २०१९ पासून**

**Choice Based Credit System [CBCS]**

**निवड आधारित श्रेयांक पद्धत**

| सत्र               | विषयाचे नाव                                             |
|--------------------|---------------------------------------------------------|
| नियमित अभ्यासक्रम  |                                                         |
| पहिले              | मराठी साहित्य : कथा आणि भाषिक कौशल्यविकास [CC-1 A]      |
| दुसरे              | मराठी साहित्य : एकांकिका आणि भाषिक कौशल्यविकास [CC-1 A] |
| पर्यायी अभ्यासक्रम |                                                         |
| पहिले              | व्यावहारिक व उपयोजित मराठी - भाग १ [CC-1 A]             |
| दुसरे              | व्यावहारिक व उपयोजित मराठी - भाग २ [CC-1 A]             |

## F. Y. B. A. मराठी विषयाचा पुनर्रचित अभ्यासक्रम- जून २०१९ पासून

१. Title of the course: B.A. (मराठी)

२. Preamble of the syllabus:

उच्च शिक्षणासाठी प्रवेश घेणाऱ्या विद्यार्थ्यांची शैक्षणिक पार्श्वभूमी ही ज्ञानरचनावादाची आहे. या विद्यार्थ्यांचे पूर्वानुभव, पूर्वज्ञान हे जिज्ञासा, निरीक्षण, प्रयोग, सर्जनशीलता, उपाययोजना व समस्या निराकरण अशा अध्ययन – अध्यापन सूत्रांतून निर्माण झाले आहे.

हा अभ्यासक्रम तयार करित असताना काही आधारभूत तत्वे स्वीकारली आहेत. राष्ट्रीय शैक्षणिक धोरणाची उद्दिष्टे प्रत्यक्षात आणताना, विद्यार्थीकेंद्री, आंतरविद्याशाखीय, रोजगाराभिमुख, कौशल्याधिष्ठीत असे भाषा व साहित्याचे अभ्यासक्रम अनुसरणे, निर्माण करणे आवश्यक आहे. तसेच जीवन कौशल्य विकासासाठी भाषा, साहित्य, कला ही माध्यमे अधिक परिणामकारकतेने समजावून घेणे आवश्यक झाले आहे. साहित्यिक क्षमता, भाषिक क्षमता वाढीसाठी, जीवनाच्या आकलनासाठी आणि प्रगल्भतेसाठी विद्यार्थी सिद्ध करणे; ही आजची गरज बनली आहे.

**उद्दिष्टे :**

१. मराठी भाषा, मराठी साहित्य आणि मराठी संस्कृती यांचे अध्ययन करणे.
२. साहित्यविषयक आकलन, आस्वाद आणि मूल्यमापन क्षमता विकसित करणे.
३. साहित्याभ्यासातून जीवनविषयक समज विकसित करणे.
४. मराठी भाषेची उपयोजनात्मक कौशल्ये विकसित करणे.

मराठी विषयाचा अभ्यासक्रमाची पुनर्रचना खालील क्रमाने करण्यात येणार आहे.

१. First Year B.A. 2019-20.
२. Second Year B.A. 2020-21.
३. Third Year B.A. 2021-22.

B. A. (मराठी) हा पुनर्रचित अभ्यासक्रम तीन वर्षांचा आणि सहा सत्रांत विभागलेला निवड आधारित श्रेयांक पद्धतीचा (Choice Based Credit System) [CBCS] आहे. हा अभ्यासक्रम F. Y. B. A. (सत्र १ आणि सत्र २), S. Y. B. A. (सत्र ३ आणि सत्र ४), T. Y. B. A. (सत्र ५ आणि सत्र ६) अशा १३२ श्रेयांकांचा आहे.

३. Pattern: निवड आधारित श्रेयांक पद्धत (Choice Based Credit System) [CBCS]

४. Eligibility : (Circular No. 100 of 2017)

### Faculty of Humanities

#### (1) Arts & Fine Arts Bachelor's Degree

##### 1. First Year B.A.

- Higher Secondary School Certificate (10+2) or its equivalent Examination with English as a passing subject.
- Three Years Diploma Course (after S.S.C. i.e. 10th Standard), of Board of Technical Education conducted by Government of Maharashtra or its equivalent.
- Three Years Diploma in Pharmacy Course (after S.S.C. i.e. 10th), of Board of Technical Education conducted by Government of Maharashtra or its equivalent.
- S.S.C. of 10 years or 11 years with English and Indian Air Force Educational Test for promotion to the rank of Corporal.
- Trained Teachers Certificate Course, of Inter-State Board of Anglo Indian Education, New Delhi.
- Intermediate Commerce/Arts examination from the Recognized Board of Secondary Education, M.P. Bhopal with 4 subjects including General English.
- Diploma in Education with English, of Bureau of Government of Maharashtra.
- MCVC (minimum competency Vocational Course Government of Maharashtra)

५. Examination:

१. Pattern of examination:

१. Semester

२. Pattern of the question paper:

|                        |         |
|------------------------|---------|
| विद्यापीठ सत्र परीक्षा | ७० गुण  |
| अंतर्गत मूल्यमापन      | ३० गुण  |
| एकूण                   | १०० गुण |

२. Standard of passing: उत्तीर्ण होण्यासाठी विद्यापीठ सत्र परीक्षेत ७० पैकी २८ गुण अनिवार्य, अंतर्गत मूल्यमापनामध्ये ३० पैकी १२ गुण अनिवार्य.

३. Award of class:

#### 1. Percentage to Grades and Grade Points

The following formula may be used to convert marks (%) into letter grades.

Let  $\bar{X}$  = mean of % age marks of all student appeared in the paper.

$\sigma$  = Standard deviation

m = % of marks obtained

| Letter grade      | Numerical grade | Formula                                              |
|-------------------|-----------------|------------------------------------------------------|
| O (outstanding)   | 10              | $m \geq \bar{X} + 2.5 \sigma$                        |
| A+ (Excellent)    | 9               | $\bar{X} + 2.0 \sigma \leq m < \bar{X} + 2.5 \sigma$ |
| A (Very Good)     | 8               | $\bar{X} + 1.5 \sigma \leq m < \bar{X} + 2.0 \sigma$ |
| B+ (Good)         | 7               | $\bar{X} + 1.0 \sigma \leq m < \bar{X} + 1.5 \sigma$ |
| B (Above average) | 6               | $\bar{X} \leq m < \bar{X} + \sigma$                  |
| C (Average)       | 5               | $\bar{X} - 0.5 \sigma \leq m < \bar{X}$              |
| D (Pass)          | 4               | $\bar{X} - \sigma \leq m < \bar{X} - 0.5 \sigma$     |
| F (Fail)          | 0               | $m < \bar{X} - \sigma$                               |
| Ab (Absent)       | 0               |                                                      |

\* Minor variations may be adjusted by the individual institution.

६ Structure of Course:

| Year     | Semester | Core Courses (CC)            | Discipline Specific Elective Courses (DSE) | Generic Elective(GE) |
|----------|----------|------------------------------|--------------------------------------------|----------------------|
| F.Y.B.A. | 1        | CC – 1 A (3)                 |                                            |                      |
|          | 2        | CC – 1 B (3)                 |                                            |                      |
| S.Y.B.A. | 3        | CC – 1 C (2)                 | DSE 1 A (3)<br>DSE 2 A (3)                 |                      |
|          | 4        | CC – 1 D (2)<br>CC – 3 D (1) | DSE 1 B (3)<br>DSE 2 B (3)                 |                      |
| T.Y.B.A. | 5        | CC – 1 E (2)                 | DSE 1 C (3)<br>DSE 2 C (3)                 |                      |
|          | 6        | CC – 1 F (2)                 | DSE1 D (3)<br>DSE 2 D (3)                  | GE 2 B (2)           |

७ Work Load:

१. १ श्रेयांक : १५ तास
२. १ तास : ६० मिनिट
३. १ सत्र : ३ श्रेयांक

८ Subject wise Detail Syllabus & Recommended books:

**F.Y.B.A. (प्रथम वर्ष कला)**

निवड आधारित श्रेयांक पद्धत (Choice Based Credit System)

**पहिले सत्र**

**विषयाचे नाव : मराठी साहित्य : कथा आणि भाषिक कौशल्यविकास [CC-1 A]**

**अभ्यासक्रमाची उद्दिष्टे :**

१. कथा या साहित्यप्रकाराची ओळख करून देणे.
२. कथा या साहित्यप्रकाराचे स्वरूप, घटक आणि प्रकार यांची ओळख करून देणे.
३. विविध साहित्यप्रवाहांमधील कथा या साहित्यप्रकारातील निवडक कथांचे अध्ययन करणे.
४. भाषिक कौशल्यविकास करणे.

**पहिले सत्र :**

| घटक | तपशील                                                                                                                                              | श्रेयांक | तासिका |
|-----|----------------------------------------------------------------------------------------------------------------------------------------------------|----------|--------|
| १   | कथा : स्वरूप आणि वाटचाल<br>कथा : घटक<br>कथा : प्रकार (रचनाप्रकार आणि प्रवाह)                                                                       | १        | १५     |
| २   | अभ्यासपुस्तक : <b>समकालीन मराठी कथा</b><br>अक्षरबंध प्रकाशन, पुणे<br>संपादक : प्रा. डॉ. शिरीष लांडगे, प्रा. डॉ. दिलीप पवार, प्रा. डॉ. संदीप सांगळे | १        | १५     |
| ३   | भाषिक कौशल्यविकास<br>नैसर्गिक : आकलनासह श्रवण<br>अर्जित : संभाषण, वाचन, लेखन, इ-संवाद कौशल्य<br>प्रगत : सारग्रहण, सारांशलेखन                       | १        | १५     |

**संदर्भ ग्रंथ**

१. मराठी साहित्य : प्रेरणा आणि स्वरूप, संपादक डॉ. गो. मा. पवार, डॉ. म. द. हातकणंगलेकर
२. साहित्यमूल्य आणि अभिरुची, डॉ. गो. मा. पवार
३. काही साहित्यिक : काही साहित्यकृती, डॉ. भीमराव कुलकर्णी
४. साहित्य अध्यापन आणि प्रकार, वा. ल. कुलकर्णी गौरव ग्रंथ, संपादक श्री. पु. भागवत, डॉ. सुधीर रसाळ
५. कथा : संकल्पना आणि समीक्षा, सुधा जोशी, मौज प्रकाशन
६. मराठी कथा : विसावे शतक, संपादक के. ज. पुरोहित, सुधा जोशी

७. व्यावहारिक मराठी, पुणे विद्यापीठ प्रकाशन, पुणे.
८. व्यावहारिक मराठी, डॉ. कल्याण काळे, डॉ. दत्तात्रय पुंडे, निराली प्रकाशन, पुणे.
९. व्यावहारिक मराठी, डॉ. लीला गोविलकर, डॉ. जयश्री पाटणकर, स्नेहवर्धन प्रकाशन, पुणे.
१०. व्यावहारिक मराठी, डॉ. सयाजीराजे मोकाशी, प्रा. रंजना नेमाडे
११. व्यावहारिक, उपयोजित मराठी आणि प्रसारमाध्यमांची कार्यशैली, संपादक डॉ. संदीप सांगळे, डायमंड पब्लिकेशन, पुणे.
१२. मराठी भाषेची संवाद कौशल्ये (पुस्तक क्र.१ ते ८) य. च. म. मुक्त विद्यापीठ, नाशिक.
१३. व्यावहारिक मराठी, डॉ. ल. रा. नसिराबादकर, फडके प्रकाशन, कोल्हापूर.
१४. नवभारत, व्यावहारिक मराठी विशेषांक, ऑगस्ट – सप्टेंबर, १९८२, प्राज्ञ पाठशाला, वाई.
१५. प्रसारमाध्यमांसाठी लेखन कौशल्ये, य. च. म. मुक्त विद्यापीठ, नाशिक.
१६. कहाणी वर्तमानपत्राची, चंचल सरकार, अनुवाद, दिनकर गांगल, नॅशनल बुक ट्रस्ट.
१७. वैखरी, भाषा आणि भाषा व्यवहार, अशोक केळकर
१८. प्रसारमाध्यमे आणि मराठी भाषा, संपादक डॉ. भास्कर शेळके.
१९. व्यावहारिक मराठी भाषा, शरदिनी मोहिते
२०. व्यावहारिक आणि उपयोजित मराठी, डॉ. मनोहर रोकडे
२१. व्यासपीठ, डॉ. महादेव वाळुंज, अक्षरमानव प्रकाशन, पुणे.
२२. मराठी भाषा उपयोजन आणि सर्जन, प्रा. सुहासकुमार बोबडे
२३. पारिभाषिक संज्ञा कोश (इंग्लिश - मराठी ) डॉ. स्नेहल तावरे.
२४. भाषांतर मीमांसा, कल्याण काळे, अंजली सोमण, प्रतिमा प्रकाशन, पुणे.
२५. व्यावहारिक मराठी, संपादक डॉ. स्नेहल तावरे, स्नेहवर्धन प्रकाशन, पुणे.
२६. उपयोजित मराठी, डॉ. केतकी मोडक, प्रा. सुजाता शेणई, संतोष शेणई
२७. व्यावहारिक मराठी, प्रकाश परब, मिथुन प्रकाशन, १८८९,डोंबिवली (पूर्व)
२८. भाषा संचालनालय, महाराष्ट्र शासनाने प्रकाशित केलेले विविध कोश
२९. साहित्यिक गौरी देशपांडे, महादेव वाळुंज.
३०. बाबुराव बागुलांच्या कथेतील दलित स्त्री, राजाभाऊ भैलुमे.
३१. दलित व दलितेतरांची कथा : एक अभ्यास, श्रीराम गडकर
३२. <https://www.maayboli.com/node/62738>



३३. [https://m.maharashtratimes.com/editorial/samwad/predictive-reviews-of-rural-problems/amp\\_articles/68120291.cms](https://m.maharashtratimes.com/editorial/samwad/predictive-reviews-of-rural-problems/amp_articles/68120291.cms)
३४. <https://marathi.pratilipi.com/>
३५. <https://www.youtube.com/watch?v=uMMRRXj-54Q&feature=youtu.be>
३६. [https://mr.m.wikipedia.org/wiki/%E0%A4%97%E0%A5%8C%E0%A4%B0%E0%A5%80\\_%E0%A4%A6%E0%A5%87%E0%A4%B6%E0%A4%AA%E0%A4%BE%E0%A4%82%E0%A4%A1%E0%A5%87](https://mr.m.wikipedia.org/wiki/%E0%A4%97%E0%A5%8C%E0%A4%B0%E0%A5%80_%E0%A4%A6%E0%A5%87%E0%A4%B6%E0%A4%AA%E0%A4%BE%E0%A4%82%E0%A4%A1%E0%A5%87)
३७. <https://www.bbc.com/marathi/india-43021905>
३८. <https://www.loksatta.com/lekh-news/indian-women-authors-gauri-deshpande-chaturang-anniversary-issue-1761601/>
३९. [https://mr.m.wikipedia.org/wiki/%E0%A4%AD%E0%A4%BE%E0%A4%B8%E0%A5%8D%E0%A4%95%E0%A4%B0\\_%E0%A4%9A%E0%A4%82%E0%A4%A6%E0%A4%A8%E0%A4%B6%E0%A4%BF%E0%A4%B5](https://mr.m.wikipedia.org/wiki/%E0%A4%AD%E0%A4%BE%E0%A4%B8%E0%A5%8D%E0%A4%95%E0%A4%B0_%E0%A4%9A%E0%A4%82%E0%A4%A6%E0%A4%A8%E0%A4%B6%E0%A4%BF%E0%A4%B5)

## दुसरे सत्र

### विषयाचे नाव : मराठी साहित्य : एकांकिका आणि भाषिक कौशल्यविकास [CC-1 A]

#### अभ्यासक्रमाची उद्दिष्टे :

१. एकांकिका या साहित्यप्रकाराची ओळख करून देणे.
२. एकांकिका या साहित्यप्रकाराचे स्वरूप, घटक आणि प्रकार यांची ओळख करून देणे.
३. मराठी साहित्यातील निवडक एकांकिकांचे अध्ययन करणे.
४. भाषिक कौशल्यविकास करणे.

| घटक | तपशील                                                                                                                                                                                                              | श्रेयांक | तासिका |
|-----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|--------|
| १   | एकांकिका : स्वरूप<br>एकांकिका : घटक<br>एकांकिका : संहितामूल्य व प्रयोगमूल्य                                                                                                                                        | १        | १५     |
| २   | अभ्यासपुस्तक : मराठी एकांकिका<br>(विठ्ठल तो आला आला – पु. ल. देशपांडे, हंडाभर चांदण्या – दत्ता पाटील)<br>पद्मगंधा प्रकाशन, पुणे<br>संपादक : प्रा. डॉ. शिरीष लांडगे, प्रा. डॉ. बाळकृष्ण लळीत, प्रा. डॉ. भास्कर ढोके | १        | १५     |
| ३   | भाषा उपयोजनाची विविध आविष्कार रूपे<br>संवादलेखन<br>कल्पनाविस्तार<br>घोषवाक्य लेखन<br>भाषांतर                                                                                                                       | १        | १५     |

### संदर्भ ग्रंथ

१. एकांकिका वाटचाल, संपादक श्री. रं. भिडे व इतर, सोमय्या पब्लिकेशन, मुंबई, १९६९.
२. निवडक मराठी एकांकिका, संपादक सुधा जोशी, साहित्य अकादमी, दिल्ली, १९८३.
३. निवडक एकांकिका, वि.भा. देशपांडे, १९७७.
४. सर्वोत्कृष्ट मराठी एकांकिका, प्रभाकर नारायण परांजपे, सुपर्ण प्रकाशन, पुणे, १९४८.
५. मराठी एकांकिका तंत्र व विकास, श्री. रं. भिडे, सुपर्ण प्रकाशन, पुणे.
६. एकांकिका विचार आणि सर्वोत्तम एकांकिका, जयंत पवार व इतर, नेहरू सेंटर प्रकाशन, मुंबई १९९३.
७. टॅक्स फ्री आणि इतर एकांकिका (प्रस्तावना), चंद्रशेखर फणसळकर, कॉन्टिनेन्टल प्रकाशन, पुणे १९९५.
८. समग्र एकांकिका भाग १ व २, विजय तेंडुलकर, पॉप्युलर प्रकाशन, मुंबई, २००४.
९. चतुरंग सवाई एकांकिका, संपादक चतुरंग परिवार, १९८८-२०१२ रौप्यमहोत्सवी वाटचाल विशेषांक.
१०. <https://www.youtube.com/watch?v=0fnZMG8zdpk>

### प्रश्नपत्रिकेचे स्वरूप : पहिले आणि दुसरे सत्र

| विद्यापीठ सत्र परीक्षा                                                                                                                     |                                                               |          |
|--------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------|----------|
| वेळ : ३ तास                                                                                                                                | घटकनिहाय प्रश्न तपशील                                         | गुण : ७० |
| प्रश्न क्रमांक                                                                                                                             |                                                               | गुण      |
| प्रश्न १ ला                                                                                                                                | २ पैकी १ प्रश्नाचे उत्तर प्रत्येकी १५० शब्दांपर्यंत (घटक १)   | १०       |
| प्रश्न २ रा                                                                                                                                | ४ पैकी २ प्रश्नांची उत्तरे प्रत्येकी १५० शब्दांपर्यंत (घटक २) | २०       |
| प्रश्न ३ रा                                                                                                                                | २ पैकी १ प्रश्नाचे उत्तर प्रत्येकी ३०० शब्दांपर्यंत (घटक २)   | २०       |
| प्रश्न ४ था                                                                                                                                | ४ पैकी २ प्रश्नांची उत्तरे प्रत्येकी १५० शब्दांपर्यंत (घटक ३) | २०       |
| सत्र परीक्षा एकूण गुण                                                                                                                      |                                                               | ७०       |
| अंतर्गत मूल्यमापन                                                                                                                          |                                                               |          |
| लेखी परीक्षा (घटक २)                                                                                                                       |                                                               | २०       |
| प्रकल्प / गटचर्चा / गृहपाठ / चर्चासत्र / उपक्रम सहभाग / अभ्यासभेट (घटक ३)                                                                  |                                                               | १०       |
| अंतर्गत मूल्यमापन एकूण गुण                                                                                                                 |                                                               | ३०       |
| सत्र परीक्षा आणि अंतर्गत मूल्यमापन एकूण गुण                                                                                                |                                                               | १००      |
| अंतर्गत मूल्यमापनाचे नियोजन महाविद्यालयाने करावे. विद्यापीठाच्या निर्देशानुसार विहित मुदतीत गुण विद्यापीठाकडे पाठवावे.                     |                                                               |          |
| विद्यार्थ्यांचे अंतर्गत मूल्यमापनविषयक लेखन / तपशील विद्यापीठाच्या निर्देशानुसार, विहित कालावधीपर्यंत महाविद्यालयाकडे जमा असणे आवश्यक आहे. |                                                               |          |

**F.Y.B.A. (प्रथम वर्ष कला)**

निवड आधारित श्रेयांक पद्धत (Choice Based Credit System)

**पहिले सत्र**

**पर्यायी अभ्यासक्रम**

**विषयाचे नाव : व्यावहारिक व उपयोजित मराठी भाग १ [CC-1 A]**

**अभ्यासक्रमाची उद्दिष्टे :**

१. संज्ञापनातील भाषेची भूमिका, विविध भाषिक आविष्कारांचे स्वरूप समजावून घेणे. भाषिक कौशल्यांची क्षमता विकसित करणे.
२. भाषिक कौशल्यांचे विविध आविष्कार आणि संपर्कमाध्यमे यांचा परस्परसंबंध समजावून घेणे व उपयोजन करणे.
३. मराठीचा कार्यालयीन, व्यावसायिक कामकाजात भाषेचे उपयोजन, गरज व स्वरूप या विशेषांची माहिती करून घेणे.
४. कार्यालयीन, व्यावसायिक भाषाव्यवहारासाठी आवश्यक लेखनकौशल्याचे संपादन व उपयोजन करणे.

| घटक | तपशील                                                                                                                                                                                                              | श्रेयांक | तासिका |
|-----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|--------|
| १   | १. जीवन व्यवहारातील भाषेचे स्थान :<br>भाषा स्वरूप व व्याख्या, आविष्करणाचे प्रकार, मौखिक व लिखित.जीवनक्षेत्रे व भाषा उपयोजन<br>२. भाषिक कौशल्ये :<br>१. नैसर्गिक - आकलनसह श्रवण,<br>२. अर्जित - संभाषण, वाचन व लेखन | १        | १५     |
| २   | १. अर्जलेखन- विनंती अर्ज, नोकरीसाठी अर्ज, तक्रार अर्ज, माहितीच्या अधिकारातील अर्ज.<br>२. निबंध लेखन - वर्णनात्मक, चर्चात्मक आणि ललित (प्रत्यक्ष निबंधलेखन करणे अपेक्षित )                                          | १        | १५     |
| ३   | प्रगत भाषिक कौशल्ये :<br>१. सारांश लेखन<br>२. सारग्रहण<br>३. भाषांतर<br>(प्रत्यक्ष लेखन करणे अपेक्षित)                                                                                                             | १        | १५     |

**दुसरे सत्र**  
**पर्यायी अभ्यासक्रम**

**विषयाचे नाव : व्यावहारिक व उपयोजित मराठी भाग १ [CC-1 A]**

| घटक | तपशील                                                                                                                                                                                                                                  | श्रेयांक | तासिका |
|-----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|--------|
| १   | संवाद लेखन :<br>१. विविध माध्यमांसाठी होणारे संवाद.<br>२. सुचविलेल्या प्रसंगावर आधारित संवाद लेखन<br>३. ई-संवाद (ई-मेल)                                                                                                                | १        | १५     |
| २   | भाषांतर :<br>१. भाषांतर म्हणजे काय ? भाषांतर शास्त्र की कला ?<br>२. भाषांतराची आवश्यकता, भाषांतर करताना येणाऱ्या अडचणी.<br>३. भाषांतर आणि रूपांतर, लक्ष्यनिष्ठ आणि मूलनिष्ठ भाषांतर.<br>४. इंग्लिश उताऱ्याचे मराठी अथवा हिंदी भाषांतर. | १        | १५     |
| ३   | उपयोजित मराठीची आविष्कार रूपे :<br>१. टिप्पणी लेखन<br>२. इतिवृत्त लेखन<br>३. घोषणा पत्रक<br>४. हस्तपत्रक<br>५. घडीपत्रक<br>६. स्मरणपत्र<br>७. स्मरणिका निर्मितीचा आराखडा<br>८. आशयलेखन (Content Writing)<br>९. जाहिरात लेखन.           | १        | १५     |

**संदर्भ ग्रंथ**

१. व्यावहारिक मराठी, पुणे विद्यापीठ प्रकाशन, पुणे.
२. व्यावहारिक मराठी, डॉ. कल्याण काळे, डॉ. दत्तात्रय पुंडे, निराली प्रकाशन, पुणे.
३. व्यावहारिक मराठी, डॉ. लीला गोविलकर, डॉ. जयश्री पाटणकर, स्नेहवर्धन प्रकाशन, पुणे.
४. व्यावहारिक मराठी, डॉ. सयाजीराजे मोकाशी, प्रा. रंजना नेमाडे
५. व्यावहारिक मराठी, डॉ. ल. रा. नसिराबादकर, फडके प्रकाशन, कोल्हापूर
६. प्रसारमाध्यमांसाठी लेखन कौशल्ये, य.च.म.मुक्त विद्यापीठ, नाशिक.
७. कहाणी वर्तमानपत्राची, चंचल सरकार अनुवाद, दिनकर गांगल, नॅशनल बुक ट्रस्ट
८. द्विभाषी व्यावहारिक शब्दकोश (इंग्लिश - मराठी) गणेश ओतुरकर
९. प्रसारमाध्यमे आणि मराठी भाषा, संपादक डॉ. भास्कर शेळके.

१०. व्यावहारिक मराठी भाषा, शरदिनी मोहिते
११. भाषांतर मीमांसा, डॉ. कल्याण काळे
१२. व्यावहारिक, उपयोजित मराठी आणि प्रसारमाध्यमे, संपादक डॉ. संदीप सांगळे
१३. व्यावहारिक आणि उपयोजित मराठी, डॉ. मनोहर रोकडे
१४. मराठी भाषा उपयोजन आणि सर्जन, प्रा. सुहासकुमार बोबडे
१५. उपयोजित मराठी, डॉ. केतकी मोडक, प्रा. सुजाता शेणई, संतोष शेणई
१६. व्यावहारिक मराठी, प्रकाश परब
१७. व्यावहारिक मराठी, संपादक डॉ. स्नेहल तावरे, स्नेहवर्धन प्रकाशन, पुणे.
१८. निबंध : शास्त्र व कला, डॉ. प्र. न. जोशी
१९. निबंध व लेखन, निर्मला किराणे.
२०. भाषांतरमीमांसा, संपादक डॉ. रमेश वरखेडे, य. च. म. मुक्त विद्यापीठ, नाशिक.

**प्रश्नपत्रिकेचे स्वरूप : पहिले आणि दुसरे सत्र**

| <b>विद्यापीठ सत्र परीक्षा</b>                                                                                                              |                                            |                 |
|--------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------|-----------------|
| <b>वेळ : ३ तास</b>                                                                                                                         | <b>घटकनिहाय प्रश्न तपशील</b>               | <b>गुण : ७०</b> |
| <b>प्रश्न क्रमांक</b>                                                                                                                      |                                            | <b>गुण</b>      |
| प्रश्न १ ला                                                                                                                                | ४ पैकी २ प्रश्नांची उत्तरे लिहिणे. (घटक १) | २०              |
| प्रश्न २ रा                                                                                                                                | ४ पैकी २ प्रश्नांची उत्तरे लिहिणे. (घटक २) | २०              |
| प्रश्न ३ रा                                                                                                                                | ४ पैकी २ प्रश्नांची उत्तरे लिहिणे. (घटक ३) | ३०              |
| <b>सत्र परीक्षा एकूण गुण</b>                                                                                                               |                                            | <b>७०</b>       |
| <b>अंतर्गत मूल्यमापन</b>                                                                                                                   |                                            |                 |
| <b>लेखी परीक्षा</b>                                                                                                                        |                                            | <b>२०</b>       |
| प्रकल्प / गटचर्चा / गृहपाठ / चर्चासत्र / उपक्रम सहभाग / अभ्यासभेट                                                                          |                                            | १०              |
| <b>अंतर्गत मूल्यमापन एकूण गुण</b>                                                                                                          |                                            | <b>३०</b>       |
| <b>सत्र परीक्षा आणि अंतर्गत मूल्यमापन एकूण गुण</b>                                                                                         |                                            | <b>१००</b>      |
| अंतर्गत मूल्यमापनाचे नियोजन महाविद्यालयाने करावे. विद्यापीठाच्या निर्देशानुसार विहित मुदतीत गुण विद्यापीठाकडे पाठवावे.                     |                                            |                 |
| विद्यार्थ्यांचे अंतर्गत मूल्यमापनविषयक लेखन / तपशील विद्यापीठाच्या निर्देशानुसार, विहित कालावधीपर्यंत महाविद्यालयाकडे जमा असणे आवश्यक आहे. |                                            |                 |



# Savitribai Phule Pune University

*(Formerly University of Pune)*

**Three Year B.A. Degree Program in Restructuring pattern**

**(Faculty of Science & Technology)**

**F.Y.B.A. (Restructuring pattern)**

**Choice Based Credit System Syllabus**

**To be implemented from Academic Year 2019-2020**

## **Title of the Course: B.A. (Restructuring pattern)**

### **Preamble:**

BA Restructuring program is designed to serve the requirements of Choice Based Credit System as per the guidelines of University Grants Commission. In the proposed structure, due consideration is given to restructured courses along with the conventional courses (Regular Pattern).

The continuous assessment of Choice Based Credit System will facilitate systematic and through learning towards better understanding of the subject. The well planned curricula from 1<sup>st</sup> year to 3<sup>rd</sup> year comprising of six semesters will definitely motivate the students for inculcating enough skills required for becoming a successful entrepreneur as well as a researcher.

### Objectives:

- To foster value based education
- To enrich project based learning and create foundation for research
- To train the students in skill oriented courses
- To increase and improve self confidence, effective communication skills, perfect and proper presentation skill through personality development courses

### Course Outcomes:

- Through this pattern, skilled and technical human resources will be made available.
- It will develop self confident and knowledgeable personnel's.
- The course will motivate students in the field of research as well as guide to become a successful entrepreneur.
- It will develop self awareness to enrich decision making ability among the students.
- Personal development will increase the clarity and effectiveness in knowing themselves and their strengths.

**Savitribai Phule Pune University****Restructuring Pattern****Structure of Choice Based Credit System for Undergraduate Arts Restructuring Pattern 2019-20**

| Semester            | Core Courses (CC)              | Ability Enhancement Compulsory Course (AEC) | Skill Enhancement Course (SEC) | Discipline Specific Elective Courses (DSE) | Generic Elective (GE) | Total Credit |
|---------------------|--------------------------------|---------------------------------------------|--------------------------------|--------------------------------------------|-----------------------|--------------|
| I                   | Compulsory English (3)         |                                             |                                |                                            |                       | 18           |
|                     | CC – 1 A (3)                   |                                             |                                |                                            |                       |              |
|                     | CC – 2 A (3)                   |                                             |                                |                                            |                       |              |
|                     | CC – 3 A (3)                   |                                             |                                |                                            |                       |              |
|                     | CC – 4 A Component (3)         |                                             |                                |                                            |                       |              |
|                     | CC – 5 D Component (3)         |                                             |                                |                                            |                       |              |
| II                  | Compulsory English (3)         |                                             |                                |                                            |                       | 18           |
|                     | CC – 1 B (3)                   |                                             |                                |                                            |                       |              |
|                     | CC – 2 B (3)                   |                                             |                                |                                            |                       |              |
|                     | CC – 3 B (3)                   |                                             |                                |                                            |                       |              |
|                     | CC – 4 A Component (3)         |                                             |                                |                                            |                       |              |
|                     | CC – 5 D Component (3)         |                                             |                                |                                            |                       |              |
| III                 | Compulsory English (3)         | Environment Science (2)                     | SEC 1 A(2)                     | DSE 1 A(3)                                 |                       | 22           |
|                     | MIL 2 (3)                      |                                             |                                |                                            |                       |              |
|                     | CC – 1 C(2)                    |                                             | SEC 2 A (2)                    | DSE 2 A (3)                                |                       |              |
|                     | CC – 2 C Component (3)         |                                             |                                |                                            |                       |              |
| IV                  | Compulsory English (3)         | Environment Science (2)                     | SEC 1 B (2)                    | DSE 1 B(3)                                 |                       | 24           |
|                     | MIL 2 (3)                      |                                             |                                |                                            |                       |              |
|                     | CC – 1 D(2)                    |                                             | SEC 2 B (2)                    | DSE 2 B(3)                                 |                       |              |
|                     | CC – 2 C Component (3)         |                                             |                                |                                            |                       |              |
| V                   | ‘C’ Component (Case Study) (3) | MIL (2)                                     | SEC 1 C (2)                    | DSE 1 C(3)                                 | GE 1 A(4)             | 25           |
|                     | CC – 1 E(2)                    | (Language/Communication)                    |                                |                                            |                       |              |
|                     | CC – 2 C Component (2)         |                                             | SEC 2 C (2)                    | DSE 2 C(3)                                 | GE 2 A (2)            |              |
| VI                  | ‘C’ Component (Project) (3)    | MIL (2)                                     | SEC 1 D (2)                    | DSE1 D(3)                                  | GE 1 B(4)             | 25           |
|                     | CC – 1 F(2)                    | (Language/Communication)                    |                                |                                            |                       |              |
|                     | CC – 2 C Component (2)         |                                             | SEC 2 D (2)                    | DSE 2 D(3)                                 | GE 2 B(2)             |              |
| <b>Total Credit</b> | <b>72</b>                      | <b>08</b>                                   | <b>16</b>                      | <b>24</b>                                  | <b>12</b>             | <b>132</b>   |

- The Course structure may be change as per the guidelines of Savitribai Phule Pune University, Pune.  
(Examination Pattern = 70 Marks External Exam + 30 Marks Internal Exam. Total = 100 Marks)



**Savitribai Phule Pune University**  
**Restructure Pattern 2019-20**  
**Art Faculty**  
**Course code of F. Y. B. A. Restructuring pattern**

| Semester  | Paper Code   | Paper | Core course<br>(Course Code)                                     | Paper Title                                      | Credits |
|-----------|--------------|-------|------------------------------------------------------------------|--------------------------------------------------|---------|
| <b>I</b>  | RE-A-FC-101  | I     | CC – 4<br>'A' Component<br>Compulsory<br>Course                  | Foundation Course- I                             | 03      |
|           | RE-D-CSE-102 | I     | CC – 5<br>'D' Component<br><br>(Student opt any<br>one subject). | Communication Skills in<br>English - I           | 03      |
|           | RE-D-PCE-103 | I     |                                                                  | Preparation for Competitive<br>Examinations -I   | 03      |
|           | RE-D-ND-104  | I     |                                                                  | Nursery Development - I                          | 03      |
|           | RE-D-RR-105  | I     |                                                                  | Radio Repairing - I                              | 03      |
|           | RE-D-CSM-106 | I     |                                                                  | Communication Skill in<br>Marathi - I            | 03      |
| <b>II</b> | RE-A-FC-111  | II    | CC – 4<br>'A' Component                                          | Foundation Course-                               | 03      |
|           | RE-D-CSE-112 | II    | CC – 5<br>'D' Component<br><br>(Student opt any<br>one subject). | Communication Skills in<br>English - II          | 03      |
|           | RE-D-PCE-113 | II    |                                                                  | Preparation for Competitive<br>Examinations - II | 03      |
|           | RE-D-ND-114  | II    |                                                                  | Nursery Development - II                         | 03      |
|           | RE-D-RR-115  | II    |                                                                  | Radio Repairing - II                             | 03      |
|           | RE-D-CSM-116 | II    |                                                                  | Communication Skill in<br>Marathi - II           | 03      |

**SEMESTER -I****CC – 4 .****Course code - RE-A-FC-101****Paper Title: Foundation Course- I (Paper -1)****(‘A’ Component: Basic Knowledge Course.) (Credit.3)****CC – 5 D Component (3)**

Objectives:

1. To Impart moral, Patriotic and Socio-cultural values in the students.
2. To aware the students about various problems emerged in India.
3. To helps the students to know the trends of National and Global development.
4. It helps to learn the concept and its practical application in human life.

| Semester – I Syllabus |                                         |                                                |                                                                                                                                                                                                                          |             |
|-----------------------|-----------------------------------------|------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| Unit No.              | Unit                                    | Sub Unit                                       |                                                                                                                                                                                                                          | Credit      |
| 1.                    | A Study of Global and Indian Concepts   | a<br>b<br>c<br>d<br>e<br>f<br>g<br>h<br>i<br>j | Nationalism,<br>Economic Imperialism,<br>Socialism,<br>Humanity,<br>Liberty,<br>Democracy,<br>Globalization,<br>Liberalization,<br>Privatization,<br>Religion.                                                           | Credit- 1   |
| 2.                    | Transformation Movements in Maharashtra | a<br>b<br>c                                    | Social and Religious movement in Maharashtra: - Prarthana Samaj, Satyashodhak Samaj.<br>Classified movements: -<br>Famine Movement,<br>Women's movements.<br>Educational movement in Maharashtra: -<br>Nature and growth | Credit- 1   |
| 3.                    | Recent trends in Indian economy         | a<br>b<br>c<br>d                               | Economy- Meaning and types, pattern of Indian economy<br>Financial inclusion<br>Inclusive growth<br>GST.                                                                                                                 | Credit- 0.5 |
| 4.                    | Science and Scientific Method           | a<br>b<br>c<br>d<br>e                          | Science- Definition,<br>Classification of science<br>Scientific Methods<br>Sources of data collection<br>Report writing                                                                                                  | Credit- 0.5 |

**SEMESTER -II****CC – 4.****Course code - RE-A-FC-111****Paper Title: Foundation Course- II (Paper -I1)****(‘A’ Component: Basic Knowledge Course.) (Credit.3)**

| Semester – II Syllabus |                                                      |          |                                                                                                        |             |
|------------------------|------------------------------------------------------|----------|--------------------------------------------------------------------------------------------------------|-------------|
| Unit No.               | Unit                                                 | Sub Unit |                                                                                                        | Credit      |
| 1.                     | Contemporary Social Issues in India                  | a        | Population-Characteristics, Causes and effects of growing population in India.                         | Credit- 0.5 |
|                        |                                                      | b        | Urbanization-Concept and problems Gender                                                               |             |
|                        |                                                      | c        | Disparity-Concept, causes and measures to eliminate gender disparity.                                  |             |
|                        |                                                      | d        | Women Empowerment-Concept and Significance.                                                            |             |
| 2.                     | Geography of India                                   | a        | Physiographical regions in India                                                                       | Credit- 0.5 |
|                        |                                                      | b        | States and its capitals                                                                                |             |
|                        |                                                      | c        | Rivers                                                                                                 |             |
|                        |                                                      | d        | Dam                                                                                                    |             |
|                        |                                                      | e        | Forests                                                                                                |             |
|                        |                                                      | f        | Deserts                                                                                                |             |
| 3.                     | Basic Concept in Political Science, Political Issues | a        | Indian Constitution creation and important                                                             | Credit- 1   |
|                        |                                                      | b        | Democracy- Definition and Types, Merits and                                                            |             |
|                        |                                                      | c        | Demerits of Indian democracy                                                                           |             |
|                        |                                                      | d        | Human Rights and Responsibilities                                                                      |             |
|                        |                                                      | e        | Right to Information Act (RTI-2005)<br>Local Governments                                               |             |
| 4.                     | Value Education                                      | a        | National values - Democracy, socialism, secularism, equality, justice, liberty, Freedom and fraternity | Credit- 1   |
|                        |                                                      | b        | Social Values - Pity and probity, self control, universal brotherhood.                                 |             |
|                        |                                                      | c        | Professional Values - Knowledge thirst, sincerity, regularity, punctuality and faith.                  |             |
|                        |                                                      | d        | Religious Values – Personality, Tolerance, wisdom,                                                     |             |
|                        |                                                      | e        | Aesthetic values – Love, appreciation, respect to literature and fine arts                             |             |

**References:**

- 1) Foundation Course- 1- Dr. Ashok Jain, sheth Publishers Pvt. Ltd., Mumbai
- 2) Indian Economy- Dr. Desai, Dr. Nirmal Bhalerao – Nirali Publications.
- 3) Transformation of Modern Maharashtra- Vasant Jadhav
- 4) Indian Economy- Rudra Dutt & K.P.M. Sundaram, S. Chand Publication, New Delhi
- 5) Indian Geography- H. K. Doiphode, Study circle Publication Pvt Ltd, Pune
- 6) Right to Information – Yashada Academy and Publication Pune
- 7) Science Technology & Social Transformation (Foundation course - 2) – S.A Chitanand- Dr. Ashok Jain, sheth Publishers Pvt. Ltd., Mumbai
- 8) Foundation Course- Dr. G.V. Kayande Patil, Prof. M.S. Nagbhide, Dr. K.R. Shimpi, Prof. S. D. Gite, Chaitnya publication, Nashik
- 9) Modern India – Gathal, K'sagar Publication, Pune
- 10) Local Self Government in India – Dr. Shantaram Bhogale Nirali Publication

**SEMESTER -I****CC – 5 .****Course code - RE-D-CSE-102**

- **Paper Title: Communication Skills in English - I (Paper -1)**  
 ('D' Component: skill oriented technique course.) (Credit.3)

**Objectives of the Course:**

- To introduce students to some of the basics of English for the purpose of communication.
- To make students aware of basics of English grammar.
- To enrich conversational skills of students by highlighting significant usages.
- Helping learners to acquire ability of presenting themselves in different situations.
- To enhance communicative approach.

| <b>Semester – I Syllabus</b> |                           |                                                                                                                                                                                                                                                                                                                                         |                  |
|------------------------------|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| <b>Unit No.</b>              | <b>Unit</b>               | <b>Sub Units</b>                                                                                                                                                                                                                                                                                                                        | <b>Credit</b>    |
| <b>1.</b>                    | <b>Listening Skills</b>   | i) Discriminative listening<br>ii) Comprehensive listening<br>iii) Critical listening<br>iv) Biased listening<br>v) Evaluative listening<br>vi) Appreciative listening<br>vii) Sympathetic listening<br>viii) Empathetic listening                                                                                                      | <b>Credit- 1</b> |
| <b>2.</b>                    | <b>Oral Communication</b> | i) Greetings and responses to greetings ii) Introducing oneself<br>iii) Introducing others<br>iv) Asking for permission<br>v) Requesting<br>vi) Describing processes<br>vii) Ask questions and respond to questions politely<br>viii) Congratulate people on their success<br>ix) Apologize<br>x) Telephone/Mobile phone conversations. | <b>Credit- 1</b> |
| <b>3.</b>                    | <b>Reading Skills</b>     | i) Skimming<br>ii) Scanning<br>iii) Intensive<br>iv) Extensive                                                                                                                                                                                                                                                                          | <b>Credit- 1</b> |

**SEMESTER –II**

CC – 5.

Course code - RE-D-CSE-112

**Paper Title: Communication Skills in English - II (Paper -I1)**

('D' Component: skill oriented technique course.) (Credit.3)

| <b>Semester – II Syllabus</b> |                              |                                                                                                                                                                                           |                  |
|-------------------------------|------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| <b>Unit No.</b>               | <b>Unit</b>                  | <b>Sub Units</b>                                                                                                                                                                          | <b>Credit</b>    |
| <b>1.</b>                     | <b>Developing Vocabulary</b> | i) Using the dictionary<br>ii) Spellings<br>iii) Collocations<br>iv) Synonyms and Antonyms<br>v) puzzles                                                                                  | <b>Credit- 1</b> |
| <b>2.</b>                     | <b>Grammar</b>               | i) Parts of Speech<br>ii) Tenses<br>iii) Voice<br>iv) Direct and Indirect Speech<br>v) Wh-questions<br>vi) Verbs<br>vii) Common usage errors,<br>viii) Punctuations<br>ix) Question tags. | <b>Credit- 1</b> |
| <b>3.</b>                     | <b>Writing Skills</b>        | i) Paragraph Writing<br>ii) Letter Writing,<br>iii) E-mails<br>iv) Essay Writing.                                                                                                         | <b>Credit- 1</b> |

**REFERENCES:**

- 1) Murphy, Raymond: Essential English Grammar
- 2) Blunder John: Function in English- OUP
- 3) Valke B.S.: English for Practical Purposes-Macmillan
- 4) Intyhira, S.R.Saraswati: Enrich Your English, CIEEL OUP
- 5) Dutt P. Kiranmal, Geetha Rajeevan (2007), A Course in Listening and Speaking (Vol. I & II)  
[Foundation Books]

**SEMESTER –I**

CC – 5

**Course code - RE-D-PCE-103****Paper Title:. Preparation for Competitive Examinations - I (Paper -1)**

('D' Component: skill oriented technique course.) (Credit.3)

**Objectives of the Course**

- To introduce and guide undergraduate students to various competitive examinations.
- To motivate students for prospective career in Government and Corporate Sector through competitive examinations.
- To inculcate various skills such as group discussion and interviews among students through mock interviews and communication skills.
- To build among students a sense of awareness, provide necessary literature, brochure and other information about various competitive examinations.

**(Credits-3)**

- 1) Introduction to various competitive examinations such as MPSC, UPSC, IBPS, Staff Selection, Police, Army, Post, Railway etc.
- 2) Current Affairs related to sports, politics, economics, foreign affairs, educational, social etc.
- 3) Basics of History of Maharashtra (Various Social Reformers)  
Selected Social Reformers of Maharashtra- their ideology and work: Mahatma Phule, M.G. Ranade, Prabodhankar Thakare, \Rajarshi Shahu Maharaj, Maharshi Vitthal Shinde, Babasaheb Ambedkar, Lokmanya Tilak, Mahatma Gandhi, Vinoba Bhave, Vinayak D. Sawarkar, Annabhau Sathe, Krantiveer Nana Patil, Lahuji Salve, Karmaveer Bhaurao Patil, Dr. Vitthalrao Vikhe Patil
- 4) Logical reasoning and analytical ability.
- 5) Basics of Economic and Social Development - Sustainable Development, Poverty, Inclusion, Demographics, Social Sector initiatives
- 6) Basics of General Science.  
IT, life science, nuclear science, environmental ecology, bio-diversity
- 7) Basic English Grammar (Idioms, Phrases, Synonyms/Antonyms, Correct formation of words and sentences, Punctuation, etc.)

**SEMESTER –II****CC – 5 .****Course code – RE-D-PCE-113****Paper Title: Preparation for Competitive Examinations - II (Paper -II)****(‘D’ Component: skill oriented technique course.) (Credit.3)****Syllabus**

- 1) Marathi and English Language Comprehension skills
- 2) Basic Marathi grammar (म्हणी, वाक्यप्रचार, समानार्थी/विरुद्धार्थी शब्द, शुद्धलेखन, विरामचिन्हे इत्यादी).
- 3) Interpersonal skills including communication skills.
- 4) Decision - making and problem - solving.
- 5) Basic concepts of Political Science such as Constitution, Political System, Panchayati Raj etc
- 6) Basic Concepts of Geography  
Physical Geography, Economic Geography, Human and Social Geography Environmental  
Geography, Population Geography
- 7) Basic numeracy (numbers and their relations, orders of magnitude, etc.)

**References**

- 1) Bhole Manohar- Rajmudra
- 2) Thapar Romilla- Early India
- 3) Chandra Satish- Medieval India Vol-I and II
- 4) Kashyap Subhash- Constitution of India
- 5) Ankalagi Anil- Bhudhumapan Chachani
- 6) Datta and Sundaram-Indian Economy
- 7) Text Books of Std Vth to Xth for General Science
- 8) Panchayat Raj (Marathi Book) By K Sagar Publication
- 9) Sampurn Vidnyan (Marathi Book) By Jaydeep Patil
- 10) Vidnyan Ani Tantradnyan (Marathi Book) By Ranjan Kolambe
- 11) Ganit Kluptya Ani Uttare (Marathi Book) By Pandhrinath Rane
- 12) Chalu Ghadamodi (Marathi Book)- Loksatta, Maharashtra Times, Chanakya Mandal Masik,  
Yojna, Lokrajya
- 13) Sampurna Ingraji Vyakaran (Marathi Book) By Balasaheb Shinde
- 14) Anivarya Ingraji (Marathi Book) By K Sagar Prakashan
- 15) Wren and Martin English Grammar
- 16) Ingraji Vyakaran : Pal Ani Suri (Marathi Book)
- 17) Spardha Pariksha Marathi Vyakaran
- 18) Anivarya Marathi

**SEMESTER -I****CC – 5 .****Course code – RE-D-ND-104****Paper Title: Nursery Development - I (Paper -I)****(‘D’ Component: skill oriented technique course.) (Credit - 3 Theory + Practical)****Theory - Credit : 1.5**

- |                                                                            |     |
|----------------------------------------------------------------------------|-----|
| 1) Introduction .                                                          | 02L |
| i) Definition, Importance and scope.                                       |     |
| ii) Objectives of a good nursery.                                          |     |
| iii) Different types and phases of Nurseries and their layout.             |     |
| iv) Identify different types of plants and seeds.                          |     |
| v) Mother plant block maintenance and identification of crop varieties.    |     |
| 2). Selection of site for Nursery (Criteria for Nursery development.)      | 08L |
| i) soil                                                                    |     |
| ii) Climate                                                                |     |
| iii) Irrigation facilities                                                 |     |
| iv.) Transport and approach.                                               |     |
| v) Skillful labour.                                                        |     |
| vi) Capital source .                                                       |     |
| vii) Protective area.                                                      |     |
| viii) Advertisement and demand in market.                                  |     |
| 3) Nursery Management                                                      | 08L |
| i) Types of Nursery beds: Raised bed, Flate bed and sunken bed.            |     |
| ii) Water, nutrient management and Plant protection .                      |     |
| iii) Transplanting :Care of immediately transplanted seedlings\plants.     |     |
| iv) Potting and repotting                                                  |     |
| v) Hardening of Seedlings.                                                 |     |
| 4) Plant Propagation method in Nursery                                     | 06L |
| i) Introduction, Types of propagation – Sexual, Asexual /Vegetative        |     |
| ii) Natural:-Rhizome, Tuber, Runner, Sucker                                |     |
| iii) Artificial:-Cutting, Layering, Grafting and Budding.                  |     |
| Iv Advantages and disadvantages of Sexual and Asexual propagation methods. |     |



Credit : 1.5

**Semester - I (Practicals)**

- |                                                                             |    |
|-----------------------------------------------------------------------------|----|
| 1) Study of Garden tools and implements requires for nursery.               | 02 |
| 2) Preparation of different types of nursery beds(Raised, Flate and sunken) | 03 |
| 3) Study of different media used in nursery production.                     | 01 |
| 4) Study of methods of propagation                                          | 06 |

Asexual propagation:

- a) Cuttings :-Stem and leaf (any one suitable method of each)
- b) Layering:-Simple and air layering.
- c) Budding:-‘T’ budding.
- d) Grafting :-Inarch and Stone.

**SEMESTER -II**

CC – 5 .

Course code - RE-D-ND-114

**Paper Title : Nursery Development - II (Paper -II)**

('D' Component: skill oriented technique course.) (Credit - 3 Theory + Practical)

Theory - Credit : 1.5

- |                                                                                                                                                   |     |
|---------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| 1) Propagation structures, Media, Equipments and Containers in nursery.                                                                           | 06L |
| i. Structures: Green house, Polyhouse, Glass house and Shade net. maintaining the sunlight and other condition in the green house and shade house |     |
| ii. Propagating media : soil, sand, Vermiculture, Coco peat, Sphagnum moss. Etc.                                                                  |     |
| iii. Equipments: Various implements and appliances.                                                                                               |     |
| iv. Containers: Earthen pots, Pela ,pardi, khobda , Nand, Plastic pots,Cement pots ,wooden box and polythene bags.                                |     |
| 2) Large scale production of Nursery plants (Horticultural and Important Ornamental plant, Forest plant, and Medicinal plant).                    | 8L  |
| i. Fruit plants: Mango, Chikku, Coconut and Pomegranate.                                                                                          |     |
| ii. Vegetable plants: Tomato,Brinjal ,Chilli and Onion                                                                                            |     |

iii. Ornamental plants: Gerbera, Fern, Rose and Chrysanthemum.

iv. Forest plant: any two.

v. Medicinal plants: any two.

3) Aspects of successful Nursery production 06L

i. Timely operation and planning.

ii. Selection of suitable propagating material.

iii. Selection of Proper method.

iv. Special care of plants before and after operation.

v. Labeling or tagging for avoid admixture.

4) Record keeping, Marketing and Rules for nursery. 04L

i. Record : Bill book account and Plant record.

ii. Sale price: Pamphlet of cultural details advertisement and Government rates, Price list.

iii. Nursery act and state govt. act.

Credit : 1.5

## Semester - II (Practicals)

1) Study of different containers use in nursery 02

2) Study of different types structure in nursery to be demonstrated. 02

3) Identification and uses of different fruit, vegetable, Ornamental, Forest and Medicinal plants 02

4) Potting and repotting. 01

5) Preparation Moss sticks 02

6) Study of Bonsai technique 01

7) Hanging baskets 01

8) Visit to any commercial nursery 01

### Books

1. Randhawa G.S., A. Mukhopadhyay (2001). Floriculture in India. Book published by Allied Publishers Limited, New Delhi.
2. Phulsheti By V.G. Raul.
3. Pikavaril Kid V Litak Niyantran By Prof. Purushottam Joshi.
4. Plant Nursery Management How to Start and Operate a Plant Nursery by P.K. Ray, PhD Professor of Horticulture Rajendra Agricultural University, Pusa, Samastipur, Bihar, India

**SEMESTER -I****CC – 5 .****Course code - RE-D-RR-105****Paper Title: Radio Repairing - I (Paper -I)**

('D' Component: skill oriented technique course.) (Credit - 3 Theory + Practical)

**Credit : 1.5. (Theory)****1. Communication system, Electronic component, and power supply :-**

Modes of propagation–Ground wave, space wave, sky wave propagation. Classification of radio frequencies, satellite communication, DTH principle. Active and passive component-identification, specification and measurement scheme, study of multimeter and its uses for various measurement and testing. Transformer (Principle and types), Diode as rectifier(half wave, full wave and bridge), capacitor filter, Zener and IC voltage regulator(78xx/79xx)

**2. Amplifiers, oscillator, Modulation and Demodulation:-**

Amplifier- definition and classification, transistor as an amplifier, power amplifier, oscillator- basic principles and types. Need of Modulation, amplitude (A.M.) Modulation, frequency Modulation and phase Modulation (P.M.), commonly used detector in radio receivers.

**Semester - I (Practicals)****Credit : 1.5**

1. Identification and study of various active and passive circuit component and study various servicing tools.
2. Study of multimeter (measurement of AC/DC current and voltage, resistance, capacitance and testing electronic components ).
3. Soldering practice.
4. Study of full wave/ bridge rectifier with/ without filter.
5. Study of regulated power supply ( zener/ IC voltage regulator).
6. Study of single stage transistor amplifier.
7. Study of function generator and use of CRO.
8. Study of A.M modulation/ A.M. modulator.
9. Study of F.M. modulation/ F.M modulator.
10. Study of antenna/ aerials.

**SEMESTER –II****CC – 5.****Course code – RE-D-RR-115****Paper Title: Radio Repairing - II (Paper -II)**

('D' Component: skill oriented technique course.) (Credit - 3 Theory + Practical)

**Credit : 1.5(Theory)****1. Radio receiver and A.M. Receiver :**

Block diagram of radio receiver and function of each block (microphone, preamplifier, mixer, local oscillator, automatic gain control, tuner, volume control, speaker ), soldering–Gun, materials and precautions while soldering Printed circuit board (PCB) types and use in circuit, study of am receiver, building and testing of various stages in receiver, alignment of various coils, antenna and intermediate frequency transformer(IFT) using manual and electronic method. Method of servicing transistor and IC receivers.

**2. F.M. Receiver, fault finding and Audio Video Appliances:**

Block diagram of F.M. Receive, Working of F.M. Receive, Method of servicing F.M. Receive, commonly occurring fault in radio receivers trouble shooting and removing faults. Television (principle and working), CD/DVD player CD Reading and recording mechanism, media players, introduction to cell phone communication.

**Credit : 1.5****Semester - II (Practicals)**

1. Study of antenna/ aerials.
2. Study of front panel control of given AM/FM radio receiver set.
3. Alignment of various coils using manual and electronic methods.
4. General servicing of radio receiver.
5. Building and testing of AM/FM receiver.
6. Fault finding and trouble shooting.
7. Study of CD/DVD player.
8. Study of DTH alignment and connectivity to TV.
9. Application of cell phone.
10. Study tour to TV/Radio transmission centre /Electronic Industry

**Reference Books:**

1. Electronic components and materials -By Madhuri Joshi

2. Principles of basic electronics -By shuler
3. Element of radio servicing -By Marus
4. Basic Electronic – By Grob
5. Fundamental Electronics – By J.D. Ryder
6. Sound production – By Oldson
7. Radio Engineering – By M.C. Gupta
8. Consumer Electronics – By S.D. Jaiswar
9. Radio and television – By S.P. Sharma
10. Basic Electronic and linear circuits –By N.N. Bhargava
11. Basic test instruments –By Turner
12. Audio and Video system -By Sharma
13. Transistor circuit approximation –By Malvino
14. Data Manual –By Bel
15. Manual for circuit diagram of different companies. Murphy, Philips, National Panasonic, Bush, Jetking, etc.
16. Modern CD player servicing book - By BPB publication
17. Principles of electronics –By V.K. Mehata
18. Transistor service manual -By K.C. Agrawal

**SEMESTER -I****CC – 5 .****Course code – RE-D-CSM-106****Paper Title: Communication Skill in Marathi - I (Paper -I)****(‘D’ Component: skill oriented technique course.) (Credit - 3)****Savitribai Phule Pune University****Faculty : Arts.****RESTRUCTURING PATTERN****‘D’ Component skill oriented technique course.**

|                         |          |                                       |
|-------------------------|----------|---------------------------------------|
| <b>Course title</b>     | <b>:</b> | <b>Communication Skill in Marathi</b> |
| <b>Course code word</b> | <b>:</b> | <b>CSM.</b>                           |
| <b>Class</b>            | <b>:</b> | <b>F.Y.B.A.</b>                       |
| <b>Credit</b>           | <b>:</b> | <b>Credit -3 (Theory)</b>             |

**Semester - I**

- **अभ्यासक्रमाची उद्दिष्टे :**

प्रथम वर्षाच्या विद्यार्थ्यांची पातळी लक्षात घेऊन अभ्यासक्रमाची आखणी केलेली आहे. संवादानेच मानवी समाजाला अस्तित्व प्राप्त होते. व्यक्ती आणि समाज यांचे अस्तित्व आणि विकास परस्परसंवादांमुळेच शक्य होतात. अन्न, वस्त्र आणि निवारा या मूलभूत गरजांच्या पूर्ततेसाठीही संवादाची आवश्यकता असते. परिणामकारक आणि प्रभावी विनिमयासाठी विद्यार्थ्यांना संवाद कौशल्याची जाण यावी आणि काही प्रमाणात ते आत्मसात करता यावे हा या अभ्यासक्रमाचा उद्देश आहे.

१. मानवी जीवनातील संवादाचे महत्त्व विद्यार्थ्यांच्या लक्षात यावे. व संवादाचे स्वरूप, प्रकार, क्षेत्रे समजावी.
२. संवादप्रक्रियेतील अडथळे समजावेत.
३. परिणामकारक संवादाच्या अंतर्गत असलेल्या तत्वांचा बोध व्हावा आणि त्यानुसार त्यांना स्वतःच्या संदेशाची प्रभावी अभिव्यक्ती करता यावी.
४. भाषण व श्रवण, लेखन व वाचन या मूलभूत संवाद कौशल्याचे स्वरूप व परस्परसंबंध लक्षात घेऊन ती विकसित करावीत.
५. संवादाच्या नव्या तंत्रसाधनांचा परिचय व्हावा त्यांचा कुशलतेने वापर करता यावा.
६. नोकरी व व्यवसायासाठी अर्ज करणे, मुलाखत देणे, प्रशासनव्यवहार अशा क्षेत्रात संवाद कौशल्यांचे उपयोजन करणे.
७. सामूहिक प्रसारमाध्यमांचे स्वरूप आणि त्यांचा उद्देश यांनुसार संवाद कौशल्याच्या उपयोजनातील वेगळेपण लक्षात घ्यावे.

मानवी जीवन आणि संवादकौशल्य यांच्या परस्परसंबंधाचे ज्ञान व्हावे. संवादकौशल्य सरावाने विद्यार्थ्यांनी आत्मसात करावीत. त्यासाठी प्रात्यक्षिके करावी.

## अभ्यासक्रम सेमीस्टर एक

| प्रकरण १ ले | संवादकौशल्ये : स्वरूप , महत्त्व व कार्य                                                                                                                                                                                                      | Credit -I | तास ८ |
|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|-------|
|             | १ संवाद म्हणजे काय? संवादाची व्याख्या                                                                                                                                                                                                        |           |       |
|             | २ संवादाचे महत्त्व, गरज व कार्य                                                                                                                                                                                                              |           |       |
|             | ३ संवादाचे मूलघटक<br>अ) भाषिक संवाद<br>१. मौखिक २. लिखित<br>ब) भाषेतर संवाद<br>१. दर्शन (appearance)<br>२. आंगिक आविर्भाव (body language)<br>३. आवाजातील वैविध्य (para language)<br>४. अवकाश (space)<br>५. काळ (Time)<br>६. निरवता (Silence) |           |       |
|             | ४ संवादाची विविध क्षेत्रे<br>१. वृत्त आणि माहिती<br>२. पृथक्करण आणि स्पष्टीकरण<br>३. शिक्षण आणि सामाजिकीकरण<br>४. मतपरिवर्तन<br>५. जनसंपर्क<br>६. विक्री आणि जाहिरात<br>७. कला आणि मनोरंजन                                                   |           |       |
|             | ५ संवादकौशल्याची उपयुक्तता व महत्त्व                                                                                                                                                                                                         |           |       |
| प्रकरण २ रे | १. संवाद प्रक्रिया आणि त्याचे घटक<br>अ) संप्रेषण -विचार कल्पना-संकेतीकरण -संदेश -स्वीकरण- ग्रहण<br>विसंकेतीकरण- आकलन<br>ब) संवादाचा प्रतिसाद व पुनः क्षेपण<br>क) एकमार्गी संवादव्यवहार/ दुतर्फी संवादव्यवहार                                 | Credit -I | तास ८ |
|             | २. संवादातील अडथळे<br>१. हेतू २. सहभागी व्यक्ती ३. माध्यम ४. संकेतीकरण व विसंकेतीकरण ५. वातावरण यांच्याविषयीचे अडथळे                                                                                                                         |           |       |



|                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>प्रकरण ३ रे</p> | <p><b>संवादाची तात्त्विक रूपे आणि त्यांचे उपयोजन Credit –I तास ८</b></p> <p><b>१ परिणामकारक संवादाची तत्त्वे</b></p> <ol style="list-style-type: none"> <li>१. पूर्णता (Completeness) - आवश्यक ती सर्व माहिती देणे/विचारलेल्या सर्व प्रश्नांची शंकांची उत्तरे देणे/अपेक्षित असेल तर अधिक सांगणे.</li> <li>२. सारगर्भता (conciseness) संबंधित तेवढेच सांगणे/शब्दबंबाळपणा टाळणे / पुनरुक्ती टाळणे</li> <li>३. विचारात घ्यावयाच्या बाबी (Consideration)- स्वतःऐवजी ऐकना केंद्र करणे / ऐकणाराचे हित आहे अशी भावना निर्माण करणे/सकारात्मक आणि सुखदायी मुद्यांवर भर देणे .</li> <li>४. निश्चितता/मूर्तिकरण (Concreteness) अचूक तथ्ये व आकडेवारी यांचा उपयोग/क्रियाप्रवृत्त करणा-या क्रियापदांचा वापर/चित्रप्रतिमा उभ्या करणा-या शब्दांचा वापर</li> <li>५. स्पष्टता (Clarity) नेमक्या स्पष्टार्थबोध आणि परिचित शब्दांचा वापर/वाक्य व परिच्छेद यांची प्रभावी रचना करणे</li> <li>६. सौजन्यशीलता, शिष्टाचारसंपन्नता (Courtesy) -भेदभावदर्श अभिव्यक्ती टाळणे/ आदरपूर्व पध्दतीने अभिव्यक्ती करणे / कौतुक करण्याची वृत्ती</li> <li>७. अचूकपणा/निर्दोषता (Correctness) - भाषेची योग्य पातळी ठेवणे/तथ्ये, आकडेवारी व शब्द यांचा बिनचूक वापर होत आहे की नाही यादृष्टीने आपल्या संवादाची तपासणी / स्वीकार्य होईल अशा बोलण्या लिहिण्याच्या तंत्राचा वापर.</li> </ol> <p><b>२ प्रभावी संदेशाचे नियोजन व अंमलबजावणी</b></p> <ol style="list-style-type: none"> <li>१. स्वतःचा विशिष्ट/निश्चित हेतू ठरविणे</li> <li>२. श्रोत्यांची आस्था (omyrtrdy), वृत्ती (attitude) प्रसंगाचे स्वरूप, संवादाचे ठिकाण यांचा विचार करणे</li> <li>३. आपल्या विचार कल्पनांची निवड</li> <li>४. आपल्या सामग्रीचे संकलन</li> <li>५. संदेश प्रत्यक्ष की अप्रत्यक्ष, आदेशात्मक की अनुभवात्मक ते ठरविणे</li> <li>६. संदेशाची रूपरेषा - प्रास्ताविक /प्रतिपादन/समारोप आरंभ आणि अखेर</li> <li>७. संदेशाचे लेखन/लेखनाचे परिष्करण/लेखनाचे संपादन /लेखनाला आधारानी बळकटी देणे (Profounding)</li> </ol> <p><b>३ संवादाची मूलभूत कौशल्ये</b></p> <ol style="list-style-type: none"> <li>१. संभाषण - भाषण कौशल्य</li> <li>२. श्रवण कौशल्य</li> <li>३. लेखन कौशल्य</li> <li>४. वाचन कौशल्य</li> </ol> <p>भाषण - श्रवण, लेखन -वाचन या कौशल्यांचे परस्परसंबंध</p> |
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**SEMESTER -II****CC – 5 .****Course code – RE-D-CSM-116****Paper Title: Communication Skill in Marathi - II (Paper -II)****(‘D’ Component: skill oriented technique course.) (Credit - 3)****सेमीस्टर दोन**

|             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| प्रकरण ४ थे | १. कार्यालयातर्गत संवाद कौशल्याचे स्वरूप <b>Credit-I</b> तास ८<br>प्रशासन-व्यवहाराचे स्वरूप<br>२. पुढील लेखनप्रकारांचे स्वरूप जाणून घेणे<br>०१. अर्जलेखन<br>०२. टिप्पणीलेखन<br>०३. इतिवृत्त<br>०४. घोषणापत्रक<br>०५. निविदा                                                                                                                                                                                                                                                                                          |
| प्रकरण ५ वे | सामूहिक प्रसारमाध्यमांमधील संवादाचे स्वरूप <b>Credit -I</b> तास ८<br>१. विविध प्रसारमाध्यमांचे स्वरूप<br>०१. वृत्तपत्रे, नियतकालिके व ग्रंथ<br>०२. रंगभूमी<br>०३. आकाशवाणी<br>०४. दूरदर्शन<br>०५. चित्रपट<br>२. सामूहिक प्रसारमाध्यमांचे स्वरूप आणि त्यांचा लोकसंवादाचा (Mass communication) उद्देश यांचा संवाद कौशल्यावर होणारा परिणाम                                                                                                                                                                              |
| प्रकरण ६ वे | १ ०१. तांत्रिक साधनांचा संवाद कौशल्यावरील प्रभाव <b>Credit -I</b> तास ८<br>०२. फॅक्स<br>०३. टेलिफोन/मोबाईल/एसएमएस<br>०४. ई-मेल<br>०५. व्हाईस मेल<br>०६. व्हिडिओ कॉन्फरन्स<br>०७. महाजाल (इंटरनेट)- संकेतस्थळे, ब्लॉग, सोशलनेटवर्कींग, चॅटींग, फेसबुक, ट्विटर, इन्स्टाग्राम, व्हॅट्सअप<br>०८. कॉलसेंटर<br>०९. ई - दैनिके<br>१०. ई - बुक<br>११. ई - लायब्ररी<br>२. संवादकौशल्याचे उपयोजन<br>१. वरील सर्व घटकांना अनुसरून प्रकल्प अहवाल तयार करणे<br>२. १० गुण प्रकल्पाच्या संहितेला .<br>३. १० गुण प्रकल्पाचे सादरीकरण |

### संदर्भ सूची

|     |                                                                                                                                     |
|-----|-------------------------------------------------------------------------------------------------------------------------------------|
| १.  | मराठी शुद्धलेखन विषयक नियम : मो.रा. वाळंबे                                                                                          |
| २.  | वस्तुनिष्ठ आकलन आणि :प्रा. नरेंद्र मारवाडे                                                                                          |
| ३.  | उपयोजित मराठी लेखन कैलास पब्लिकेशन, औरंगाबाद.                                                                                       |
| ४.  | उपयोजित मराठी , प्रकाश मेदककर, विद्या बुक्स पब्लिकेशन, औरंगाबाद                                                                     |
| ५.  | पत्रकारितेची मूलतत्त्वे, प्रभाकर पाध्ये, मेहता पब्लिकेशन हाऊस                                                                       |
| ६.  | रेडिओवरील भाषणे आणि श्रुतिका, पु.ल. देशपांडे                                                                                        |
| ७.  | उपयोजित मराठी , ल.रा. नसिराबादकर, फडके प्रकाशन, पुणे.                                                                               |
| ८.  | Murphy H.A., Hildebrandt H.W., Thomas J.P. Effective Business communications Macgrow-Hill, Singapore ७ <sup>th</sup> edition १९९७.  |
| ९.  | Douglas shringer, Alan Monroe, Bruce Gronbeck Principles and Types of speech communication                                          |
| १०. | Pace R. Wayne Born, Robert R. Scott, The Human Transaction Forman and county, Illinois.                                             |
| ११. | Malhan P.N. Communication Media, Yesterday, Today Tomorrow Publication Division Govt of India, New Delhi                            |
| १२. | Mass Media in India compiled by Research and Reference Division, Ministry of Information and Broadcasting, Govt of India, New Delhi |

**F. Y. B. A Compulsory English**  
**(w. e. f. 2019-2020)**  
**(Choice Based Credit System)**  
**70:30-Pattern**  
**(70-Semester-End Exam & 30-Internal Evaluation)**

**Prescribed Text: *Literary Gleam: An Anthology of Prose and Poetry* (Board of Editors-Orient BlackSwan)**

**Objectives:**

- a) To expose students to the best examples of prose and poetry in English so that they realize the beauty and communicative power of English
- b) To instill human values and develop the character of students as responsible citizens of the world
- c) To develop the ability to appreciate ideas and think critically
- d) To enhance employability of the students by developing their linguistic competence and communicative skills
- e) To revise and reinforce structures already learnt in the previous stages of learning.

**Semester-I**

**Prose:**

- 1. Engine Trouble — R. K. Narayan
- 2. On Saying 'Please' — A. G. Gardiner
- 3. The Gift of the Magi — O. Henry

**Poetry:**

- 1. A Red, Red Rose — Robert Burns
- 2. Leave this Chanting and Singing — Rabindranath Tagore
- 3. The Felling of a Banyan Tree — Dilip Chitre

**Grammar:**

- 1. Articles
- 2. Prepositions
- 3. Verbs
  - Regular and Irregular Verbs
  - Auxiliary Verbs: Primary and Modal
- 4. Punctuation

**Communication Skills:**

- 1. Greeting and Taking Leave

2. Introducing Yourself
3. Introducing People to One Another
4. Making Requests and Asking for Directions
5. Making and Accepting Apology

## **Semester- II**

### **Prose:**

1. In Sahyadri Hills, A Lesson in Humility — Sudha Murthy
2. The Model Millionaire — Oscar Wilde
3. The Eyes are not Here — Ruskin Bond

### **Poetry:**

1. My Heart Leaps Up — William Wordsworth
2. Ozymandias — P. B. Shelley
3. Success is Counted Sweetest — Emily Dickinson

### **Grammar:**

1. Tenses
2. Subject–Verb Agreement
3. Vocabulary

### **Communication Skills**

1. Inviting and Accepting/Declining Invitations
2. Making a Complaint
3. Congratulating, Expressing Sympathy and Offering Condolences
4. Making Suggestions, Offering Advice and Persuading

- Each semester shall have 3 credits for teaching. Each credit is equal to 15 hours, so this course shall have 45 teaching hours. In addition to that there shall be three hours allotted to internal evaluation. Changes as per the university guidelines shall be communicated from time to time.

**F. Y. B. A- Optional English (General Paper-1)**  
**(w. e. f. 2019-2020)**  
**(Choice Based Credit System)**  
**70:30-Pattern**  
**(70-Semester-End Exam & 30-Internal Evaluation)**

**Prescribed Text: *Initiations: Minor Literary Forms & Basics of Phonology* (Board of Editors- Orient BlackSwan)**

**Objectives:**

- a) To expose students to the basics of literature and language and develop an integrated view about language and literature in them
- b) To acquaint them with minor forms of literature in English and help them to appreciate the creative use of language in literature
- c) To introduce them to the basics of phonology of English so that they can pronounce better and speak English correctly.
- d) To prepare students to go for detailed study and understanding of literature and language
- e) To enhance the job potential of students by improving their language skills

**Semester - I**

**Prose Pieces:**

- 1. A Lesson My Father Taught Me - A.P.J. Abdul Kalam
- 2. Toasted English - R. K. Narayan

**Short Stories:**

- 1. The Romance of a Busy Broker - O. Henry
- 2. The Open Window - Saki

**Poetry:**

1. Sonnet 29: 'When in disgrace with Fortune and men's eyes' - William Shakespeare
2. The World is too much with Us - William Wordsworth
3. The Listeners - Walter de la Mare
4. No Men are Foreign - James Kirkup

**Language Studies:****Introduction to the Sounds of English: Part - I**

(Discrepancy between English Spelling and Pronunciation, Phonetic Symbols and Transcription, The Concept of Phoneme and Minimal Pairs.)

**Semester - II****Short Stories:**

1. The Doll's House - Katherine Mansfield
2. The Thief - Ruskin Bond

**Poetry:**

1. I remember; I remember - Thomas Hood
2. Where the Mind is without Fear - Rabindranath Tagore
3. The Mountain and the Squirrel - R. W. Emerson
4. Up - Hill - Christina Rossetti

**One Act Plays:**

1. The Monkey's Paw - W.W. Jacobs
2. Swansong - Anton Chekhov

**Language Studies:****Introduction to the Sounds of English: Part - II**

(The Concept of Syllable, Monosyllabic and polysyllabic Words, The Concept of Word Stress and Different Standards of Pronunciation i.e. British Received Pronunciation, General American English and General Indian English.)

- Each semester shall have 3 credits for teaching. Each credit is equal to 15 hours, so this course shall have 45 teaching hours. In addition to that there shall be three hours allotted to internal evaluation. Changes as per the university guidelines shall be communicated from time to time.

## Question paper Pattern (2019-20)

### (Choice Based Credit System)

**F Y B A Compulsory English: Text: LITERARY GLEAM: A SELECTION OF PROSE AND POETRY**

**(70-Semester-End Exam & 30-Internal Evaluation)**

**SEMESTER-I      Hours: Three      Marks: 70**

**Q. 1)      A.** Attempt any One from the following questions:

(Two questions on **Prose piece -1**)

**B.** Attempt any One from the following questions:

(Two questions on **Prose piece -2**)

**Marks 14**

**Q. 2      A.** Attempt any One from the following questions:

(Two questions on **Prose piece -3**)

**B.** Attempt any One from the following questions:

(Two questions on **Poem - 1**)

**Marks 14**

**Q. 3)      A.** Attempt any One from the following questions:

(Two questions on **Poem -2**)

**B.** Attempt any One from the following questions:

(Two questions on **Poem -3**)

**Marks 14**

**Q.4) Objective Questions on Grammar and Punctuation** as under:

- a. Use correct articles in the blank space in the sentences given below. (3 out of 5)
- b. Fill in the blanks with correct preposition given in the brackets. (3 out of 5)
- c. Look at the underlined verbs in the sentences below and specify whether it is a regular verb or irregular verb: (3 out of 5)
- d. Look at the underlined auxiliaries in the sentences below and specify whether it is a primary or a modal auxiliary: (3 out of 5)
- e. Punctuate and rewrite the following sentence correctly. **Marks 14**

**Q.5) Practical Questions on Communication Skills: 1, 2, 3, 4, 5. Marks 14**

**Total Marks: 70**

## **SEMESTER - II**

### **Question Paper Format**

**Q. 1) A.** Attempt any One from the following questions:

(Two questions on **Prose piece -1**)

**B.** Attempt any One from the following questions:

(Two questions on **Prose piece -2**)

**Marks 14**

**Q. 2 A.** Attempt any One from the following questions:

(Two questions on **Prose piece -3**)

**B.** Attempt any One from the following questions:

(Two questions on **Poem - 1**)

**Marks 14**

**Q. 3) A.** Attempt any One from the following questions:

(Two questions on **Poem -2**)

**B.** Attempt any One from the following questions:

(Two questions on **Poem -3**)

**Marks 14**



**Q.4) Objective Questions on Grammar and Vocabulary** as under:

a. Fill in the blanks with correct tense form of the verb given in the brackets.

(6 out of 9)

b. Fill in the blanks using the appropriate form of the verb given in the brackets.

(4 out of 6)

c. Practical questions on vocabulary (e. g. Give synonyms/antonyms of the following words, Give a list of words related to computer/mobile/wild animals etc.)

(4 out of 6)

**Marks 14**

**Q.5) Practical Questions on Communication Skills:** 1, 2, 3, 4.

**Marks 14**

**Total Marks: 70**

**Pattern for Internal Evaluation in both the semesters:**

**1. Internal Mid-Semester Examination – 20**

**2. Home Assignments/Tutorials/Oral/Lecture Notes/Project - – 10**

**TOTAL – 30 Marks**

### **F Y B A -Optional English (General Paper-1)**

**Text: INITIATIONS: MINOR LITERARY FORMS & BASICS OF PHONOLOGY**

**(70-Semester-End Exam & 30-Internal Evaluation)**

**SEMESTER-I Hours: Three**

**Marks: 70**

### **Question Paper Format**

**Q. 1) A. Attempt any One from the following questions:**

(Two questions on **Prose piece -1**)

**B.** Attempt any One from the following questions:

(Two questions on **Prose piece -2**)

**Marks 14**

**Q. 2** **A.** Attempt any One from the following questions:

(Two questions on **Short Story -1**)

**B.** Attempt any One from the following questions:

(Two questions on **Short Story -2**)

**Marks 14**

**Q. 3)** Attempt any 02 out of the 04 given questions:

(Questions on the **Poems for the I st sem**)

**Marks -14**

**Q. 4)** Explain with reference to context (Any 2 out of 4 )

(**Questions on Poems for the Ist sem**)

:

**Marks 14**

**Q.5)** A. Write short notes: ( any 2 out of 4) :

**Marks 10**

B. Practical questions on phonology (any 4 out of 6) :

**Marks 04**

(**Questions on topics from Introduction to the Sounds of English Part –I**)

**Total Marks: 70**

## **SEMESTER - II**

**Hours: Three**

**Marks: 70**

### **Question Paper Format**

**Q. 1** **A.** Attempt any One from the following questions:

(Two questions on **Short Story -1 from II nd Sem**)

**B.** Attempt any One from the following questions:

(Two questions on **Short Story -2 from IInd Sem**)

**Marks 14**

**Q.2** Attempt any 02 out of the 04 given questions:

(Questions on the **Poems for the II nd Sem**)

**Marks -14**

**Q. 3** Explain with reference to context (Any 2 out of 4 )

(**Questions on Poetry for the II nd Sem**)

:

**Marks 14**

**Q. 4 A.** Attempt any One from the following questions:

(Two questions on **the First One Act Play**)

**B.** Attempt any One from the following questions:

(Two questions on **the Second One Act Play**)

**Marks 14**

**Q.5) A.** Write short notes: ( any 2 out of 4 ) :

**Marks 10**

B. Practical questions on phonology (any 4 out of 6) :

**Marks 04**

(**Questions on topics from Introduction to the Sounds of English Part –II**)

**Total Marks: 70**

**Pattern for Internal Evaluation in both the semesters:**

**1. Internal Mid-Semester Examination – 20**

**2. Home Assignments/Tutorials/Oral/Lecture Notes/Project/Seminar/G D – 10**

**TOTAL – 30 Marks**





सावित्रीबाई फुले पुणे विद्यापीठ, पुणे

**M. A. भाग – १**

मराठी विषयाचा पुनर्रचित अभ्यासक्रम- जून २०१९ पासून

**Choice Based Credit System [CBCS]**

निवड आधारित श्रेयांक पद्धत

**सावित्रीबाई फुले पुणे विद्यापीठ, पुणे**  
**मानवविज्ञान विद्याशाखा**  
**M. A. मराठी**

जून २०१९ पासून निवड आधारित श्रेयांक पद्धतीच्या (Choice Based Credit System) [CBCS] एम. ए. मराठी विषयाच्या पुनर्रचित अभ्यासक्रमाची रचना :

| सत्र | Core Courses (CC)<br>(मुख्य अभ्यासक्रम) |                                                   | Credit<br>(श्रेयांक) | Choice Based Optional Paper<br>(निवड आधारित वैकल्पिक) |                                                            | Credit<br>(श्रेयांक) | Total<br>Credit |
|------|-----------------------------------------|---------------------------------------------------|----------------------|-------------------------------------------------------|------------------------------------------------------------|----------------------|-----------------|
| 1    | CC<br>- 1                               | भाषाव्यवहार आणि भाषिक कौशल्ये - भाग १             | 4                    | CBOP<br>- 4                                           | ग्रामीण साहित्य                                            | 4                    | 16              |
|      | CC<br>- 2                               | मराठी साहित्याचा इतिहास ( इ.स.१८१८ ते इ.स.१९२०)   | 4                    |                                                       | मराठी वाङ्मयाची सांस्कृतिक पार्श्वभूमी ( प्रारंभ ते १८१८ ) |                      |                 |
|      | CC<br>- 3                               | ऐतिहासिक भाषाविज्ञान                              | 4                    |                                                       | तौलनिक साहित्याभ्यास - भाग १                               |                      |                 |
|      |                                         |                                                   |                      |                                                       | वाङ्मयेतिहासलेखनविद्या - भाग १                             |                      |                 |
|      |                                         |                                                   |                      |                                                       | मराठी व्याकरण - भाग १                                      |                      |                 |
| 2    | CC<br>- 5                               | भाषाव्यवहार आणि भाषिक कौशल्ये - भाग २             | 4                    | CBOP<br>- 8                                           | दलित साहित्य                                               | 4                    | 16              |
|      | CC<br>- 6                               | मराठी साहित्याचा इतिहास (इ. स.१९२० ते इ. स. २०१०) | 4                    |                                                       | मराठी वाङ्मयाची सांस्कृतिक पार्श्वभूमी (इ.स. १८१८ ते १९६०) |                      |                 |
|      | CC<br>- 7                               | समाजभाषाविज्ञान                                   | 4                    |                                                       | तौलनिक साहित्याभ्यास भाग - २                               |                      |                 |
|      |                                         |                                                   |                      |                                                       | वाङ्मयेतिहासलेखनविद्या -भाग २                              |                      |                 |
|      |                                         |                                                   |                      |                                                       | मराठी व्याकरण - भाग २                                      |                      |                 |
|      |                                         |                                                   | 24                   |                                                       |                                                            | 08                   | 32              |

## M. A. मराठी विषयाचा पुनर्रचित अभ्यासक्रम- जून २०१९ पासून

१. Title of the course: M. A. (मराठी)

२. Preamble of the syllabus: पदव्युत्तर शिक्षणासाठी, M. A. मराठीसाठी प्रवेश घेणाऱ्या विद्यार्थ्याने पदवीस्तरावरील अभ्यासक्रम विशेषस्तरावर पूर्ण केला आहे. अशा विद्यार्थ्यांना पदव्युत्तर स्तरावर मराठी विषयाच्या अभ्यासक्रमाची उद्दिष्टे खालीलप्रकारची ठेवण्यात आली आहे.

हा अभ्यासक्रम तयार करित असताना काही आधारभूत तत्त्वे स्वीकारली आहेत. राष्ट्रीय शैक्षणिक धोरणाची उद्दिष्टे प्रत्यक्षात आणताना, विद्यार्थीकेंद्री, आंतर्विद्याशाखीय, रोजगाराभिमुख, कौशल्याधिष्ठीत असे भाषा व साहित्याचे अभ्यासक्रम अनुसरणे, निर्माण करणे आवश्यक आहे. तसेच जीवन कौशल्य विकासासाठी भाषा, साहित्य, कला ही माध्यमे अधिक परिणामकारकतेने समजावून घेणे आवश्यक झाले आहे. याचबरोबर साहित्यिकक्षमता, भाषिकक्षमता वाढीसाठी, जीवनाच्या आकलनासाठी आणि प्रगल्भतेसाठी विद्यार्थी सिद्ध करणे; ही आजची गरज बनली आहे. त्याचबरोबर विद्यार्थ्यांना मराठी विषयाचे सखोल ज्ञान व्हावे. संशोधनाची वृत्ती वाढावी, आंतर्विद्याशाखीय ज्ञान व्हावे; असे अनेक हेतू समोर ठेऊन M.A.मराठीचा अभ्यासक्रम तयार केला आहे. अशा या अभ्यासक्रमासाठी काही उद्दिष्टे ठेवली आहेत.

१. पदव्युत्तर पातळीवरील विद्यार्थ्यांच्या वाङ्मयीन आणि जीवनविषयक जाणिवा समृद्ध करणे.
२. साहित्यकृतींच्या चिकित्सक अभ्यासाची प्रवृत्ती वृद्धिंगत करणे.
३. भाषिक जाणिवा विकसित करून कौशल्यात्मक उपयोजनासाठी सिद्ध करणे.
४. विविध जीवनक्षेत्रातील भाषाविषयक कौशल्य ग्रहणानंतर रोजगारक्षमतांची आणि प्रावीण्यांची निर्मिती करणे.
५. वाङ्मयीनमूल्यांचे आणि जीवनमूल्यांचे संस्कार करणे.
६. विशिष्ट कालखंडातील साहित्यनिर्मितीच्या प्रेरणा व प्रवृत्ती लक्षात घेऊन साहित्याचे नेमके आकलन करणे.
७. लेखकाच्या समग्र अभ्यासातून लेखकाच्या साहित्यकृती, आशयसूत्रे, भाषिक प्रयोग, जीवनदृष्टी इत्यादींचे वाङ्मयीन प्रवाहातील मूल्यमापन व स्थान निर्धारण करणे.
८. तौलनिक अभ्यास, भाषांतर मीमांसा, प्रभाव अभ्यास, आंतर्विद्याशाखीय दृष्टी, परभाषेतील समकालीन साहित्यकृती, वाङ्मयेतिहास, संस्कृती अभ्यास, भाषिक अभ्यास याद्वारे साहित्याच्या अभ्यासाला परिपूर्णता आणून देण्याचा प्रयत्न करणे.
९. पौर्वात्य व पाश्चात्य साहित्यविचार, साहित्यसिद्धांत, समीक्षा, साहित्यविमर्श, विविध वाङ्मयीन संप्रदाय, वेळोवेळी उद्भवणाऱ्या जीवनविषयक व वाङ्मयीन चर्चा, संकल्पना यांचा पैस विद्यार्थ्यांना परिचित होणे.
१०. वाचन, आस्वादन, विश्लेषण, वर्गीकरण, मूल्यनिर्णयन या प्रक्रियेतून विद्यार्थ्यांची वाङ्मय आकलनाची क्षमता वृद्धिंगत करणे .

११. साहित्य कला व इतर कला यांच्या वाचनातून अभिरुची वृद्धिंगत करणे .
१२. साहित्य आणि संस्कृती यांचा परस्पराश्रयी संबंध जागतिक परिप्रेक्ष्यात लक्षात घेण्याची क्षमता व कौशल्ये निर्माण करणे.

M.A.मराठी विषयाचा अभ्यासक्रमाची पुनर्रचना खालील क्रमाने करण्यात येणार आहे.

१. First Year M.A.2019-20.

२. Second Year M.A.2020-21.

M.A. मराठी हा पुनर्रचित अभ्यासक्रम दोन वर्षांचा आणि चार सत्रांत विभागलेला निवड आधारित श्रेयांक पद्धतीचा (Choice Based Credit System) [CBCS] आहे. हा अभ्यासक्रम प्रथम M.A. भाग १ (सत्र १ आणि सत्र २), M.A. (सत्र ३ आणि सत्र ४) अशा ६४ श्रेयांकांचा आहे.

३. Pattern: निवड आधारित श्रेयांक पद्धत (Choice Based Credit System) [CBCS]

४. Eligibility: कोणत्याही विद्याशाखेतील पदवी. (SPPU Circular No. 100 of 2017, p.55)

५. Examination:

१. Pattern of examination:

१. Semester

२. Pattern of the question paper:

|                        |         |
|------------------------|---------|
| विद्यापीठ सत्र परीक्षा | ५० गुण  |
| अंतर्गत मूल्यमापन      | ५० गुण  |
| एकूण                   | १०० गुण |

२. Standard of passing: उत्तीर्ण होण्यासाठी विद्यापीठ सत्र परीक्षा आणि अंतर्गत मूल्यमापनामध्ये ५० पैकी २० गुण अनिवार्य.

३. Award of class:

#### 1.Percentage to Grades and Grade Points

The following formula may be used to convert marks (%) into letter grades.

Let  $\bar{X}$  = mean of % age marks of all student appeared in the paper.

$\sigma$  = Standard deviation

m = % of marks obtained

| Letter grade      | Numerical grade | Formula                                              |
|-------------------|-----------------|------------------------------------------------------|
| O (outstanding)   | 10              | $m \geq \bar{X} + 2.5 \sigma$                        |
| A+ (Excellent)    | 9               | $\bar{X} + 2.0 \sigma \leq m < \bar{X} + 2.5 \sigma$ |
| A (Very Good)     | 8               | $\bar{X} + 1.5 \sigma \leq m < \bar{X} + 2.0 \sigma$ |
| B+ (Good)         | 7               | $\bar{X} + 1.0 \sigma \leq m < \bar{X} + 1.5 \sigma$ |
| B (Above average) | 6               | $\bar{X} \leq m < \bar{X} + \sigma$                  |
| C (Average)       | 5               | $\bar{X} - 0.5 \sigma \leq m < \bar{X}$              |
| D (Pass)          | 4               | $\bar{X} - \sigma \leq m < \bar{X} - 0.5 \sigma$     |
| F (Fail)          | 0               | $m < \bar{X} - \sigma$                               |
| Ab (Absent)       | 0               |                                                      |

\* Minor variations may be adjusted by the individual institution.



४. Setting of Question paper / Pattern of Question paper :

| प्रश्नपत्रिका आराखडा                                                       |                                           |          |
|----------------------------------------------------------------------------|-------------------------------------------|----------|
| वेळ : ३ तास                                                                | सत्रांत परीक्षा                           | गुण : ५० |
| १                                                                          | दीर्घोत्तरी प्रश्न दोन पैकी एक            | १०       |
| २                                                                          | दीर्घोत्तरी प्रश्न दोन पैकी एक            | १०       |
| ३                                                                          | दीर्घोत्तरी प्रश्न दोन पैकी एक            | १०       |
| ४                                                                          | दीर्घोत्तरी प्रश्न दोन पैकी एक            | १०       |
| ५                                                                          | टिपा लिहा चार पैकी दोन                    | १०       |
| एकूण                                                                       |                                           | ५०       |
| अंतर्गत मूल्यमापन                                                          |                                           |          |
| १.                                                                         | लेखी चाचणी / मध्यकालीन चाचणी (एक घ्यावी.) | १५       |
| २.                                                                         | शोध निबंध                                 | ५        |
| ३.                                                                         | ग्रंथालयीन कार्य                          | ५        |
| ४.                                                                         | सादरीकरण                                  | ५        |
| ५.                                                                         | लघू प्रश्नमंजुषा                          | ५        |
| ६.                                                                         | गृहपाठ                                    | ५        |
| ७.                                                                         | विस्तार कार्य                             | १०       |
| ८.                                                                         | संशोधन प्रकल्प / खुले पुस्तक परीक्षा      | १०       |
| अंतर्गत मूल्यमापनासाठी वरील पर्याय निवडावे. त्यांचे एकूण गुण पन्नास असावे. |                                           | ५०       |

५. Structure of Course:

| Semester | Core Courses (CC) | Choice Based Optional Paper | Total Credit |
|----------|-------------------|-----------------------------|--------------|
| I        | CC – 1 (4)        | CBOP 4 (4)                  | 16           |
|          | CC – 2 (4)        |                             |              |
|          | CC – 3 (4)        |                             |              |
| II       | CC – 5 (4)        | CBOP 8 (4)                  | 16           |
|          | CC – 6 (4)        |                             |              |
|          | CC – 7 (4)        |                             |              |
| III      | CC – 9 (4)        | CBOP 12 (4)                 | 16           |
|          | CC – 10 (4)       |                             |              |
|          | CC – 11 (4)       |                             |              |
| IV       | CC – 13 (4)       | CBOP 16 (4)                 | 16           |
|          | CC – 14 (4)       |                             |              |
|          | CC – 15 (4)       |                             |              |
|          | <b>48</b>         | <b>16</b>                   | <b>64</b>    |

६. Work Load:

१. श्रेयांक तास १५ :
२. १ तास मिनिट ६० :
३. १ सत्र :४ श्रेयांक

७. Subject wise Detail Syllabus & Recommended books:

### **M.A. मराठी – भाग १**

निवड आधारित श्रेयांक पद्धत (Choice Based Credit System) जून २०१९ पासून

**विषयाचे नाव : भाषाव्यवहार आणि भाषिक कौशल्ये भाग १ (CC-1)**

### **पहिले सत्र**

#### **घटक १. मराठीच्या प्रमाणभाषेचे लेखन व मुद्रितशोधन**

- १.१ प्रमाणभाषा : संकल्पना, स्वरूप आणि आवश्यकता
- १.२ प्रमाणभाषाविषयक लेखननियम : परिचय
- १.३ प्रमाणभाषाविषयक लेखननियमांचे उपयोजन ( उताऱ्याचे लेखननियमांनुसार लेखन )
- १.४ मुद्रितशोधन : संकल्पना, स्वरूप आणि आवश्यकता
- १.५ मुद्रितशोधनाच्या खुणा, चिन्हे
- १.६ मुद्रितशोधन : उपयोजन ( उताऱ्याचे मुद्रित शोधन )

**१५ तास १ श्रेयांक**

#### **घटक २. वाङ्मयीन व्यवहार व प्रकाशन व्यवसाय**

- २.१ विविध साहित्यसंस्था व त्यांचे वाङ्मयीन कार्य
- २.२ साहित्यसंस्था व त्यांची मुखपत्रे
- २.३ साहित्यसंस्थांकडून आयोजित केली जाणारी साहित्यसंमेलने
- २.४ वाङ्मयीन नियतकालिके व अनियतकालिके.
- २.५ दिवाळी अंक, विशेषांक, स्मरणिका, संशोधनपत्रिका इ. चे संपादन. मांडणी, जाहिरात आणि ISSN विषयक माहिती.
- २.६ प्रकाशन व्यवसाय, प्रकाशन संस्था, पुस्तक प्रकाशन
- २.७ ग्रंथ संहिता निवड, ग्रंथमांडणी व सजावट, मुखपृष्ठ, मलपृष्ठ, बांधणी, जाहिरात, वितरण आणि ISBN विषयक माहिती.

**१५ तास १ श्रेयांक**

#### **घटक ३. मुलाखत : स्वरूप, तंत्र व कौशल्ये**

- ३.१ मुलाखतीचे प्रयोजन व स्वरूप
- ३.२ मुलाखतीचे प्रकार
- ३.३ मुलाखतीची पूर्वतयारी

- ३.४ मुलाखतीसाठीची प्रश्नसूची
- ३.५ माध्यमनिहाय मुलाखती
- ३.६ प्रासंगिक मुलाखती
- ३.७ मुलाखत लेखन

१५ तास १ श्रेयांक

**घटक ४. अर्जलेखन व पत्रलेखन**

- ४.१ अर्जाचे स्वरूप व प्रकार
- ४.२ पत्रलेखनाचे विविध प्रकार
- ४.३ संगणकीय पत्रव्यवहाराचे तंत्र
- ४.४ प्रशासनिक पत्रव्यवहार
- ४.५ प्रशासनिक परिभाषा

१५ तास १ श्रेयांक

**दुसरे सत्र**

**विषयाचे नाव : भाषाव्यवहार आणि भाषिक कौशल्ये भाग-२ (CC-5)**

**घटक १. भाषांतर व अनुवाद लेखन**

- १.१ भाषांतराचे स्वरूप
- १.२ भाषांतराची आवश्यकता व महत्त्व
- १.३ भाषांतराचे विविध प्रकार
- १.४ भाषांतर, अनुवाद, भावानुवाद आणि रूपांतर यातील साम्य-भेद
- १.५ इंग्लिश उताऱ्याचे मराठीत भाषांतर करणे
- १.६ हिंदी उताऱ्याचे मराठीत भाषांतर करणे.

१५ तास १ श्रेयांक

**घटक २ निवेदन कौशल्ये**

- २.१ निवेदनाची आवश्यकता व स्वरूप
- २.२ निवेदनाची तंत्रे, निवेदनाची शैली
- २.३ विविध कार्यक्रमांचे नियोजन-आयोजन
- २.४ विविध कार्यक्रमांचे निवेदन आणि सूत्रसंचालन ( सांस्कृतिक कार्यक्रम, जाहीर कार्यक्रम आकाशवाणी व दूरदर्शनवरील कार्यक्रम)
- २.५ प्रभावी निवेदनाचे गुणविशेष

१५ तास १ श्रेयांक

**घटक ३ जनसंपर्क : संकल्पना व स्वरूप**

- ३.१ जनसंपर्काचे स्वरूप व आवश्यकता
- ३.२ जनसंपर्क कौशल्याची तंत्रे, जनसंपर्क कौशल्याची भाषा
- ३.३ माहिती व जनसंपर्क अधिकारी
- ३.४ शासन, विद्यापीठे, शैक्षणिक संस्था, बँका, कंपन्यांसाठी जनसंपर्काचे महत्त्व व आवश्यकता

१५ तास १ श्रेयांक

## घटक ४ प्रकल्पलेखन : स्वरूपचर्चा

- ४.१ वाङ्मयीन प्रकल्पलेखनाचे स्वरूप
- ४.२ प्रकल्पलेखनातील घटक
- ४.३ प्रकल्पलेखनाची भाषा
- ४.४ प्रकल्पलेखनातील संदर्भ नोंदी
- ४.५ प्रत्यक्ष प्रकल्पलेखन (प्रकल्पलेखनास १० गुण असतील)
- ४.६ प्रकल्पलेखनासाठी काही विषयक्षेत्रे (नमुना सूची )

आकाशवाणीवरील प्रमुख कार्यक्रम, दूरचित्रवाणीचे सांस्कृतिक क्षेत्रातील कार्य.

आकाशवाणी / दूरचित्रवाणी / नियतकालिकासाठी प्रत्यक्ष मुलाखत घेणे, शैक्षणिक सहल आयोजित करणे, प्रसारमाध्यमांचे कार्यालय, प्रकाशन संस्था यांना भेटी देणे, लेखनातील संगणकाचा वापर इत्यादी.

### १५ तास १ श्रेयांक

#### संदर्भ ग्रंथ

- |                                        |                                                    |
|----------------------------------------|----------------------------------------------------|
| १. व्यावहारिक मराठी                    | पुणे विद्यापीठ प्रकाशन                             |
| २. व्यावहारिक मराठी                    | डॉ.कल्याण काळे, डॉ.दत्तात्रय पुंडे                 |
| ३. व्यावहारिक मराठी                    | संपादक डॉ .स्नेहल तावरे                            |
| ४. व्यावहारिक मराठी                    | डॉ. लीला गोविलकर, डॉ.जयश्री पाटणकर                 |
| ५. व्यावहारिक मराठी                    | डॉ. सयाजीराजे मोकाशी, प्रा. रंजना नेमाडे,          |
| ६. व्यावहारिक मराठी                    | ल. रा. नसिराबादकर                                  |
| ७. व्यावहारिक मराठी विशेषांक           | नवभारत ,ऑ.-सप्टेंबर १९८२, प्राज्ञ पाठशाळा, वाई     |
| ८. मराठी शुद्धलेखन प्रदीप              | मो.रा.वाळंबे, जुनी आवृत्ती, नितीन प्रकाशन, पुणे-३० |
| ९. मराठी शुद्धलेखन प्रदीप              | मो.रा.वाळंबे, संपा. अरुण फडके,पुणे-३०              |
| १०.मराठी लेखन मार्गदर्शिका             | राज्य मराठी विकास संस्था ,यास्मिन शेख              |
| ११.मराठी शब्दलेखनकोश                   | यास्मिन शेख, हर्मीस प्रकाशन, पुणे.                 |
| १२.पॉप्युलर रीतिपुस्तक                 | रामदास भटकळ, मृदुला जोशी, पॉप्युलर प्रकाशन         |
| १३.शुद्धलेखन विवेक                     | डॉ. द.न.गोखले,सोहम प्रकाशन, पुणे-३०                |
| १४.भाषांतरमीमांसा                      | डॉ अंजली सोमण.डॉ ,कल्याण काळे .                    |
| १५.भाषांतर                             | सदा कऱ्हाडे, लोकवाङ्मयगृह, मुंबई.                  |
| १६.भाषांतर शास्त्र की कला              | म. वि. फाटक, रजनी ठकार, वरदा प्रकाशन               |
| १७.भाषांतर आणि भाषा                    | विलास सारंग, मौज प्रकाशन                           |
| १८.अनुवादमीमांसा                       | संपादक केशव तुपे, साक्षात, औरंगाबाद                |
| १९. मराठी भाषेची संवाद कौशल्ये         | य.च.म.मुक्त विद्यापीठ, नाशिक;पुस्तक क्र.१ते ८      |
| २०. प्रसार माध्यमांसाठी लेखनकौशल्ये    | य.च.म.मुक्त विद्यापीठ, नाशिक                       |
| २१. संपादन: स्वरूप व कौशल्ये )MCJ-305) | य.च.म.मुक्त विद्यापीठ, नाशिक                       |
| २२. प्रशासनिक मराठी भाषेचा विकास       | गीता भागवत,राज्य मराठी विकास संस्था,प्रशासन, मुंबई |
| २३. मुद्रित शोधन                       | वाय.ए.धायगुडे,दि.पूना प्रेस ओनर्स असोसिएशन         |
| २४. मराठी लेखनकोश                      | अरुण फडके,ढवळे प्रकाशन, मुंबई                      |

२५. भाषांतर मीमांसा  
 २६. भाषा: स्वरूप, सामर्थ्य व सौंदर्य  
 २७. अनुवाद: स्वरूप और विवेचन  
 २८. साहित्य संवाद  
 २९. संवाद शास्त्र  
 ३०. माध्यम चित्रवाणी  
 ३१. सुगम मराठी व्याकरण लेखन  
 ३२. महाराष्ट्र साहित्य पत्रिका  
 (साहित्यसंस्था विशेषांक)  
 ३३. महाराष्ट्र साहित्य पत्रिका  
 ३४. महाराष्ट्र साहित्य पत्रिका  
 ३५. माहितीमय समाजाचे समाजशास्त्र  
 ३६. मराठी नियतकालिकांचा वाङ्मयीन अभ्यास  
 ३७. साहित्याची भूमी  
 ३८. भाषा : अंतःसूत्र आणि व्यवहार  
 ३९. भाषांतर विद्या: स्वरूप आणि समस्या  
 ४०. भाषा: मातृभाषा आणि परभाषा  
 ४१. संमेलनस्मृती  
 ४२. शासन व्यवहारात मराठी भाषा  
 ४३. महाराष्ट्र साहित्य परिषद  
 ४४. साहित्याची भाषा  
 ४५. साहित्य संमेलनाचे महाभारत  
 ४६. शतकाची विचारशैली : खंड १, २, ३  
 ४७. संवाद  
 ४८. दलितांची नियतकालिके  
 ४९. मराठी साहित्य काही लेखनबंध  
 ५०. व्यासपीठ  
 ५१. व्यावहारिक, उपयोजित मराठी आणि  
 प्रसारमाध्यमांची कार्यशैली

संपा.डॉ.कल्याण काळे,डॉ. अंजली सोमण  
 डॉ. वा. के. लेले,राजहंस प्रकाशन, पुणे-३०  
 य.च.म.मुक्त विद्यापीठ, नाशिक  
 प्रा.वि.शं.चौधुले,प्रतिमा प्रकाशन, पुणे-३०  
 श्रीपाद जोशी,संभव प्रकाशन, नागपूर  
 आकाशानंद,ग्रंथकार प्रकाशन, मुंबई  
 मो.रा.वाळंबे,नितीन प्रकाशन, पुणे  
 एप्रिल-मे-जून १९८६ अंक २३७  
 शताब्दी महोत्सव १९०६-२००६, एप्रिल-सप्टेंबर २००६,  
 अंक ३१७, ३१८.  
 एप्रिल-मे-जून २००५  
 य.च.म.मुक्त विद्यापीठ, नाशिक  
 डॉ.उषा मा. देशमुख,अभ्यासखंड १ ते ३., पुणे.  
 श्री.पु.भागवत,ग्रंथाली प्रकाशन,दादर,मुंबई- २८  
 संपा.मु.ग.पानसे  
 डॉ. रमेश वरखेडे.  
 रा.सो. सराफ  
 संपा. डॉ. व्ही .बी. गायकवाड, डॉ.बाळासाहेब गुंजाळ,  
 डॉ. वेदश्री थिंगळे, डॉ.दिलीप पवार , किरण चव्हाण.  
 संचालनालय, महाराष्ट्र शासन  
 म. श्री.दीक्षित,राज्य मराठी विकास संस्था, मुंबई  
 डॉ. भालचंद्र नेमाडे  
 डॉ. भीमराव कुलकर्णी,सुपर्ण प्रकाशन, पुणे  
 डॉ.रमेश धोंगडे,दिलीपराज प्रकाशन, पुणे  
 संपा. अरुण शेवते,मुळा एज्युकेशन सोसायटी, सोनई  
 हरिश्चंद्र निर्मळे,सुगावा प्रकाशन, पुणे  
 डॉ.सुधाकर शेलार  
 डॉ. महादेव वाळुंज  
 डॉ. संदीप सांगळे

**विषयाचे नाव : मराठी साहित्याचा इतिहास- इ. स. १८१८ ते इ. स. १९२० (CC-2)**

**पहिले सत्र**

**घटक. १ साहित्येतिहास : स्वरूपमीमांसा**

- १.१ साहित्येतिहासाची संकल्पना
- १.२ कालखंड संकल्पना
- १.३ साहित्यनिर्मिती आणि कालखंड यांचा सहसंबंध
- १.४ साहित्यनिर्मितीमागील प्रेरणा व प्रवृत्तींचा कालिक संदर्भ

**१५ तास १ श्रेयांक**

**घटक. २ अव्वल इंग्रजी कालखंडातील साहित्य : प्रेरणा, प्रवृत्ती व स्वरूप**

- २.१ अर्वाचीन कालखंडाची सामाजिक, धार्मिक, राजकीय, सांस्कृतिक आणि वाङ्मयीन पार्श्वभूमी
- २.२ मुद्रणकला व ग्रंथव्यवहार
- २.३ सरकारी पातळीवरील पाठ्यपुस्तके, व्याकरण व कोशनिर्मितीचे प्रयत्न
- २.४ भाषांतरयुग

**१५ तास १ श्रेयांक**

**घटक ३ इ.स.१८१८ ते १८७४ कालखंडातील साहित्य : प्रेरणा, प्रवृत्ती व स्वरूप**

- ३.१ या कालखंडातील सुधारणाविषयक विचारांची वाटचाल
- ३.२ या कालखंडातील सामाजिक, धार्मिक, राजकीय सुधारणा व साहित्य : सहसंबंध
- ३.३ या कालखंडातील साहित्यप्रकार (निबंध, कथा, कादंबरी, काव्य, नाटक) : स्वरूप व वाटचाल
- ३.४ या कालखंडातील साहित्य : प्रेरणा, प्रवृत्ती, विषय व आशय यासंदर्भातील निरीक्षणे

**१५ तास १ श्रेयांक**

**घटक ४ - इ.स.१८७४ ते १९२० कालखंडातील साहित्य : प्रेरणा, प्रवृत्ती व स्वरूप**

- ४.१ या कालखंडातील सामाजिक, धार्मिक, राजकीय विचारांची वाटचाल
- ४.२ या कालखंडातील सामाजिक, धार्मिक, राजकीय सुधारणा व साहित्य : परस्पर प्रभाव
- ४.३ या कालखंडातील साहित्यप्रकार (निबंध, कथा, कादंबरी, काव्य, नाटक) : स्वरूप व वाटचाल
- ४.४ या कालखंडातील साहित्य : प्रेरणा, प्रवृत्ती, विषय व आशय या संदर्भातील निरीक्षणे

**१५ तास १ श्रेयांक**

**दुसरे सत्र**

**विषयाचे नाव : मराठी साहित्याचा इतिहास- इ. स. १९२० ते इ.स. २०१० (CC-6)**

**घटक १ - इ.स.१९२० ते १९४५ कालखंडातील साहित्य : प्रेरणा, प्रवृत्ती व स्वरूप**

- १.१ या कालखंडातील सामाजिक, धार्मिक, राजकीय विचारप्रवाह व साहित्य : सहसंबंध  
( सत्यशोधकीय विचार, गांधीवाद, समाजवाद, मार्क्सवाद, कलावाद, जीवनवाद इ.)

- १.२ या कालखंडातील सामाजिक, धार्मिक, राजकीय परिस्थिती व साहित्य : परस्परसंबंध  
 १.३ या कालखंडातील साहित्यप्रकार (कथा, कादंबरी, काव्य, नाटक) : स्वरूप व वाटचाल  
 १.४ या कालखंडातील साहित्य : प्रेरणा, प्रवृत्ती, विषय व आशय या संदर्भातील निरीक्षणे

**१५ तास १ श्रेयांक**

**घटक २ - इ.स.१९४५ ते १९६० कालखंडातील साहित्य : प्रेरणा, प्रवृत्ती व स्वरूप**

- २.१ या कालखंडातील सामाजिक, धार्मिक, राजकीय स्थित्यंतरे व साहित्य : परस्परसंबंध  
 ( स्वातंत्र्य, महायुद्ध आदी घटनांचे साहित्यावरील परिणाम )  
 २.२ या कालखंडातील नवसाहित्य व नवसमीक्षा  
 २.३ या कालखंडातील साहित्यप्रकार (कथा, कादंबरी, काव्य, नाटक) : स्वरूप व वाटचाल  
 २.४ या कालखंडातील साहित्य : प्रेरणा, प्रवृत्ती, विषय व आशय या संदर्भातील निरीक्षणे

**१५ तास १ श्रेयांक**

**घटक ३- इ.स.१९६० ते १९९० कालखंडातील साहित्य : प्रेरणा, प्रवृत्ती व स्वरूप**

- ३.१ इ.स.१९६० ते १९९० या कालखंडातील शैक्षणिक, सामाजिक, धार्मिक, राजकीय  
 स्थित्यंतरे व साहित्य : परस्परसंबंध  
 ३.२ साठोत्तरी साहित्यप्रवाह आणि साहित्य चळवळी : सहसंबंध  
 ३.३ या कालखंडातील साहित्यप्रकार (कथा, कादंबरी, काव्य, नाटक) : स्वरूप व वाटचाल  
 ३.४ या कालखंडातील साहित्य : प्रेरणा, प्रवृत्ती, विषय व आशय या संदर्भातील निरीक्षणे

**१५ तास १ श्रेयांक**

**घटक ४- इ.स. १९९० ते २०१० कालखंडातील साहित्य : प्रेरणा, प्रवृत्ती व स्वरूप**

- ४.१ इ.स.१९९० ते २०१० या कालखंडातील वाङ्मयाची सामाजिक व सांस्कृतिक पार्श्वभूमी  
 ४.२ खासगीकरण, उदारीकरण व जागतिकीकरणाच्या धोरण स्वीकाराचा साहित्यावरील परिणाम  
 ४.३ या कालखंडातील साहित्यप्रकार (कथा, कादंबरी, काव्य, नाटक) : स्वरूप व वाटचाल  
 ४.४ या कालखंडातील साहित्य : प्रेरणा, प्रवृत्ती, विषय व आशय या संदर्भातील निरीक्षणे

**१५ तास १ श्रेयांक**

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| १.  | महाराष्ट्र सारस्वत                              | वि.ल.भावे, शं.गो.तुळपुळे                      |
| २.  | मराठी वाङ्मयाचा इतिहास, खंड ४,५,६               | महाराष्ट्र साहित्य परिषद, पुणे                |
| ३.  | मराठी वाङ्मयाचा विवेचक इतिहास अर्वाचीन कालखंड   | डॉ. प्र.न. जोशी                               |
| ४.  | महाराष्ट्र जीवन खंड १ व २                       | गं. बा. सरदार                                 |
| ५.  | प्रदक्षिणा खंड १ व २ (सा.वा.नाशिक)              | कॉन्टीनेन्टल प्रकाशन, पुणे                    |
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| ७.  | साहित्य समाज आणि संस्कृती                       | दिगंबर पाध्ये                                 |
| ८.  | महाराष्ट्राचा सांस्कृतिक इतिहास                 | शं. दा. पेंडसे                                |
| ९.  | मराठी गद्याचा इंग्रजी अवतार                     | द. वा. पोतदार                                 |
| १०. | मराठी वाङ्मयाची सद्यस्थिती                      | संपादक डॉ.विद्यागौरी टिळक,<br>डॉ. द. दि.पुंडे |
| ११. | मराठी वाङ्मयाची सांस्कृतिक पार्श्वभूमी          | गो. म. कुलकर्णी                               |
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| १४. | आधुनिक मराठी वाङ्मयाचा इतिहास खंड १ व २                                          | डॉ. अ. ना. देशपांडे                   |
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| १७. | धार आणि काठ                                                                      | नरहर कुरुंदकर                         |
| १८. | मराठी साहित्य प्रेरणा आणि स्वरूप                                                 | गो. मा. पवार व म.द.हातकणंगलेकर        |
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| ३६. | महाराष्ट्राच्या सामाजिक सांस्कृतिक स्थित्यंतराचा इतिहास<br>खंड एक (१८०१ ते १९००) | रमेश नारायण वरखेडे                    |
| ३७. | कादंबरी : स्वरूप व समीक्षा                                                       | द. भि. कुलकर्णी                       |
| ३८. | राजवाडेलेखसंग्रह                                                                 | संपादक तर्कतीर्थ लक्ष्मणशास्त्री जोशी |
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| ४०. | मराठी गद्याचे पूर्वगंग                                                           | संपादक भीमराव कुलकर्णी                |
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| ४७. | कवितेचा अंतःस्वर                                                                 | देवानंद सोनटक्के                      |
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## विषयाचे नाव : ऐतिहासिक भाषाविज्ञान (CC-3)

### पहिले सत्र

#### घटक १ भाषा : स्वरूप, कार्य आणि भाषाभ्यासाच्या विविध पद्धती

- १.१ भाषाभ्यासाची आवश्यकता
  - १.२ भाषाभ्यासाच्या विविधपद्धती : परिचय
  - १.३ ऐतिहासिक भाषाभ्यासपद्धती : स्वरूप व भूमिका
  - १.४ ऐतिहासिक भाषाभ्यासपद्धती : महत्त्व व मर्यादा
- १५ तास १ श्रेयांक

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- २.१ भाषा उत्पत्तीविषयक विविध उपपत्ती
  - २.२ मराठीची पूर्वपीठिका - मराठी भाषेचा उगम
  - २.३ मराठीचा निर्मितीकाल ( कोरीव लेख आणि ग्रांथिक पुरावे )
  - २.४ मराठी भाषाविकासाचे कालिक टप्पे ( आदिकाल-मध्यकाल-अर्वाचीन काल )
- १५ तास १ श्रेयांक

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- ३.१ भाषांचे पुनर्रचन आणि भाषांचे वर्गीकरण
  - ३.२ जागतिक भाषाकुले
  - ३.३ इंडो-युरोपियन भाषाकुल
  - ३.४ आर्य-भारतीय भाषाकुल आणि मराठी भाषा
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- ४.१ स्वन परिवर्तन
  - ४.२ अर्थ परिवर्तन
  - ४.३ सादृश्यमूलक परिवर्तन
  - ४.४ आदान प्रक्रिया
- १५ तास १ श्रेयांक

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- १.१ समाजभाषाविज्ञान : पार्श्वभूमी व संकल्पना स्पष्टीकरण
- १.२ समाजभाषाविज्ञान : स्वरूप, व्याप्ती व विशेष

१.३ भाषिकसापेक्षतावादाचा सिद्धांत

१.४ भाषा, बोली आणि समाज यांचा परस्परसंबंध

१५ तास १ श्रेयांक

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२.४ भाषा, भाषिक भांडार आणि लघुक्षेत्रे : विशिष्ट भाषारूपे

१५ तास १ श्रेयांक

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३.२ भाषा आणि सांस्कृतिकव्यवस्था, सांस्कृतिक परंपरा : परस्परसंबंध

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१५ तास १ श्रेयांक

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४.१ समाजांतर्गत निर्माण झालेल्या नवव्यवस्था : स्थूल परिचय

४.२ समाजांतर्गत नवव्यवस्था : आविष्कारपद्धती व भाषारूपे

४.३ प्रमाण भाषा आणि परभाषा संपर्क पिजिन(Pidgin)आणि क्रिऑल (Creol) भाषांच्या निर्मितीच्या संदर्भातील सिद्धांतन.

४.४ समाजांतर्गत विशिष्ट नवव्यवस्था आणि परिभाषेचा वापर

१५ तास १ श्रेयांक

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| ३.  | भाषा आणि संस्कृती                                                       | डॉ. ना.गो. कालेलकर                 |
| ४.  | भाषा आणि भाषाशास्त्र                                                    | डॉ.श्री.न.गजेंद्रगडकर              |
| ५.  | मराठीचा भाषिक अभ्यास                                                    | संपादक डॉ. मु.श्री.कानडे           |
| ६.  | विज्ञान: वर्णनात्मक आणि ऐतिहासिक                                        | संपादक मालशे, डॉ. इनामदार, डॉ.सोमण |
| ७.  | वर्णनात्मक भाषाविज्ञान:स्वरूप आणि पद्धती                                | संपादक डॉ. काळे, डॉ. सोमण          |
| ८.  | मराठीच्या प्रमाणभाषेचे स्वरूप                                           | डॉ.सुहासिनी लददू                   |
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| २२. | The Course in General Linguistics                         | F.Sassure                          |
| २३. | Sociolinguistics Patterns                                 | William Labov                      |
| २४. | Language in Sociocultural Change                          | J.A. Fishman                       |
| २५. | Sociolinguistics : Selected Reddings                      | Edited By J.B.Pride & J.Homes      |
| २६. | An Introduction to pidgin & Creol                         | John A. Holm                       |
| २७. | Pidginization & Cradlization of Language                  | Edited by Dell Hymes               |
| २८. | Sociolinguistics                                          | R.A. Hudson                        |
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| ३४. | यादवकालीन मराठी भाषा                                      | डॉ. शं.गो.तुळपुळे                  |
| ३५. | सुलभ मराठी व्याकरण                                        | मो.रा.वाळिंबे                      |
| ३६. | आधुनिक भाषाविज्ञान (संरचनावादी व सामान्य)                 | डॉ.कल्याण काळे, डॉ.सोमण            |
| ३७. | मराठीचे वर्णनात्मक भाषाविज्ञान                            | डॉ. महेंद्र कदम                    |
| ३८. | सामाजिक भाषाविज्ञान                                       | संपा. डॉ. जयश्री पाटणकर.           |
| ३९. | सामाजिक भाषाविज्ञान आणि बोली                              | डॉ. शशीकला कांबळे.                 |
| ४०. | बोलू कौतुके                                               | डॉ.एकनाथ पगार                      |
| ४१. | शैलीमीमांसा                                               | डॉ.दिलीप धोंडगे                    |

### विषयाचे नाव : ग्रामीण साहित्य (CBOP 4)

#### पहिले सत्र

##### उद्दिष्टे:

१. स्वातंत्र्यप्राप्तीनंतरच्या कालखंडात ग्रामीण साहित्याच्या निर्मितीची कारणपरंपरा समजावून घेणे.
२. ग्रामीण साहित्याचे स्वरूप व कार्य यांची चिकित्सा करणे.
३. ग्रामीण साहित्यातील विविध वाङ्मयप्रकारांचा विकास कसा होत गेला याचे मूल्यमापन करणे.
४. ग्रामीण साहित्याने दिलेले योगदान, त्याच्या विकासाची गती, दिशा यांची मीमांसा करणे.

- घटक १ साठोत्तरी मराठी साहित्याचे स्वरूप आणि ग्रामीण साहित्य**
- १.१ साठोत्तरी कालखंडात मराठी साहित्यात उदयाला आलेले विविध साहित्यप्रवाह  
 १.२ ग्रामीण साहित्यप्रवाह : निर्मितीची कारणे  
 १.३ 'ग्रामीण' व 'ग्रामीण साहित्य' : संज्ञा स्पष्टीकरण  
 १.४ ग्रामीण साहित्य : प्रेरणा-प्रवृत्ती  
 १.५ ग्रामीण साहित्याचे देशीपण व वेगळेपण.  
**१५ तास १ श्रेयांक**
- घटक २. ग्रामीण साहित्य आणि समाज : सहसंबंध**
- २.१ गावगाड्याची जडणघडण: परिवर्तने  
 २.२ ग्रामीण समाज : जातवास्तव आणि आर्थिक - सामाजिक सहसंबंध,  
 २.३ ग्रामीण समाज : स्थित्यंतरे - कृषी औद्योगिक अवस्थांतर, आधुनिकता, शैक्षणिक विकास, जाणीवजागृती आणि ग्रामीण साहित्य.  
 २.४ ग्रामीण साहित्य : सामाजिक व सांस्कृतिक अनुबंध  
**१५ तास १ श्रेयांक**
- घटक ३ ग्रामीण साहित्याची वाटचाल : स्थूल आढावा ( स्वातंत्र्यपूर्व व स्वातंत्र्योत्तर कालखंड )**
- ३.१ ग्रामीण कविता, कथा, कादंबरी आणि नाटक  
 ३.२ ग्रामीण साहित्यचळवळ आणि ग्रामीण साहित्य : सहसंबंध  
 ३.३ ग्रामीण साहित्य आणि सामाजिक बांधिलकी  
 ३.४ ग्रामीण साहित्याची समीक्षा  
**१५ तास १ श्रेयांक**
- घटक ४ ग्रामीण साहित्य : स्वरूपचिकित्सा**
- ४.१ ग्रामीण साहित्याचे विषय  
 ४.२ ग्रामीण साहित्याचे आशयविश्व  
 ४.३ ग्रामीण साहित्य : भाषिक आविष्काररूपे ( बोलीचे निवेदनातील स्थान )  
 ४.४ ग्रामीण साहित्याचे योगदान  
**१५ तास १ श्रेयांक**

### संदर्भ ग्रंथ

|    |                                       |                     |
|----|---------------------------------------|---------------------|
| १) | ग्रामीण साहित्य : स्वरूप आणि समस्या   | डॉ. आनंद यादव       |
| २) | ग्रामीणता : साहित्य आणि वास्तव        | डॉ. आनंद यादव       |
| ३) | मराठी साहित्य : समाज आणि संस्कृती     | डॉ. आनंद यादव       |
| ४) | ग्रामीण साहित्य : एक चिंतन            | डॉ. द.ता. भोसले     |
| ५) | ग्रामीण कथा                           | डॉ.वासुदेव मुलाटे   |
| ६) | ग्रामीण साहित्य : प्रेरणा आणि प्रयोजन | डॉ. श्रीराम गुंदेकर |
| ७) | ग्रामीण साहित्य                       | डॉ. रा.रं.बोराडे    |
| ८) | मराठी कादंबरीतील प्रादेशिकता          | डॉ.भास्कर शेळके     |

|     |                                                     |                         |
|-----|-----------------------------------------------------|-------------------------|
| ९)  | ग्रामसंस्कृती                                       | डॉ.आनंद यादव            |
| १०) | ग्रामीण कादंबरी                                     | डॉ. रवींद्र ठाकूर       |
| ११) | ग्रामीण साहित्याची चळवळ                             | डॉ. कीर्ती मुळीक        |
| १२) | ग्रामीण साहित्य आणि वास्तव                          | संपा. डॉ.कृष्णा इंगोले  |
| १३) | ग्रामीण साहित्यातील स्त्री-चित्रण                   | डॉ. बाबुराव उपाध्ये     |
| १४) | ग्रामीण साहित्य चळवळीचे सामाजिक व सांस्कृतिक योगदान | डॉ. सुधाकर शेलार        |
| १५) | ग्रामीण साहित्य प्रवाह आणि परिस्थिती                | डॉ.वामन जाधव            |
| १६) | आनंद यादव एक साहित्यिक प्रवास                       | संपादक डॉ. कीर्ती मुळीक |

## दुसरे सत्र

### विषयाचे नाव : दलित साहित्य (CBOP 8)

#### उद्दिष्टे:

१. स्वातंत्र्यप्राप्तीनंतरच्या कालखंडात दलित साहित्याच्या निर्मितीची कारणे, परंपरा आणि या साहित्याने दिलेल्या आव्हानांचा अभ्यास करणे.
२. दलित साहित्यातून व्यक्त होणाऱ्या वेदनांचे व विद्रोहाचे स्वरूप जाणून घेणे.
३. दलित साहित्याने निर्माण केलेल्या विविध साहित्यप्रकारांच्या विकासांचे मूल्यमापन करणे.

#### घटक १ साठोत्तरी मराठी साहित्याचे स्वरूप आणि दलित साहित्य

- १.१ दलित साहित्यप्रवाह : निर्मितीची कारणे
- १.२ 'दलित' व 'दलित साहित्य' : संज्ञा स्पष्टीकरण
- १.३ दलित साहित्य : प्रेरणा-प्रवृत्ती,
- १.४ दलित साहित्याचे वेगळेपण.

#### १५ तास १ श्रेयांक

#### घटक २. दलित साहित्य आणि समाज : सहसंबंध

- २.१ भारतीय समाज : जातवास्तव
- २.२ भारतीय समाज : दलितांचे स्थान, आर्थिक-सामाजिक स्थितीगती
- २.३ दलित समाज : स्थित्यंतरे - शैक्षणिक विकास, जाणीवजागृती आणि दलित साहित्य.
- २.४ दलित साहित्य : सामाजिक व सांस्कृतिक अनुबंध

#### १५ तास १ श्रेयांक

#### घटक ३ दलित साहित्याची वाटचाल : स्थूल आढावा ( स्वातंत्र्यपूर्व व स्वातंत्र्योत्तर कालखंड )

- ३.१ दलित कविता-शाहिरी, आत्मकथने, कथा, कादंबरी आणि नाटक
- ३.२ दलित साहित्यचळवळ आणि दलित साहित्य : सहसंबंध
- ३.३ दलित साहित्य आणि सामाजिक बांधिलकी
- ३.४ दलित साहित्याची समीक्षा

#### १५ तास १ श्रेयांक

## घटक ४

## दलित साहित्य : स्वरूपचिकित्सा

- ४.१ दलित साहित्याचे विषय
- ४.२ दलित साहित्याचे आशयविश्व ( वेदना, विद्रोह आणि नकार)
- ४.३ दलित साहित्य : भाषिक आविष्काररूपे ( बोलीचे निवेदनातील स्थान )
- ४.४ दलित साहित्याचे योगदान

१५ तास १ श्रेयांक

### संदर्भग्रंथ

|     |                                                 |                               |
|-----|-------------------------------------------------|-------------------------------|
| १.  | दलित साहित्य : वेदना आणि विद्रोह                | डॉ.भालचंद्र फडके              |
| २.  | दलित साहित्य : सिध्दांत आणि स्वरूप              | यशवंत मनोहर                   |
| ३.  | जातिप्रथेचे विध्वंसन                            | डॉ.बाबासाहेब आंबेडकर          |
| ४.  | दलित साहित्य : एक चिंतन                         | अर्जुन डांगळे                 |
| ५.  | दलित साहित्य : एक क्रांती विज्ञान               | बाबूराव बागुल                 |
| ६.  | दलित साहित्य : आस्वाद आणि शोध                   | यशवंत मनोहर                   |
| ७.  | दलित साहित्य                                    | वामन निंबाळकर                 |
| ८.  | दलित साहित्य : दिशा आणि दिशांतर                 | दत्ता भगत                     |
| ९.  | दलित साहित्यातील स्पंदने                        | गो.म.कुलकर्णी                 |
| १०. | दलित नाटक, प्रेरणा आणि विकास                    | प्रा.शैलेश त्रिभुवन           |
| ११. | दलित चळवळ आणि साहित्य                           | डॉ.कृष्णा किरवले              |
| १२. | दलित साहित्याचे निराळेपण                        | डॉ. प्रभाकर मांडे             |
| १३. | अण्णाभाऊ साठे                                   | विलास गिते, प्रा.बजरंग कोरडे, |
| १४. | दलित कविता                                      | डॉ.म.सु.पाटील                 |
| १५. | दलित आत्मकथने                                   | डॉ.वासुदेव मुलाटे             |
| १६. | दलित रंगभूमी                                    | डॉ.भालचंद्र फडके              |
| १७. | निळी पहाट                                       | प्रा. रा.ग. जाधव              |
| १८. | दलित वाङ्मय : प्रेरणा व प्रवृत्ती               | डॉ. शंकरराव खरात              |
| १९. | दलित साहित्य: एक अभ्यास                         | अर्जुन डांगळे                 |
| २०. | विद्रोहाचे पाणी पेटले आहे.                      | डॉ.गंगाधर पानतावणे            |
| २१. | मूल्यवेध                                        | डॉ.गंगाधर पानतावणे            |
| २२. | दलितांचे विद्रोही वाङ्मय                        | म.ना.वानखेडे                  |
| २३. | दलित साहित्य : एक आकलन                          | प्रा.बाळकृष्ण कवठेकर          |
| २४. | गांधी आणि आंबेडकर                               | प्रा. गं.बा.सरदार             |
| २५. | दलित साहित्य : प्रवाह आणि प्रतिक्रिया           | गो.म.कुलकर्णी                 |
| २६. | मार्क्सवाद व दलित साहित्य                       | प्रा.वि.स.जोग                 |
| २७. | दलित स्त्रियांची आत्मकथने : स्वरूप आणि चिकित्सा | डॉ.मनोहर जाधव                 |
| २८. | दलित साहित्य : विचार आणि वैभव                   | डॉ.अनिल गजभिये                |
| २९. | दलित व दलितेतरांची कथा : एक अभ्यास              | डॉ. श्रीराम गडकर              |

**विषयाचे नाव : मराठी वाङ्मयाची सांस्कृतिक पार्श्वभूमी : प्रारंभ ते इ. स. १८१८ (CBOP 4)**

**पहिले सत्र**

**उद्दिष्टे:**

१. वाङ्मयाभ्यासाच्या संदर्भात वाङ्मय आणि संस्कृती यांच्यातील अनुबंधाचा शोध घेणे.
२. संस्कृतीची विविध अंगे आणि वाङ्मय निर्मितीच्या प्रेरणा, वाङ्मयातील प्रवाह, प्रवृत्ती यांचा परस्परसंबंध जाणून घेणे.
३. मराठी वाङ्मय व महाराष्ट्र संस्कृती यातील अनुबंध जाणून घेणे.
४. महाराष्ट्रातील धर्मसंप्रदाय व मराठी वाङ्मय - नाथ, महानुभाव, वारकरी, दत्त, समर्थ संप्रदाय यांचा व मराठी वाङ्मयाचा परस्परसंबंध अभ्यासणे
५. महाराष्ट्रातील राजवटी आणि मराठी वाङ्मयनिर्मिती - यादवकालीन वाङ्मयनिर्मिती, बहामनीकालीन वाङ्मयनिर्मिती, शिवकालीन वाङ्मयनिर्मिती, पेशवेकालीन वाङ्मयनिर्मिती यांचा परस्परसंबंध अभ्यासणे.
६. वाङ्मयप्रसाराची मध्ययुगीन माध्यमे, पुराण, प्रवचन, कीर्तन, भारूड, तमाशा, लावणी, रंगभूमी इ.चे स्वरूप अभ्यासणे.
७. अर्वाचीन कालखंडातील साहित्यप्रकारांचे स्वरूप व सांस्कृतिक पार्श्वभूमी अभ्यासणे.
८. लोकसाहित्याचा मध्ययुगीन मराठी वाङ्मयावरील प्रभाव अभ्यासणे.

**घटक १ संस्कृती आणि साहित्य : सहसंबंध**

- १.१ संस्कृती : स्वरूपमीमांसा
  - १.२ मानवी जीवनातील स्थित्यंतरे व संस्कृती विकास
  - १.३ संस्कृती आणि साहित्य : परस्परसंबंध
  - १.४ साहित्याच्या संस्कृतीलक्ष्यी अभ्यासाची आवश्यकता
- १५ तास १ श्रेयांक**

**घटक २ महाराष्ट्र संस्कृती आणि मराठी वाङ्मय : सहसंबंध**

- २.१ महाराष्ट्र नामाभिधान व मराठी भाषेचा उगम - विस्तार
  - २.२ महाराष्ट्रातील धर्मसंप्रदाय आणि त्यांचे वाङ्मय
  - २.३ महाराष्ट्रातील राजकीय स्थित्यंतरांचा वाङ्मयावरील परिणाम
  - २.४ मध्ययुगीन कालखंडाचा युगधर्म आणि साहित्य : परस्परसंबंध
- १५ तास १ श्रेयांक**

**घटक ३ मध्ययुगीन मराठी वाङ्मय आणि संप्रदाय**

- ३.१ मध्ययुगीन कालखंडातील वाङ्मयप्रकार आणि त्या प्रकारांच्या निर्मितीमागील प्रेरणा
  - ३.२ मध्ययुगीन कालखंडातील वाङ्मय : संप्रदाय आणि तत्त्वज्ञान
  - ३.३ मध्ययुगीन कालखंडातील वाङ्मय : विषय आणि आशय
  - ३.४ मध्ययुगीन कालखंडातील वाङ्मयातून प्रकटणारे समाजवास्तव
- १५ तास १ श्रेयांक**

**घटक ४**

**मध्ययुगीन मराठी वाङ्मय : सांस्कृतिक योगदान**

- ४.१ वाङ्मयप्रसाराची मध्ययुगीन माध्यमे व त्यांची सांस्कृतिक पार्श्वभूमी : भजन, कथा, कीर्तन, प्रवचन, भारूड, गवळणी, पोवाडे, लावण्या इ. संदर्भात
- ४.२ मध्ययुगीन मराठी वाङ्मय आणि लोकसाहित्य यांचे अनुबंध
- ४.३ मध्ययुगीन मराठी वाङ्मय आणि भाषिक आविष्काररूपे
- ४.४ मध्ययुगीन मराठी वाङ्मय आणि मराठी विचारविश्वाची जडणघडण

**१५ तास १ श्रेयांक**

**दुसरे सत्र**

**विषयाचे नाव : मराठी वाङ्मयाची सांस्कृतिक पार्श्वभूमी : इ. स. १८१८ ते १९६० (CBOP- 8)**

**घटक १**

**एकोणिसाव्या शतकातील महाराष्ट्रीय जीवनातील स्थित्यंतरे**

- १.१ इंग्रजी सत्तेचा उदय : महाराष्ट्रीय जीवनावरील परिणाम व प्रभाव
- १.२ मुद्रणकला व नियतकालिकांचा उदय : निबंध साहित्यप्रकाराचा उदय
- १.३ औपचारिक शिक्षणव्यवस्था : पाठ्यपुस्तकनिर्मिती, व्याकरणांची रचना व कोशनिर्मिती
- १.४ भाषांतर युग व अन्य साहित्यनिर्मिती : नवे साहित्यप्रकार

**१५ तास १ श्रेयांक**

**घटक २**

**एकोणिसाव्या शतकातील सांस्कृतिक चळवळी**

- २.१ एकोणिसाव्या शतकाचा बदललेला युगधर्म
- २.२ धर्मविषयक प्रश्न आणि सुधारणा चळवळी
- २.३ समाज सुधारणाविषयक चिंतन आणि सुधारणा चळवळी
- २.४ एकोणिसाव्या शतकात उदयाला आलेला सुधारणावाद व तत्कालीन साहित्य : सहसंबंध

**१५ तास १ श्रेयांक**

**घटक ३**

**एकोणिसाव्या शतकाचा उत्तरार्ध : महाराष्ट्राचे बदलते विचारविश्व**

- ३.१ स्वभाषा, स्वधर्म, राष्ट्रप्रेम, देशोन्नती या संदर्भातील जागरण
- ३.२ स्वातंत्र्यविषयक चळवळी व साहित्य : सहसंबंध
- ३.३ विसाव्या शतकातील राजकीय, सामाजिक चळवळी
- ३.४ विसाव्या शतकात उदयाला आलेले नवे विचारव्यूह व सांस्कृतिक बदल

**१५ तास १ श्रेयांक**

**घटक ४**

**स्वातंत्र्य चळवळ आणि मराठी साहित्य**

- ४.१ स्वातंत्र्यलढा आणि मराठी साहित्य
- ४.२ स्वातंत्र्योत्तर मराठी साहित्य : महायुद्धाचे परिणाम व नवसाहित्याचा उदय
- ४.३ विसाव्या शतकातील साहित्य आणि बदलती अभिरूची
- ४.४ अर्वाचीन साहित्याचे सांस्कृतिक योगदान

**१५ तास १ श्रेयांक**



## संदर्भग्रंथ

१. साहित्य व संस्कृती
२. संत वाङ्मयाची सामाजिक फलश्रुती
३. मराठी संतमंडळाचे ऐतिहासिक कार्य
४. महाराष्ट्रीयानांचे काव्यपरीक्षण
५. मराठी वाङ्मयाभिरूचीचे विहंगमावलोकन
६. महाराष्ट्र जीवन, खंड १ व २
७. महाराष्ट्राच्या सामाजिक जीवनातील स्थित्यंतरे
८. अर्वाचीन मराठी साहित्याची सांस्कृतिक पार्श्वभूमी
९. राजकीय चळवळ आणि मराठी नाटयसृष्टी
१०. भारतीय प्रबोधन
११. मराठी वाङ्मयाचा इतिहास, खंड १ ते ६
१२. मराठी वाङ्मयाची सांस्कृतिक पार्श्वभूमी
१३. मराठी वाङ्मयाचा इतिहास खंड १ व २
१४. १९व्या शतकातील महाराष्ट्राची सामाजिक पुनर्घटना
१५. वाटा आणि वळणे
१६. युरोपियनांचा मराठीचा अभ्यास व सेवा
१७. प्राचीन मराठी वाङ्मयाचा इतिहास
१८. यादवकालीन महाराष्ट्र
१९. पेशवेकालीन महाराष्ट्र : भाग १ व २
२०. महाराष्ट्र संस्कृती
२१. महाराष्ट्र संस्कृती : घडण व विकास
२२. पाच भक्तीसंप्रदाय
२३. अर्वाचीन मराठी गद्याची उत्क्रांती
२४. वि.कृ.चिपळूणकर : काल आणि कर्तृत्व
२५. मराठी ग्रंथनिर्मितीची वाटचाल
२६. संशोधनाची क्षितिजे
२७. ज्ञानेश्वरांचे श्रोतृसंवाद
२८. संशोधन शलाका
२९. वाङ्मयेतिहासाची संकल्पना
३०. मराठी लोकांची संस्कृती
३१. महाराष्ट्र संस्कृती
३२. मराठी वाङ्मयाचा विवेचक इतिहास
३३. मराठी वाङ्मयाचा विवेचक इतिहास अर्वाचीन कालखंड
३४. आधुनिक वाङ्मयाची सांस्कृतिक पार्श्वभूमी
३५. एकोणिसावे शतक : सुधारणावाद व मराठी साहित्य
३६. महाराष्ट्राच्या सामाजिक, सांस्कृतिक स्थित्यंतराचा इतिहास

दु. का. संत  
 गं. बा. सरदार  
 बा. र. सुंठणकर  
 श्री. व्यं. केतकर  
 रा. श्री. जोग  
 संपादक गं. बा. सरदार  
 भ. श्री. पंडित  
 सदा क-हाडे  
 श्रीधर शनवारे  
 संपादक मे.पु.रेगे,(भा.शं.भणगे गौरवग्रंथ)  
 म.सा.परिषद,पुणे प्रकाशन.  
 डॉ.गं.ना.जोगळेकर, प्रा.गो.म.कुलकर्णी  
 ल.रा.पांगारकर,  
 रा.शं. वाळिंबे  
 प्रा. गो.म.कुलकर्णी  
 श्री.म. पिंगे  
 अ.ना.देशपांडे  
 मु.ग.पानसे  
 वा.कृ.भावे  
 पु. ग. सहस्रबुद्धे  
 प्रा. शेणोलीकर  
 र.रा. गोसावी  
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 संपा. भा.ल.भोळे  
 द.भि.कुलकर्णी  
 सुरेश म.डोळके  
 द.दि.पुंडे  
 इरावती कर्वे  
 पु.ग.सहस्रबुद्धे  
 प्र. न. जोशी  
 प्र. न. जोशी  
 गो. म. कुलकर्णी  
 सुधाकर शेलार  
 रमेश नारायण वरखेडे

## विषयाचे नाव : तौलनिक साहित्याभ्यास भाग १ (CBOP 4)

### पहिले सत्र

#### उद्दिष्टे:

१. तौलनिक साहित्याभ्यासाची संकल्पना व स्वरूप समजून घेणे.
२. तौलनिक साहित्याभ्यासाची पार्श्वभूमी समजून घेणे.
३. तौलनिक साहित्याभ्यासाची व्याप्ती समजून घेणे.
४. तौलनिक साहित्याभ्यासाची भारतीय पार्श्वभूमी आणि विकासक्रम समजून घेणे.
५. विश्वसाहित्य, राष्ट्रीय साहित्य, भारतीय साहित्य व इतर संकल्पना समजून घेणे.
६. तौलनिक साहित्याभ्यासाचा इतर ज्ञानक्षेत्रांशी असणारा संबंध समजून घेणे.
७. तौलनिक साहित्याभ्यासाच्या व्यावसायिक संधींचा विचार करणे.

#### घटक १ तौलनिक साहित्याभ्यास : संकल्पना व स्वरूप

१. तौलनिक साहित्याभ्यास : व्याख्या आणि व्याप्ती
२. तौलनिक साहित्याभ्यासाची तत्त्वे, तुलना-संकल्पना
३. तौलनिक साहित्यमीमांसा

#### १५ तास १ श्रेयांक

#### घटक - २ तुलनापद्धतीचे स्वरूप व कार्य

- १) केंद्रवर्ती तुलनापद्धती
- २) केंद्रोत्सारी तुलनापद्धती
- ३) एकाकालिक तुलनापद्धती
- ४) भिन्नकालीन तुलनापद्धती (ऐतिहासिक)
- ५) दोन देशीभाषांतील साहित्यकृतींची तुलना
- ६) दोन परकीय भाषांतील साहित्यकृतींची तुलना

#### १५ तास १ श्रेयांक

#### घटक- ३. तौलनिक साहित्याभ्यासाची पार्श्वभूमी व विविध संप्रदाय

- १) फ्रेंच संप्रदाय, अमेरिकन संप्रदाय, जर्मन संप्रदाय, रशियन संप्रदाय
- २) भारतातील बहुभाषिकत्व आणि बहुसांस्कृतिकतेची पार्श्वभूमी
- ३) तौलनिक साहित्याभ्यास : भारतीय संप्रदाय
- ४) तौलनिक साहित्याभ्यास : मराठीतील अभ्यासक व अभ्यासाच्या दिशा

#### १५ तास १ श्रेयांक

#### घटक ४. तौलनिक साहित्याभ्यास आणि साहित्यमीमांसा

- १) द्वैभाषिक साहित्यकृतीचा अभ्यास
- २) वाङ्मयीन प्रवाह व चळवळींचा अभ्यास
- ३) तौलनिक साहित्य व सामाजिक चळवळी
- ४) वाङ्मयीन कालखंडांचा अभ्यास
- ५) वाङ्मय प्रकारांचा अभ्यास

१५ तास १ श्रेयांक

दुसरे सत्र

विषयाचे नाव : तौलनिक साहित्याभ्यास भाग २ (CBOP 8)

घटक १ प्रभव आणि प्रभाव

- १.१ प्रभव संकल्पना
- १.२ प्रभाव संकल्पना
- १.३ आदानप्रदान
- १.४ वाङ्मयचौर्य

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घटक २. तौलनिक साहित्याभ्यास - प्रमुख संकल्पना

- २.१ विश्वसाहित्य
- २.२ राष्ट्रीय साहित्य
- २.३ भारतीय साहित्य
- २.४ आंतरभारती संकल्पना (सानेगुरुजी)

१५ तास १ श्रेयांक

घटक ३ तौलनिक साहित्याभ्यास आणि इतर ज्ञानशाखा परस्परसंबंध –

- ३.१ तौलनिक साहित्य आणि संस्कृती अभ्यास
- ३.२ तौलनिक साहित्य आणि तत्त्वज्ञान
- ३.३ तौलनिक साहित्य आणि मानववंशशास्त्र
- ३.४ तौलनिक साहित्य आणि भाषांतरविद्या
- ३.५ तौलनिक साहित्याभ्यास आणि जागतिकीकरण

१५ तास १ श्रेयांक

घटक ४ तुलनात्मक अभ्यासासाठी नेमलेल्या साहित्यकृती

- ४.१ 'कोसला' लेखक भालचंद्र नेमाडे, पॉप्युलर प्रकाशन व 'द कॅचर इन द राय' (The Catcher in the Rai) लेखक जे. डी. सालींजर, अनुवादक संजय भास्कर जोशी, साकेत प्रकाशन, औरंगाबाद.

किंवा

‘जिणं आमुचं’, लेखिका बेबी कांबळे, सुगावा प्रकाशन, पुणे व ‘जूठन’ खंड १ लेखक ओमप्रकाश वाल्मीक, राधाकृष्ण प्रकाशन, दिल्ली.

### संदर्भ ग्रंथ

|                                              |                                 |
|----------------------------------------------|---------------------------------|
| १. तौलनिक साहित्याभ्यास : तत्त्वे आणि दिशा   | संपा. चंद्रशेखर जहागिरदार       |
| २. तौलनिक साहित्याभ्यास                      | वसंत बापट, मौज प्रकाशन मुंबई,   |
| ३. तुलनात्मक साहित्याभ्यास                   | डॉ. आनंद पाटील, मेहता प्रकाशन   |
| ४. भाषांतर मीमांसा                           | डॉ. कल्याण काळे, डॉ. अंजली सोमण |
| ५. तौलनिक साहित्य आणि मध्ययुगीन मराठी वाङ्मय | डॉ. र. बा. मंचरकर               |
| ६. तौलनिक साहित्य                            | डॉ. निशिकांत मिरजकर             |

### विषयाचे नाव : वाङ्मयेतिहासलेखनविद्या भाग १ (CBOP 4)

### पहिले सत्र

#### उद्दिष्टे:

१. विद्यार्थ्यांमध्ये वाङ्मयाचा इतिहाससापेक्ष अभ्यास करण्याची क्षमता निर्माण करणे.
२. विद्यार्थ्यांमध्ये वाङ्मयाच्या इतिहासाविषयी जिज्ञासा निर्माण करणे
३. विद्यार्थ्यांना वाङ्मयाच्या इतिहासाचे पुनरावलोकन करण्यास प्रवृत्त करणे
४. विद्यार्थ्यांना वाङ्मयाच्या इतिहासाचे लेखन करण्यास प्रवृत्त करणे
५. वाङ्मयीन प्रेरणा आणि वाङ्मयाचा प्रवाह यांचे स्वरूप स्पष्ट करणे .
- ६ . वाङ्मयातील परंपरा आणि नवता यांची तत्त्वे आणि सूत्रे निश्चित करण्यास शिकविणे आणि त्यानुसार वाङ्मयकृतीचा, लेखकाचा, वाङ्मयप्रकाराचा विशिष्ट कालखंडाचा अभ्यास करण्याच्या रिती विद्यार्थ्यांना शिकवणे .
७. वाङ्मयेतिहासविद्या (Literary Histonography) या नव्यानेच उदयास आलेल्या ज्ञानशाखेचा परिचय करून देणे.

#### घटक१ इतिहास व वाङ्मयेतिहास : परस्परसंबंध

- १.१ इतिहासाचे तत्त्वज्ञान: स्थूल ओळख, संकल्पना.
- १.२ वाङ्मयेतिहासाची संकल्पना : वाङ्मयेतिहासाच्या व्याख्या, स्वरूप, वाङ्मयेतिहास लेखनासंबंधीच्या उत्पत्ती.
- १.३ इतिहास व वाङ्मयेतिहासातील अनुबंध.
- १.४ वाङ्मयेतिहास व अन्य प्रकारचे इतिहास यातील भेदरेषा.

#### १५ तास १ श्रेयांक

#### घटक २ वाङ्मयेतिहासाच्या संकल्पनेचा उदय

- २.१ पाश्चात्य संकल्पनाविचार- थॉमस वार्टन, एच. ए. तेन, कसमिया, आर. एस. क्रेन, हॅन्स रॉबर्ट , जॉस इआ.

२.२ भारतीय संकल्पनाविचार - वि. का. राजवाडे, श्री. व्यं. केतकर, दि. के. बेडेकर, डॉ. गो. म. कुलकर्णी, द. दि. पुंडे, डॉ. म. रा. जोशी, सुजित मुखर्जी, श्रीनिवास प्रधान, गणेश देवी, सिसिरकुमार दास इ.

१५ तास १ श्रेयांक

घटक ३ .

वाङ्मयेतिहासलेखनाचे प्रकार

३.१ स्वरूपावरून पडणारे प्रकार

- ३.१.१ कालक्रमवाचक वाङ्मयेतिहास
- ३.१.२ अनुबंधवाचक वाङ्मयेतिहास
- ३.१.३ रूपलक्ष्यी किंवा सौंदर्यलक्ष्यी वाङ्मयेतिहास
- ३.१.४ समग्रलक्ष्यी वाङ्मयेतिहास

३.२ लेखनरितीवरून पडणारे प्रकार

- ३.२.१ लेखकानुसारी वाङ्मयेतिहास
- ३.२.२ वाङ्मयाप्रकारानुसारी वाङ्मयेतिहास
- ३.२.३ वृत्तिप्रवृत्तिनुसारी वाङ्मयेतिहास

३.३ वाङ्मयेतिहासकारासमोरील उद्दिष्टानुसार पडणारे प्रकार

- ३.३.१ बृहद वाङ्मयेतिहास
- ३.३.२ संहिता वाङ्मयेतिहास
- ३.३.३ वाङ्मयप्रकारलक्ष्यी वाङ्मयेतिहास
- ३.३.४ प्रदेशनिष्ठ किंवा भूगोलनिष्ठ वाङ्मयेतिहास
- ३.३.५ दृष्टिकोणनिष्ठ वाङ्मयेतिहास

१५ तास १ श्रेयांक

घटक ४

वाङ्मयेतिहास विचारातील काही नवसंकल्पना :

- ४.१ वाङ्मयेतिहासाची सामग्री
- ४.२ वाङ्मयाचा भूगोल
- ४.३ वाङ्मयीन घटना
- ४.४ वाङ्मयेतिहास लेखनाची ध्येये व उद्दिष्टे
- ४.५ वाङ्मयेतिहास लेखन-स्वभाषकांसाठी व परभाषकांसाठी,
- ४.६ वाङ्मयेतिहासाचे पुनर्लेखन, कालपट
- ४.७ वाङ्मयेतिहासाची सांस्कृतिक पार्श्वभूमी

१५ तास १ श्रेयांक

दुसरे सत्र

विषयाचे नाव : वाङ्मयेतिहासलेखनविद्या भाग २ (CBOP 8)

घटक १

बहुभाषिक राष्ट्रातील वाङ्मयेतिहासाचे स्वरूप

१.१ भारतीय वाङ्मयेतिहासाची संकल्पना, मराठी वाङ्मयाचा भारतक्षेत्रीय अभ्यास व इतिहास

- १.२ वाङ्मयेतिहास लेखनातील तात्त्विक व तांत्रिक समस्या व अडचणी,  
 १.३ मध्ययुगीन मराठी वाङ्मयेतिहास लेखनातील समस्या व अडचणी  
 १.४ आधुनिक मराठी वाङ्मयेतिहास लेखनातील समस्या व अडचणी

**१५ तास १ श्रेयांक**

**घटक २**

**मध्ययुगीन व अर्वाचीन मराठी वाङ्मय आणि इतिहासलेखन**

- २.१ मराठी वाङ्मयेतिहास लेखन : प्रारंभ  
 २.२ वि.ल.भावे ते म.सा.परिषद प्रकल्प : समालोचनात्मक आढावा  
 २.३ अ.ना.देशपांडे यांच्या वाङ्मयेतिहास लेखनाची मीमांसा  
 २.४ मराठी वाङ्मयाचे इंग्लिश, हिंदी व अन्य भाषांमधील वाङ्मयेतिहास लेखन : स्थूलमीमांसा

**१५ तास १ श्रेयांक**

**घटक ३**

**वाङ्मयेतिहासकारांचे कार्य : स्थूल मूल्यमापन**

वि. ल. भावे, म. गो. रानडे, वि. का. राजवाडे, वि. सी. सरवटे, ल. रा. पांगारकर, बाळकृष्ण अनंत भिडे, ह. श्री. शेणोलीकर, ल. रा. नसिराबादकर, श्री. म. पिंगे, वि. पां. दांडेकर, अ. ना. देशपांडे, रा. श्री. जोग, प्र. न. जोशी, कुसुमावती देशपांडे, शं. गो. तुळपुळे, गो. म. कुलकर्णी, व. दि. कुलकर्णी, म. ना. अदवंत, गो. चिं. भाटे, श्री. ना. बनहट्टी, प्र. वा. बापट, ना. वा. गोडबोले, गं. ना. जोगळेकर, स. गं. मालशे, दत्तात्रय पुंडे.

**१५ तास १ श्रेयांक**

**घटक ४**

**मराठीतील वाङ्मयेतिहास विचारांची वाटचाल**

- ४.१ १९७४ पर्यंतचा मराठी वाङ्मयेतिहासविचार  
 ४.२ माटे-बेडेकर वाद -१९४७ ते १९५४  
 ४.३ महाराष्ट्र साहित्य परिषदेची वाङ्मयेतिहासलेखनामागील भूमिका  
 ४.४ वाङ्मयेतिहासलेखनाची भाषा

**१५ तास १ श्रेयांक**

**संदर्भ ग्रंथ**

**अ) मराठी संदर्भ ग्रंथ**

- |                                         |                                            |
|-----------------------------------------|--------------------------------------------|
| १. इतिहासाचे तत्त्वज्ञान                | सदाशिव आठवले, प्राज्ञ पाठशाळा, वाई,        |
| २. वाङ्मयेतिहास: सद्यस्थिती आणि अपेक्षा | गो.म.कुलकर्णी व दत्तात्रय पुंडे            |
| ३. वाङ्मयेतिहासाची संकल्पना             | संपा.दत्तात्रय पुंडे                       |
| ४. साहित्यचिंतन                         | संपा.व.दि.कुलकर्णी, मुंबई विद्यापीठ प्रका. |
| ५. मराठी वाङ्मयेतिहासाची प्रस्तावना     | डॉ.रा.शं.वाळिंबे                           |
| ६. इतिहास म्हणजे काय?                   | इ.एच.कार, अनुवाद वि. गो. लेले              |
| ७. वाङ्मयेतिहास लेखन (स्वरूप व समस्या)  | डॉ. विद्यागौरी टिळक,                       |
| ८. मराठी वाङ्मयेतिहासाची सद्यस्थिती     | डॉ. दत्तात्रय पुंडे, डॉ. विद्यागौरी टिळक   |

**आ) इंग्लिश संदर्भ ग्रंथ**

1. Butterfield Herbert, Man of His Past, Caambridge University Press 1969.
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## विषयाचे नाव : मराठीचे व्याकरण भाग १ (CBOP 4)

### पहिले सत्र

उद्दिष्टे –

१. भाषा आणि लिपी यांच्यातील संबंधांचा अभ्यास करणे.
२. व्याकरणाचे समग्र स्वरूप समजून घेणे.
३. व्याकरणाचे भाषेच्या जडणघडणीतील महत्त्व समजून घेणे.
४. व्याकरणाचे भाषाभ्यासातील महत्त्व स्पष्ट करणे .
५. व्याकरणिक नियमातील बांधणी समजून घेणे.

**घटक १ मराठी भाषेचे व्याकरण : स्वरूप आणि संकल्पना**

- १.१ भाषा आणि लिपी : सहसंबंध
  - १.२ देवनागरी लिपी आणि मराठी भाषा
  - १.३ मराठी भाषेच्या व्याकरणाचे स्वरूप, संकल्पना आणि वाटचाल
  - १.४ मराठी व्याकरणावरील इतर भाषांच्या व्याकरणाचा प्रभाव
- १५ तास १ श्रेयांक**

**घटक २ मराठीचा वर्णविचार**

- २.१ वर्णमाला : वर्णांचे प्रकार
- २.२ स्वर आणि व्यंजने

- २.३ जोडाक्षरांचे लेखन  
२.४ काही विशेष लेखनपद्धती

१५ तास १ श्रेयांक

**घटक ३ शब्दविचार आणि शब्दसिद्धी**

- ३.१ शब्दांची घडण व संधी  
३.२ संधीचे प्रकार ( व्यंजनसंधी, विसर्गसंधी, विशेषसंधी )  
३.३ शब्दसिद्धी : सिद्ध, साधित, उपसर्ग आणि प्रत्यय  
३.४ शब्दसाधिते

१५ तास १ श्रेयांक

**घटक ४ शब्दांच्या जाती व त्यांची कार्ये**

- ४.१ शब्दांच्या जाती  
४.२ शब्दविकार  
४.३ विभक्तीविचार  
४.४ विभक्तीचे अर्थ

१५ तास १ श्रेयांक

**दुसरे सत्र**

**विषयाचे नाव : मराठीचे व्याकरण भाग २ (CBOP 8)**

**घटक १ प्रयोगविचार व समासविचार**

- १.१ प्रयोग : संकल्पनाविचार  
१.२ प्रयोगाचे प्रकार  
१.३ समास : संकल्पनाविचार  
१.४ समासाचे प्रकार

१५ तास १ श्रेयांक

**घटक २ वाक्यपृथक्करण व संश्लेषण**

- २.१ वाक्यपृथक्करण : संकल्पनाविचार  
२.२ वाक्यांचे प्रकार व पृथक्करणविचार  
२.३ वाक्यसंश्लेषण : संकल्पनाविचार  
२.४ वाक्यरूपांतर : केवल वाक्य, संयुक्त वाक्य, मिश्रवाक्य तयार करणे

१५ तास १ श्रेयांक

**घटक ३ मराठीतील वृत्तविचार व छंदविचार**

- ३.१ गद्य व पद्य लेखन आणि वृत्त संकल्पना  
३.२ वृत्तांचे प्रकार  
३.३ छंद संकल्पना  
३.४ छंदांचे प्रकार

१५ तास १ श्रेयांक

**घटक ४ अलंकार आणि शब्दशक्ती**



- ४.१ अलंकार : संकल्पना व आवश्यकता
- ४.२ अलंकारांचे प्रकार
- ४.३ शब्दशक्ती : अभिधा, लक्षणा आणि व्यंजना
- ४.४ वाक्प्रचार व म्हणी, समानार्थी, विरुद्धार्थी शब्द

## १५ तास १ श्रेयांक

### संदर्भ ग्रंथ

|                                            |                        |
|--------------------------------------------|------------------------|
| १. शास्त्रीय मराठी व्याकरण                 | मो. के. दामले          |
| २. मराठी व्याकरणातील निबंध                 | कृष्णशास्त्री चिपळूणकर |
| ३. मराठी व्याकरणाची मूलतत्त्वे             | ग. ह. केळकर            |
| ४. मराठी व्याकरणाचा पुनर्विचार             | अरविंद मंगरूळकर        |
| ५. मराठीचे व्याकरण                         | डॉ.लीला गोविलकर        |
| ६. मराठीचे व्याकरण: वाद आणि प्रवाद         | कृ.श्री.अर्जुनवाडकर    |
| ७. मराठी व्याकरणाची कुळकथा                 | अ.का.प्रियोळकर         |
| ८. मराठी भाषेची घटना                       | रा.भि.जोशी             |
| ९. मराठी प्रमाणभाषेचे स्वरूप               | सुहासिनी लददू          |
| १०. मराठी व्याकरण विवेक                    | मा.ना.आचार्य           |
| ११. अभिनव मराठी व्याकरण                    | डॉ. प्र.न जोशी         |
| १२. अर्वाचीन मराठी                         | रमेश वा. धोंगडे        |
| १३. देवनागरी लिपी : उद्गम, विकास व संभावना | ल. श्री. वाकणकर        |
| १४. मराठी व्याकरण स्वरूप व चिकित्सा        | खंडेराव कुलकर्णी       |

**SAVITRIBAI PHULE PUNE UNIVERSITY**  
**(Formerly University of Pune)**

**Booklet of Practical Skeleton Papers for**  
**F. Y. B. Sc. Botany Practical Examination**  
**New Syllabus-CBCS Pattern (June 2019 onwards)**

**General Guidelines:**

1. This booklet is only the guideline.
2. This booklet includes skeleton papers, guidelines to the examiner to set the practical question paper and scheme of marking for semester I and II.
3. Examiners are advised to set question paper for each batch separately on the basis of skeleton and guidelines supplied with booklet.
4. The experts should be made available for the preparation of prerequisites to conduct the practical examination.
5. Student must attend the excursion and submit the excursion report along with duly certified journal.
6. Use of calculator is allowed in practical examination.
7. Each batch should have two examiners. Both the examiners will set question paper/batch. Remuneration for practical paper setting and paper assessment is as per rates of remuneration for examination work SPPU, Pune 2019.

**SAVITRIBAI PHULE PUNE UNIVERSITY**

**F. Y. B. Sc. Semester Practical Examination in Botany**

**SEMESTER-I**

**New Syllabus-CBCS Pattern (June 2019 onwards)**

**Time: 10:00 am onwards (Not less than 3 hours)**

**Max. Marks: 35**

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1. Assign the specimen 'A' to its respective plant group on the basis of characters. Describe, Sketch and label thallus structure and show the preparations to the examiner. (08)
2. Make a temporary stained preparation of T. S. of specimen 'B'. Identify on the basis of anatomical features. Show the preparation to the examiner. (07)
3. Describe any two whorls of the specimen 'C'. (04)
4. Perform as per instructions (12)
  - D. Identify the form and comment on its type.
  - E. Identify and describe the type of inflorescence.
  - F. Comment on the step of the cultivation of edible Mushroom.
  - G. Identify and describe the type of fruit.
5. Visit report (04)

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**SAVITRIBAI PHULE PUNE UNIVERSITY**

F. Y. B. Sc. Semester Practical Examination in Botany

**SEMESTER-I**

New Syllabus-CBCS Pattern (June 2019 onwards)

Time: 10:00 am onwards

Max. Marks: 35

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**Guidelines to the Examiner**

1. Specimen A: Thallus of ***Spirogyra/ Agaricus/Riccia.***
2. Specimen B: Dicotyledonous/ Monocotyledonous **Root/Stem/Leaf.**
3. Specimen C: Any suitable flower for **Calyx/Corolla/Perianth/Androecium/Gynoecium.**
4. Identify and describe as per instructions.
  - D. Any one form of Lichen.
  - E. Any one type of inflorescence.
  - F. *Agaricus/Pleurotus( **spawn /specimen/pleurotus bed**)*
  - G. Any one type of fruit.
5. Visit report on Botanical Excursion.

**SAVITRIBAI PHULE PUNE UNIVERSITY**

F. Y. B. Sc. Semester Practical Examination in Botany

**SEMESTER-I**

New Syllabus-CBCS Pattern (June 2019 onwards)

Time: 10:00 am onwards

Max. Marks: 35

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**Scheme of Marking**

1. Specimen A:

|                            |      |
|----------------------------|------|
| Diagnostic Features        | : 02 |
| Identification             | : 01 |
| Classification with reason | : 02 |
| Sketch and label           | : 01 |
| Preparation                | : 02 |

2. Specimen B:

|                     |      |
|---------------------|------|
| Stained preparation | : 02 |
| Identification      | : 02 |
| Comments            | : 03 |

3. Specimen C: Any suitable flower for **Calyx/Corolla/Perianth/Androecium/Gynoecium**.

|                     |      |
|---------------------|------|
| Morphological terms | : 02 |
| Diagnostic Features | : 02 |

4. Identify and describe as per instructions.

|    |                |      |
|----|----------------|------|
| D. | Identification | : 01 |
|    | Description    | : 02 |
| E. | Identification | : 01 |
|    | Description    | : 02 |

|    |                |      |
|----|----------------|------|
| F. | Identification | : 01 |
|    | Description    | : 02 |
| G. | Identification | : 01 |
|    | Description    | : 02 |

|    |                  |      |
|----|------------------|------|
| 5. | Excursion report | : 04 |
|----|------------------|------|

**SAVITRIBAI PHULE PUNE UNIVERSITY**

**F. Y. B. Sc. Semester Practical Examination in Botany**

**SEMESTER-II**

**New Syllabus-CBCS Pattern (June 2019 onwards)**

**Time: 10:00 am onwards (Not less than 3 hours)**

**Max. Marks: 35**

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1. Assign the specimen 'A' to its respective plant group on the basis of characters. Describe, Sketch and label sporophyte structure and show the preparations to the examiner. (07)
2. Identify the given sample 'B' with suitable confirmation test. Write in brief procedure of extraction. (08)

OR

2. Make a cytological preparation of given material 'B' and show the preparation to the examiner. (08)
3. Set up the physiology experiment. Write the requirement and procedure. Show the result to the examiner. Comment on physiological phenomenon in given material 'C'. (07)

OR

3. Estimate amount of chlorophyll from the given data 'C'. (07)
4. Perform as per instructions (09)
  - D. Give common, botanical name and economic importance of the specimen.
  - E. Give common, botanical name and economic importance of the specimen.
  - F. Identify and comment on the type of cell.

5. Visit report (04)

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**SAVITRIBAI PHULE PUNE UNIVERSITY**

F. Y. B. Sc. Semester Practical Examination in Botany

**SEMESTER-II**

New Syllabus-CBCS Pattern (June 2019 onwards)

Time: 10:00 am onwards

Max. Marks: 35

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**Guidelines to the Examiner**

1. Specimen A: Thallus of *Nephrolepis/Cycas*.
2. Specimen B: DNA Sample./DNA sample CT

**OR**

2. Specimen B: Any suitable plant material for Mitosis/ Meiosis.  
Preferably (onion buds, Rhoeo Buds,-Meiosis, Onion root tips (Mitosis)
3. Specimen C: Any suitable plant material for Plasmolysis.(Rhoeo leaves)

**OR**

3. Specimen C: Data for Chlorophyll estimation.
4. Identify and describe as per instructions.
  - D. Any one economic importance of Pteridophyte/Gymnosperms.
  - E. Any one economic importance of angiosperm-Food/Fodder/ Fibers/Horticulture/ Medicines
  - F. Any suitable material/specimen to show Prokaryotic/Eukaryotic plant cell.
5. Visit report on Botanical Excursion.

# SAVITRIBAI PHULE PUNE UNIVERSITY

F. Y. B. Sc. Semester Practical Examination in Botany

## SEMESTER-II

New Syllabus-CBCS Pattern (June 2019 onwards)

Time: 10:00 am onwards

Max. Marks: 35

### Scheme of Marking

1. Specimen A:

|                     |      |
|---------------------|------|
| Diagnostic Features | : 02 |
| Identification      | : 01 |
| Sketch and label    | : 02 |
| Preparation         | : 02 |

2. Specimen B:

|             |      |
|-------------|------|
| Requirement | : 02 |
| Procedure   | : 02 |
| Result/Test | : 02 |
| Conclusion  | : 02 |

**OR**

Specimen B:

|                      |      |
|----------------------|------|
| Requirement          | : 02 |
| Slide preparation    | : 02 |
| Stage identification | : 02 |
| Description          | : 02 |

3. Specimen C:

|             |      |
|-------------|------|
| Observation | : 02 |
| Comment     | : 03 |
| Conclusion  | : 02 |

4. Identify and describe as per instructions.

|    |                |      |
|----|----------------|------|
| D. | Identification | : 01 |
|    | Description    | : 02 |
| E. | Identification | : 01 |
|    | Description    | : 02 |
| F. | Identification | : 01 |
|    | Description    | : 02 |

5. Excursion report : 04





# **Savitribai Phule Pune University**

*(Formerly University of Pune)*

**Three Year B.Sc. Degree Program in Botany**

**(Faculty of Science & Technology)**

**F.Y.B.Sc. Botany**

**Choice Based Credit System Syllabus**

**To be implemented from Academic Year 2019-2020**

## Title of the Course: B. Sc Botany

### 1. Structure of Course:

| Structure B.Sc. Botany syllabus |          |                                     |             |                                    |         |
|---------------------------------|----------|-------------------------------------|-------------|------------------------------------|---------|
| Year                            | Semester | Course Type                         | Course code | Course Name                        | Credits |
| 1                               | 1        | Compulsory Course                   | BO 111      | Plant life and utilization I       | 2       |
|                                 |          |                                     | BO 112      | Plant morphology and Anatomy       | 2       |
|                                 |          |                                     | BO 113      | Practical based on BO 111 & BO 112 | 1.5     |
|                                 | 2        | Compulsory Course                   | BO 121      | Plant life and utilization II      | 2       |
|                                 |          |                                     | BO 122      | Principles of plant science        | 2       |
|                                 |          |                                     | BO 123      | Practical based on BO 121 & BO 122 | 1.5     |
| 2                               | 3        | Compulsory Course                   | BO 231      | Botany Theory Paper 1              | 2       |
|                                 |          |                                     | BO 232      | Botany Theory Paper 2              | 2       |
|                                 |          |                                     | BO 233      | Botany Practical Paper             | 2       |
|                                 | 4        | Compulsory Course                   | BO 241      | Botany Theory Paper 1              | 2       |
|                                 |          |                                     | BO 242      | Botany Theory Paper 2              | 2       |
|                                 |          |                                     | BO 243      | Botany Practical Paper             | 2       |
| 3                               | 5        | Discipline Specific Elective Course | BO 351      | Botany Theory Paper 1              | 2       |
|                                 |          |                                     | BO 352      | Botany Theory Paper 2              | 2       |
|                                 |          |                                     | BO 353      | Botany Theory Paper 3              | 2       |
|                                 |          |                                     | BO 354      | Botany Theory Paper 4              | 2       |
|                                 |          |                                     | BO 355      | Botany Theory Paper 5              | 2       |
|                                 |          |                                     | BO 356      | Botany Theory Paper 6              | 2       |
|                                 |          |                                     | BO 357      | Botany Practical Paper 1           | 2       |
|                                 |          |                                     | BO 358      | Botany Practical Paper 2           | 2       |
|                                 |          |                                     | BO 359      | Botany Practical Paper 3           | 2       |
|                                 |          | Skill Enhancement course            | BO 3510     | Botany Theory Paper 7              | 2       |
|                                 |          |                                     | BO 3511     | Botany Theory Paper 8              | 2       |
| 3                               | 6        | Discipline Specific Elective Course | BO 361      | Botany Theory Paper 1              | 2       |
|                                 |          |                                     | BO 361      | Botany Theory Paper 2              | 2       |
|                                 |          |                                     | BO 362      | Botany Theory Paper 3              | 2       |
|                                 |          |                                     | BO 363      | Botany Theory Paper 4              | 2       |
|                                 |          |                                     | BO 364      | Botany Theory Paper 5              | 2       |
|                                 |          |                                     | BO 365      | Botany Theory Paper 6              | 2       |
|                                 |          |                                     | BO 366      | Botany Practical Paper 1           | 2       |
|                                 |          |                                     | BO 367      | Botany Practical Paper 2           | 2       |
|                                 |          |                                     | BO 368      | Botany Practical Paper 3           | 2       |
|                                 |          | Skill Enhancement course            | BO 3610     | Botany Theory Paper 7              | 2       |
|                                 |          |                                     | BO 3611     | Botany Theory Paper 8              | 2       |

## 2. Equivalence of Previous Syllabus:

| Old Course (2013 Pattern)                                                         | New Course (2019 CBCS Pattern)                                                                   |
|-----------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|
| Fundamentals of Botany: PAPER – I<br>Term- I: Plant Diversity                     | BO 111 Plant life and utilization I                                                              |
| Botany Theory Paper II Term I –<br>Industrial Botany                              | BO 112 Plant morphology and Anatomy                                                              |
| Fundamentals of Botany: PAPER - I<br>Term- II: Morphology and Anatomy             | BO 121 Plant life and utilization II                                                             |
| Botany Theory Paper II Term- II –<br>Industrial Botany                            | BO 122 Principles of plant science                                                               |
| F. Y. B. Sc. Botany Practical Paper - III<br>based on Theory Paper I and Paper II | BO 113 Practical based on BO 111 & BO<br>112 and<br>BO 123 Practical based on BO 121 & BO<br>122 |

**SEMESTER-I: PAPER-I****BO-111: PLANT LIFE AND UTILIZATION I (30 Lectures)****CREDIT-I****15 Lectures (15 Hours)****1. INTRODUCTION****3 L**

General outline of plant kingdom (**Lower Cryptogams**: Thallophytes- Algae, Fungi & Lichens; **Higher Cryptogams**: Bryophytes and Pteridophytes; **Phanerogams**: Gymnosperms and Angiosperms- Dicotyledons and Monocotyledons). Distinguishing characters of these groups and mention few common examples from each.

**2. ALGAE****9 L**

- 2.1: Introduction
- 2.2: General Characters
- 2.3: Classification (Bold and Wynne 1978) up to classes with reasons
- 2.4: Life Cycle of *Spirogyra* w.r.t. Habit, Habitat, Structure of thallus, structure of typical cell, Reproduction- Vegetative, Asexual and Sexual, systematic position with reasons
- 2.5: Utilization of Algae in Biofuel Industry, Agriculture, Pharmaceuticals, Food and Fodder

**3. LICHENS****3 L**

- 3.1: Introduction
- 3.2: General Characters
- 3.3: Nature of Association, forms- Crustose, Foliose and Fruticose.
- 3.4: Utilization of lichens.

**CREDIT-II****15 Lectures (15 Hours)****4. FUNGI****9 L**

- 4.1: Introduction
- 4.2: General Characters
- 4.3: Classification (Ainsworth, 1973)
- 4.4: Life Cycle of Mushroom- *Agaricus bisporus* w.r.t. Habit, Habitat, Structure of thallus, Structure of Sporocarp, Structure of Gill, Reproduction- Asexual and sexual, Systematic position.
- 4.5: Utilization of Fungi in Industry, Agriculture, Food and Pharmaceuticals.

**5. BRYOPHYTES****6 L**

- 5.1: Introduction
- 5.2: General Characters
- 5.3: Classification (G.M. Smith 1955)
- 5.4: Life Cycle of *Riccia* w.r.t. Habit, habitat, external and internal structure of thallus, Reproduction- vegetative, asexual and sexual- Structure of sex organs, fertilization, structure of mature sporophyte, structure of spore, systematic position with reasons.
- 5.5: Utilization: Bryophytes as ecological indicators, agriculture, fuel, industry and medicine.

(Development of sex organs not expected for all the above mentioned life cycles).

**REFERENCES:**

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2. Bilgrami, K.S. and Saha, L.C. (1992) A Textbook of Algae. CBS Publishers and Distributors, Delhi.
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4. Dube, H.C. (1990). An Introduction to Fungi. Vikas Publishing House Pvt. Ltd., Delhi.
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6. Parihar, N.S. (1980). Bryophyta, An Introduction of Embryophyta. Vol. I. Central Book Distributors, Allahabad.
7. Puri, P. (1980). Bryophyta: Broad prospective. Atma Ram & Sons, Delhi.
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10. Vashista, B.R., Sinha, A.K. and Singh, V.B. (2005). Botany for degree students- Algae, S. Chand Publication.
11. Vashista, B.R., Sinha, A.K. and Singh, V.B. (2005). Botany for degree students- Fungi, S. Chand Publication.
12. Vashista, B.R., Sinha, A.K. and Singh, V.B. (2005). Botany for degree students- Bryophytes, S. Chand Publication.

**SEMESTER-I: PAPER-II****BO-112: PLANT MORPHOLOGY AND ANATOMY (30 Lectures)****CREDIT-I****15 Lectures (15 hours)****1. MORPHOLOGY:****2 L**

1.1: Introduction, definition, descriptive and interpretative morphology.

1.2: Importance in identification, nomenclature, classification, phylogeny and Plant breeding.

**2. MORPHOLOGY OF REPRODUCTIVE PARTS:****2.1: INFLORESCENCE:****3 L**

2.1.1 Introduction and definition

2.1.2 Types:

a) Racemose -Raceme, Spike, Spadix, Corymb, Umbel, Catkin and Capitulum.

b) Cymose -Solitary, Monochasial- Helicoid and scorpioid; Dichasial and Polychasial.

c) Special types -Verticillaster, Cyathium and Hypanthodium.

2.1.3 Significance

**2.2: FLOWER:****7 L**

2.2.1 Introduction and definition

2.2.2 Parts of a typical flower: Bract, Pedicel, Thalamus- forms, Perianth- Calyx and Corolla, Androecium and Gynoecium.

2.2.3 Symmetry: Actinomorphic and zygomorphic, Sexuality- Unisexual and bisexual, Insertion of floral whorls on thalamus- Hypogyny, Epigyny and perigyny, Merous condition-Trimerous, tetramerous and pentamerous.

2.2.4 Floral whorls:

a) **Calyx:** Nature- Polysepalous, Gamosepalous; Aestivation- types, Modifications of Calyx- Pappus, Petaloid and Spurred.

b) **Corolla:** Forms of Corolla-

i) Polypetalous- Cruciform and Papilionaceous.

ii) Gamopetalous- Infundibuliform, Bilabiate, Tubular and Campanulate.

iii) Aestivation- types and significance.

c) **Perianth:** Nature- Polytepalous, Gamotepalous.

d) **Androecium:** Structure of typical stamen, Variations- cohesion and adhesion.

e) **Gynoecium:** Structure of typical carpel, number, position, cohesion and adhesion; placentation- types and significance.

**2.3: FRUITS:****3 L**

2.3.1 Introduction and definition

2.3.2 Types of fruits:

a) **Simple:** Indehiscent - Achene, Cypsela, Nut and Caryopsis.  
Dehiscent - Legume, Follicle and Capsule,

b) **Fleshy:** Drupe, Berry, Hesperidium and Pepo.

c) **Aggregate:** Etaerio of Berries and Etaerio of Follicles.

d) **Multiple fruits:** Syconus and Sorosis.

**CREDIT- II****15 Lectures (15 Hours)****3. ANATOMY:****2 L**

3.1 Introduction and definition

3.2 Importance in Taxonomy, Physiology, Ecological interpretations, Pharmacongnoy and Wood identification.

**4. TYPES OF TISSUES:****8 L**

Outline with brief description, simple and complex tissues.

4.1: **Meristmatic tissues:** Meristem, characters and types based on origin, position and plane of division, functions.4.2: **Permanent tissues:** Simple tissues - parenchyma, collenchymas, chlorenchyma and sclerenchyma.4.3: **Complex/Vascular tissues:** Components of xylem and phloem, types of vascular bundles and functions.4.4: **Epidermal tissues:** Epidermis, structure of typical stomata, trichomes, motor cells; functions.**5. INTERNAL ORGANIZATION OF PRIMARY PLANT BODY:****5 L**

5.1: Internal structure of dicotyledon and monocotyledon root.

5.2: Internal structure of dicotyledon and monocotyledon stem.

5.3: Internal structure of dicotyledon and monocotyledon leaf.

**REFERENCES:**

1. Chandurkar, P.J. (1989). Plant Anatomy. Oxford and IBH Publishing Co. Pvt. Ltd., New Delhi.
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15. Singh, Gurucharan (2005). Systematics- Theory and Practice. Oxford IBH.
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17. Tayal, M.S. (2012). Plant Anatomy. Rastogi Publications.

**BO 113: PRACTICALS BASED ON BO 111 & BO 112 (1.5 CREDITS)**

1. Study of Life Cycle of *Spirogyra*. 1 P
2. Study of Life Cycle of *Agaricus*. 1 P
3. Study of Life Cycle of *Riccia* 1 P.
4. Study of forms of Lichens- Crustose, Foliose and fruticose. 1 P
5. Study of Mushroom Cultivation. 1 P
6. One day visit to study Algae, Fungi, Bryophytes and Lichens. 1 P
7. Study of Inflorescence. 2 P
  - a. Racemose: Raceme, Spike, Spadix, Catkin, Corymb, Umbel and Capitulum
  - b. Cymose: Solitary cyme, Uniparous cyme: helicoid and scorpioid, Biparous cyme and Multiparous cyme.
  - c. Special type: Verticillaster, Hypanthodium and Cyathium.
8. Study of flower with respect to Calyx, Corolla and Perianth, Androecium and Gynoecium. 2 P
9. Study of fruits with suitable examples. 2 P
  - a) Simple fruit: Dry: Achene, Cypsella and Legume; Fleshy: Berry and Drupe.
  - b) Aggregate fruit: Etaerio of follicles and Etaerio of Berries.
  - c) Multiple fruit: Syconus and Sorosis.
10. Study of internal primary structure of dicotyledonous root and stem e.g. Sunflower. 1 P
11. Study of internal primary structure of monocotyledonous root and stem e.g. Maize. 1 P
12. Study of internal primary structure of dicotyledonous and monocotyledonous leaf e.g. Sunflower and Maize. 1 P



**SEMESTER-II: PAPER-I****BO-121: PLANT LIFE AND UTILIZATION-II (30 Lectures)****CREDIT-I****15 Lectures (15 hours)**

- 1. INTRODUCTION:** Introduction to plant diversity- Pteridophytes, Gymnosperms and Angiosperms with reference to vascular plants. 3 L
- 2. PTERIDOPHYTES:** General characters, Outline classification according to Sporne (1976) up to classes with reasons. Life cycle of *Nephrolepis* w.r.t. Habit, habitat, distribution, morphology, anatomy of stem and leaf, Reproduction – vegetative and sexual. 10 L
- 3. Utilization and economic importance of Pteridophytes.** 2 L

**CREDIT-II****15 Lectures (15 hours)**

- 1. GYMNOSPERMS:** General characters, Outline classification according to Sporne (1977) up to classes with reasons. Life cycle of *Cycas* w.r.t. Habit, Habitat, Distribution, Morphology and Anatomy of Stem, leaf and reproductive organs- Male cone, Microsporophyll, microspores and megasporophyll, megaspore; structure of seed; Utilization and economic importance of gymnosperms. 8 L
- 2. ANGIOSPERMS:** General characters, Outline of classification of Bentham and Hooker's system up to series, comparative account of monocotyledons and dicotyledons. 4L
- 3. Utilization and economic importance of Angiosperms:** In food, fodder, fibers, horticulture and medicines. 3L

**REFERENCES:**

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2. Chamberlain, C.J. (1934). Gymnosperms- Structure and Evolution. Chicago.
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4. Davis, P.H. and Heywood, V.H. (1963). Principles of Angiosperms taxonomy. Oliver and Boyd Publ. London.
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**SEMESTER-II: PAPER-II****BO-122: PRINCIPLES OF PLANT SCIENCE (30 Lectures)****CREDIT-1: PLANT PHYSIOLOGY AND CELL BIOLOGY****15 Lectures (15 Hours)**

1. Introduction, definition and scope of plant physiology. 1 L
2. Diffusion – definition, importance of diffusion in plants, imbibition as a special type of diffusion. 1 L
3. Osmosis – definition, types of solutions (hypotonic, isotonic, hypertonic), endosmosis, exo-osmosis, osmotic pressure, turgor pressure, wall pressure, importance of osmosis in plants. 2 L
4. Plasmolysis – definition, mechanism and significance. 1 L
5. Plant growth - introduction, phases of growth, factors affecting growth, 2 L
6. Structure of plant cell, differences between prokaryotic and eukaryotic cell. 2 L
7. Plant cell wall – components of primary cell wall, structure and functions. 1 L
8. Ultrastructure and functions of chloroplast 2 L
9. Cell cycle in plants- importance of cell cycle in plants, divisional stages of mitosis and meiosis. 3 L

**CREDIT-II: MOLECULAR BIOLOGY****(15 Lectures) 15 Hours**

1. Introduction and scope of molecular biology, central dogma of molecular biology. 2 L
2. Structure of DNA, nucleoside and nucleotide 2 L
3. Watson Crick model of DNA and its characteristic features, types of DNA (A, B and Z DNA). 3 L
4. Types of chromosomes. 2 L
5. Structure and types of RNA. 3 L
6. DNA replication- Types of replication (conservative, semi-conservative and dispersive), enzymes involved, leading and lagging strands, Okazaki fragments. 3 L

**REFERENCES:**

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### **BO 123: PRACTICALS BASED ON BO 121 & BO 122 (1.5 CREDITS)**

- |                                                                                                                                                 |     |
|-------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| 1. Study of life cycle of <i>Nephrolepis</i> .                                                                                                  | 1 P |
| 2. Study of life cycle of <i>Cycas</i> .                                                                                                        | 1 P |
| 3. Study of Bentham and Hooker's system of classification outline up to series with example                                                     | 1 P |
| 4. Study of comparative account of Dicotyledonous and Monocotyledonous plants w.r.t to external morphological characters.                       | 1 P |
| 5. Study of utilization and economic importance of Angiosperms- food, fodder, fibers, horticulture and medicines.                               | 1 P |
| 6. One day visit to study diversity of vegetation.                                                                                              | 2 P |
| 7. To observe characteristic features of prokaryotic and eukaryotic plant cell.                                                                 | 1 P |
| 8. Staining of suitable nuclear material by Basic Fuchsin                                                                                       | 1 P |
| 9. Study of mitosis- preparation of slides using onion root tips to observe divisional stages.                                                  | 1 P |
| 10. Study of meiosis- preparation of slides using <i>Tradescantia</i> / <i>Rhoeo</i> / Maize / Onion flower buds to observe divisional stages.  | 2 P |
| 11. Estimation of chlorophyll-a and chlorophyll-b by using suitable plant material.                                                             | 1 P |
| 12. Plasmolysis- endosmosis, exosmosis, incipient plasmolysis using <i>Rhoeo</i> leaf peeling and Demonstration of Osmosis- curling experiment. | 1 P |
| 13. Study of DPD by using suitable plant sample                                                                                                 | 1 P |



# **Savitribai Phule Pune University**

*(Formerly University of Pune)*

**Three Year B.Sc. Degree Program in Microbiology**

**(Faculty of Science & Technology)**

**F. Y. B. Sc. (Microbiology)**

**2019 Pattern**

**Choice Based Credit System Syllabus**

**To be implemented from Academic Year 2019-2020**

## **Title of the Course: B. Sc. (Microbiology)**

### **Preamble:**

Microbiology is a broad discipline of biology which encompasses five groups of microorganisms i.e., bacteria, protozoa, algae, fungi, viruses. It studies their interaction with their environments as well as how these organisms are harnessed in human endeavour and their impact on society. The study has its extensions in various other conventional and advanced fields of biology by employing microbes as study models. Since inception of microbiology as a branch of science, it has remained an ever-expanding field of active research, broadly categorized as pure and applied science. Microorganisms were discovered over three fifty years ago and it is thought that a huge diversity yet remains to be explored.

Knowledge of different aspects of Microbiology has become crucial and indispensable to the society. Study of microbes has become an integral part of education and human progress. There is a continuous demand for microbiologists as work force – education, industry and research. Career opportunities for the graduate students are available in industry and research equally.

### **Introduction:**

In the post globalization world higher education has to play a significant role in creation of skilled human resources for the well-being of humanity. The barriers among the academic fields seem to have dissolved. However, the disparities in the field of curriculum aspect, evaluation and mobility exist. With the changing scenario at local and global level, the syllabus restructuring should keep pace with developments in the education sector. Choice Based Credit System (CBCS) is being adopted and implemented to address the issues related to traditional system and it also aims to maintain the best of earlier curriculum. The student is at the centre of CBCS. The present curriculum focuses on students' needs, skill development, interdisciplinary approach to learning and enhancing employability.

Microbiology curricula are offered at two levels viz. undergraduate and postgraduate. The undergraduate curricula are prepared to impart basic knowledge of the respective subject from all possible angles. In addition, students are to be trained to apply this knowledge in day-to-day applications and to get a glimpse of research.

### **Objectives to be achieved:**

- To enrich students' knowledge and train them in the pure microbial sciences
- To introduce the concepts of application and research in Microbiology
- To inculcate sense of scientific responsibilities and social and environment awareness
- To help students build-up a progressive and successful career

**Course Structure:**

- For First year: Student has to select 4 different subjects among the subjects offered by the College /Institute.
- For Second year: Student has to select 3 different subjects among 4 subjects chosen in first year.
- For Third year: Student has to select only 1 subject among the 3 subjects opted in second year.
- CGPA will be calculated based on core 132 credits only.
- Each theory credit is equivalent to 15 clock hours of teaching (12 hrs classroom+3 hrs of tutorials-active learning method) and each practical credit is equivalent to 30 clock hours of teaching in a semester.
- For the purpose of computation of workload, the following mechanism may be adopted as per UGC guidelines:
- Each theory Lecture time for FY, SY, TY is of 1 lecture = 50 min
- Each practical session time for FY is of 3-hour 15 min = 195 min
- Each practical session time for SY & TY is of 4-hour 20 min = 260 min

**Eligibility for Admission:****First Year B.Sc.:**

- a. Higher Secondary School Certificate (10+2) or its equivalent Examination with English and Biology; and two of the science subjects such as Physics, Chemistry, Mathematics, Geography, Geology, etc.  
OR
- b. Three Years Diploma in Pharmacy Course of Board of Technical Education conducted by Government of Maharashtra or its equivalent.  
OR
- c. Higher Secondary School Certificate (10+2) Examination with English and vocational subject of + 2 level (MCVC) - Medical Lab. Technician (Subject Code = P1/P2/P3)

Admissions will be given as per the selection procedure / policies adopted by the respective college keeping in accordance with conditions laid down by the University of Pune.

Reservation and relaxation will be as per the Government rules.

**Medium of Instruction:** English

**Award of Credits:**

- Each course having 4 credits shall be evaluated out of 100 marks and student should secure at least 40 marks to earn full credits of that course.
- Each course having 2 credits shall be evaluated out of 50 marks and student should secure at least 20 marks to earn full credits of that course.
- GPA shall be calculated based on the marks obtained in the respective subject, provided that student should have obtained credits for that course.

**Evaluation Pattern:**

- Each course carrying 100 marks shall be evaluated with Continuous Assessment (CA) and University Evaluation (UE) mechanism.
- Continuous assessment shall be of 30 marks while University Evaluation shall be of 70 marks. To pass in a course, a student has to secure minimum 40 marks provided that he should secure minimum 28 marks in University Evaluation (UE).
- Each course carrying 50 marks shall be evaluated with Continuous Assessment (CA) and University Evaluation (UE) mechanism.
- Continuous assessment shall be of 15 marks while University Evaluation shall be of 35 marks.
- To pass in a course, a student has to secure minimum 20 marks provided that he/she should secure minimum 14 marks in University Evaluation (UE).
- For Internal examination minimum two tests per paper of which one has to be a written test 10 marks
- Methods of assessment for Internal exams: Seminars, Viva-voce, Projects, Surveys, Field visits, Tutorials, Assignment, Group Discussion, etc (on approval of the head of the centre)

**ATKT Rules:**

- Minimum number of credits required to take admission to Second Year of B. Sc.: 22
- Minimum number of credits required to take admission to Third Year of B.Sc.: 44



1. In addition to the compulsory credits of 132, the student has to earn additional 8 credits from following groups by taking/participating/conducting respective activities.
2. Courses in Group-I are compulsory.
3. The student can earn maximum 04 credits from an individual group from Group 2 to Group-9. These extra credits will not be considered for GPA calculation; however, these are mandatory for the completion and award of B. Sc. Degree.

**Group 1:** Physical Education (at F. Y.B. Sc. Sem. I)-01 credit

Physical Education (at F. Y.B. Sc. Sem. II)-01credit (Note: Group I is compulsory for all the students as stated above.)

**Group 2:** Sport representation at Collegelevel-01 credit

Sport representation at University/Statelevel-02 credits

**Group 3:** National Social Service Scheme (participation in Camp): 01 credits

N.C.C. (with participation in annual camp)-01credit

N. C. C. (with B certificate/C certificate award)-02 credits

N.S.S./N.C.C. Republicdayparadeparticipation-04 credits

**Group 4:** Avishkar participation; Extension activity participation, Cultural activity participation-01 credit, Avishkar selection at University level-02 credits.

Avishkar winner at state level-04credits

**Group 5:** Research paper presentation at State/National level-01 credits. Research paper presentation at international level-02 credits

**Group 6:** Participation in Summer school/programme; Short term course (not less than 1-week duration) -03 credit.

**Group 7:** Scientific Survey, Societal survey, -02 credits.

**Group 8:** Field Visits; Study Tours; Industrial Visits; Participation in curricular/ co curricular competitions -01 Credit.

**Group 9:** Online certificate Courses /MOOC Courses/ Career Advancement Course up to 04 credits (Minimum10 Hrs. / credit)

#### **Completion of Degree Course:**

- A student who earns 140 credits, shall be considered to have completed the requirements of the B. Sc. degree program and CGPA will be calculated for such student.

**Titles of Papers and Scheme of Study Evaluation****F. Y. B.Sc. Microbiology**

| Semester  | Paper Code    | Paper      | Paper title                                              | Credits    | Lectures/Week |      |          | Evaluation |           |           |
|-----------|---------------|------------|----------------------------------------------------------|------------|---------------|------|----------|------------|-----------|-----------|
|           |               |            |                                                          |            | Th.           | Tut. | Pr.      | CA         | UE        | Total     |
| <b>I</b>  | <b>MB 111</b> | <b>I</b>   | Introduction to Microbial World                          | <b>2</b>   | <b>2</b>      |      |          | <b>15</b>  | <b>35</b> | <b>50</b> |
|           | <b>MB 112</b> | <b>II</b>  | Basic Techniques in Microbiology                         | <b>2</b>   | <b>2</b>      |      |          | <b>15</b>  | <b>35</b> | <b>50</b> |
|           | <b>MB113</b>  | <b>III</b> | Practical Course based on theory papers MB 111 and MB112 | <b>1.5</b> |               |      | <b>3</b> | <b>15</b>  | <b>35</b> | <b>50</b> |
| <b>II</b> | <b>MB121</b>  | <b>I</b>   | Bacterial Cell and Biochemistry                          | <b>2</b>   | <b>2</b>      |      |          | <b>15</b>  | <b>35</b> | <b>50</b> |
|           | <b>MB122</b>  | <b>II</b>  | Microbial cultivation and growth                         | <b>2</b>   | <b>2</b>      |      |          | <b>15</b>  | <b>35</b> | <b>50</b> |
|           | <b>MB123</b>  | <b>III</b> | Practical Course based on theory papers MB121 and MB122  | <b>1.5</b> |               |      | <b>3</b> | <b>15</b>  | <b>35</b> | <b>50</b> |

**S. Y. B. Sc. Microbiology**

| Semester   | Paper Code    | Paper      | Paper title                                               | Credits  | Lectures/Week |     |          | Evaluation |           |           |
|------------|---------------|------------|-----------------------------------------------------------|----------|---------------|-----|----------|------------|-----------|-----------|
|            |               |            |                                                           |          | Th            | Tut | Pr.      | CA         | UE        | Total     |
| <b>III</b> | <b>MB 231</b> | <b>I</b>   | Medical Microbiology and Immunology                       | <b>2</b> | <b>2</b>      |     |          | <b>15</b>  | <b>35</b> | <b>50</b> |
|            | <b>MB 232</b> | <b>II</b>  | Bacterial Physiology and Fermentation                     | <b>2</b> | <b>2</b>      |     |          | <b>15</b>  | <b>35</b> | <b>50</b> |
|            | <b>MB 233</b> | <b>III</b> | Practical Course based on theory papers MB 231 and MB 232 | <b>2</b> |               |     | <b>4</b> | <b>15</b>  | <b>35</b> | <b>50</b> |
| <b>IV</b>  | <b>MB 241</b> | <b>I</b>   | Bacterial Genetics                                        | <b>2</b> | <b>2</b>      |     |          | <b>15</b>  | <b>35</b> | <b>50</b> |
|            | <b>MB 242</b> | <b>II</b>  | Air, Water and Soil Microbiology                          | <b>2</b> | <b>2</b>      |     |          | <b>15</b>  | <b>35</b> | <b>50</b> |
|            | <b>MB 243</b> | <b>III</b> | Practical Course based on theory papers MB241 and MB 242  | <b>2</b> |               |     | <b>4</b> | <b>15</b>  | <b>35</b> | <b>50</b> |

**T. Y. B. Sc. Microbiology Proposed Structure**  
**Semester V**

| <b>Semester</b> | <b>Theory/<br/>Practical /<br/>Skill<br/>Enhancement</b> | <b>Paper</b> | <b>Paper Title</b>         | <b>Marks</b> | <b>Lecture</b>       |
|-----------------|----------------------------------------------------------|--------------|----------------------------|--------------|----------------------|
| <b>Sem V</b>    | Discipline Specific<br>Elective Course<br>Theory         | MB 351 TC    | Medical Microbiology- I    | 50           | 2 Credits<br>/per TC |
|                 |                                                          | MB 352 TC    | Immunology- I              | 50           |                      |
|                 |                                                          | MB 353 TC    | Enzymology                 | 50           |                      |
|                 |                                                          | MB 354 TC    | Genetics                   | 50           |                      |
|                 |                                                          | MB 355 TC    | Fermentation technology- I | 50           |                      |
|                 |                                                          | MB 356 TC    | Agricultural Microbiology  | 50           |                      |
|                 | Discipline<br>Specific Elective<br>Course Practical      | MB 357 PC    | Practical Course I         | 50           | 2 Credits<br>/per PC |
|                 |                                                          | MB 358 PC    | Practical Course II        | 50           |                      |
|                 |                                                          | MB 359 PC    | Practical Course III       | 50           |                      |
|                 | Skill Enhancement<br>course                              | MB 3510      | Marine microbiology        | 50           | 2 Credits            |
|                 |                                                          | MB 3511      | Dairy Microbiology         | 50           | 2 Credits            |
| <b>Sem VI</b>   | Discipline Specific<br>Elective Course<br>Theory         | MB 361 TC    | Medical Microbiology- II   | 50           | 2 Credits<br>/per TC |
|                 |                                                          | MB 362 TC    | Immunology- II             | 50           |                      |
|                 |                                                          | MB 363 TC    | Metabolism                 | 50           |                      |
|                 |                                                          | MB 364 TC    | Molecular Biology II       | 50           |                      |
|                 |                                                          | MB 365 TC    | Fermentation technology II | 50           |                      |
|                 |                                                          | MB 366 TC    | Food Microbiology          | 50           |                      |
|                 | Discipline Specific<br>Elective Course<br>Practical      | MB 367 PC    | Practical Course I         | 50           | 2 Credits<br>/per PC |
|                 |                                                          | MB 368 PC    | Practical Course II        | 50           |                      |
|                 |                                                          | MB 369 PC    | Practical Course III       | 50           |                      |
|                 | Skill Enhancement<br>courses                             | MB 3610      | Waste management           | 50           | 2 Credits            |
|                 |                                                          | MB 3611      | Nanobiotechnology          | 50           | 2 Credits            |

**Equivalence of Previous Syllabus: F. Y. B. Sc. Microbiology**

| <b>Semester</b> | <b>Old Course (2013 Pattern)</b> |                                  | <b>New Course (2019 Pattern)</b> |                                                                         |
|-----------------|----------------------------------|----------------------------------|----------------------------------|-------------------------------------------------------------------------|
|                 | <b>Course Number</b>             | <b>Course title</b>              | <b>Course Number</b>             | <b>Course title</b>                                                     |
| <b>I</b>        | Theory Paper I                   | Introduction to Microbiology     | MB 111                           | Introduction to Microbial World                                         |
|                 | Theory Paper II                  | Basic Techniques in Microbiology | MB 112                           | Basic Techniques in Microbiology                                        |
|                 | —                                | Practical Course (Term I & II)   | MB 113                           | Practical Course based on theory paper I (MB 111) and Paper II (MB 112) |
| <b>II</b>       | Theory Paper I                   | Introduction to Microbiology     | MB 121                           | Bacterial Cell and Biochemistry                                         |
|                 | Theory Paper II                  | Basic Techniques in Microbiology | MB 122                           | Microbial cultivation and growth                                        |
|                 | —                                | Practical Course (Term I & II)   | MB 123                           | Practical Course based on theory paper I (MB 121) and Paper II (MB 122) |

**External Students**

There shall be no external students.

**University Terms**

Dates for commencement and conclusion for the first and second terms will be declared by the University authorities. Terms can be kept by only duly admitted students. The term shall be granted only on minimum 80 percent attendance at theory and practical course and satisfactory performance during the term.

**Current curriculum orientation**

To accommodate more advanced topics in the syllabi, it is necessary to understand the basic science knowledge level of the students that have chosen the Microbiology discipline. Curricula of courses of state and central boards of higher secondary level were reviewed to avoid reiterations of previous syllabi.

At **first year of under-graduation**, students will be provided the basic information that includes – characteristics of microbial world. The microorganisms will be studied for morphological, structural characterization, isolations techniques from natural and extreme

environments and their prominent features. The methodology to develop keen observation i.e., different microscopy techniques, staining techniques and nutritional requirements will be taught in detail, including these aspects at laboratory level as well. Introduction to biochemical characterization of components of micro-organism e.g., proteins, lipids, nucleic acids and carbohydrates and instrumental techniques to estimate these components qualitatively and quantitatively from micro-organisms or other natural sources will be the focus for second theory paper. Relevant experimentation on these topics will be included in practical course. In practical course, students will be trained in preparing laboratory manuals, standard operating practices and logbooks.

At **second year under-graduation** includes paper on principles of taxonomy and classification of major groups of microorganisms. The said paper will also include the physiological studies on these groups of micro-organisms. Second paper will deal with Air and Water Microbiology; role of micro-organisms in environment in regard to pollution and biodegradation; water and sewage treatment. Practical for the second-year students will be designed to be flexible incorporating project themes on environment, agriculture and pollution aspects to acquire laboratory skills. Practical at this level will also include application of biostatistics principles, computers for data analysis, interpretation, introduction to scientific writing and report preparation. These aspects can be better while carrying out the mini projects.

At **third year under-graduation**, the six theory papers will deal with broad areas of microbiology. Five such areas are – Medical microbiology, Microbial physiology, Microbial (prokaryotic and eukaryotic) genetics, Immunology and Fermentation technology. The sixth course will be Applied Microbiology that will include – Dairy Microbiology, Food Microbiology, Fermentation Technology, Agriculture Biotechnology, Fungal Biotechnology, etc. The practicals at third year will be planned more intensively, with exposure to applied fields and hands-on training.

### **Qualification of Teachers:**

With minimum undergraduate and postgraduate degree in Microbiology (B. Sc. and M. Sc. Microbiology) and qualified as per UGC regulations.

**Semester I**  
**MB 111: Introduction to Microbial World**

| Credit          | Topic                                                                                                                                                                                                                                                                                                                                                           | No. of Lectures (36) |
|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| <b>Credit I</b> | <b>1. Amazing world of Microbiology</b>                                                                                                                                                                                                                                                                                                                         |                      |
|                 | <b>a. Development of microbiology as a discipline</b> -Discovery of microscope and Microorganisms (Anton von Leeuwenhoek and Robert Hooke), Abiogenesis v/s biogenesis (Aristotle's notion about spontaneous generation, Francesco Redi's experiment, Louis Pasteur's & Tyndall's experiments)                                                                  | <b>4</b>             |
|                 | <b>b. Golden Era of Microbiology</b>                                                                                                                                                                                                                                                                                                                            |                      |
|                 | i. Contributions of - Louis Pasteur (Fermentation, Rabies, Pasteurization and Cholera vaccine-fowl cholera experiment) Robert Koch (Koch's Postulates, Germ theory of disease, Tuberculosis and Cholera-isolation and staining techniques of causative agent) Ferdinand Cohn (Endospore discovery)                                                              | <b>4</b>             |
|                 | ii. Discovery of viruses (TMV and Bacteriophages), River's Postulates, Contribution of Joseph Lister (antiseptic surgery), Paul Ehrlich (Chemotherapy), Elie Metchnikoff (Phagocytosis), Edward Jenner (Vaccination) and Alexander Fleming (Penicillin) in establishment of fields of medical microbiology and immunology, Discovery of Streptomycin by Waksman | <b>4</b>             |
|                 | iii. Contribution of Martinus W. Beijerinck (Enrichment culture technique, Rhizobium), Sergei N. Winogradsky (Nitrogen fixation and Chemo-lithotrophy) in the development of the field of soil microbiology                                                                                                                                                     | <b>2</b>             |
|                 | <b>c. Modern Era of Microbiology</b>                                                                                                                                                                                                                                                                                                                            | <b>2</b>             |
|                 | Carl Woese classification based on 16S r RNA<br>Signification and Application of Human Microbiome, Nano-biotechnology and Space Microbiology                                                                                                                                                                                                                    |                      |
|                 | <b>d. Nobel laureates in Life Sciences of 21<sup>st</sup> Century</b>                                                                                                                                                                                                                                                                                           | <b>2</b>             |
|                 | <i>(Project Based Learning: Assignments should be given to student)</i>                                                                                                                                                                                                                                                                                         |                      |

|                  |                                                                                                                |          |
|------------------|----------------------------------------------------------------------------------------------------------------|----------|
| <b>Credit II</b> | <b>2. Types of Microorganism and their differentiating characters</b>                                          |          |
|                  | a. Prokaryotes, Eukaryotes, three domain and five domain system of classification                              | <b>2</b> |
|                  | b. Bacteria (Eubacteria and Archaeobacteria)                                                                   | <b>1</b> |
|                  | c. Protozoa                                                                                                    | <b>1</b> |
|                  | d. Fungi                                                                                                       | <b>1</b> |
|                  | e. Algae                                                                                                       | <b>1</b> |
|                  | f. Viruses, Viroids and Prions                                                                                 | <b>2</b> |
|                  | g. Actinomycetes                                                                                               | <b>1</b> |
|                  | <b>3. Beneficial and Harmful effects of microorganisms:</b>                                                    |          |
|                  | a. Medical Microbiology (Enlist diseases caused by various microorganisms, vaccines and antibiotics)           | <b>1</b> |
|                  | b. Environmental Microbiology (Eutrophication, red tide, Sewage treatment, bioremediation)                     | <b>2</b> |
|                  | c. Food and Dairy Microbiology (Food spoilage, food borne diseases, Probiotics and fermented food)             | <b>1</b> |
|                  | d. Agriculture Microbiology (Plant diseases and Biofertilizers and Bio-control agents)                         | <b>1</b> |
|                  | e. Industrial Microbiology (Production of antibiotics, enzymes, solvents and contaminants-bacteria and phages) | <b>2</b> |
|                  | f. Immunology (Normal flora, Three lines of defence)                                                           | <b>2</b> |

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### Semester I

#### MB 112: Basic Techniques in Microbiology

| Credit | Topic                                                                                                                                                                                                                                                                                                                                                                                                                                        | No. of Lectures (36)             |
|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|
| I      | <b>1. Units of measurement – Introduction to Modern SI units</b>                                                                                                                                                                                                                                                                                                                                                                             | <b>1</b>                         |
|        | <b>2. Microscopy</b>                                                                                                                                                                                                                                                                                                                                                                                                                         |                                  |
|        | <b>a. Bright field microscopy:</b>                                                                                                                                                                                                                                                                                                                                                                                                           | <b>3</b>                         |
|        | <ul style="list-style-type: none"> <li>• Electromagnetic spectrum of light</li> <li>• Structure, working of and ray diagram of a compound light microscope; concepts of magnification, numerical aperture and resolving power.</li> <li>• Types, ray diagram and functions of – condensers (Abbe and cardioid) eyepieces and objectives</li> <li>• Concept of aberrations in lenses - spherical, chromatic, comma and astigmatism</li> </ul> |                                  |
|        | <b>b. Principle, working and ray diagram of</b>                                                                                                                                                                                                                                                                                                                                                                                              |                                  |
|        | <ul style="list-style-type: none"> <li>• Phase contrast microscope</li> <li>• Fluorescence Microscopy</li> <li>• Electron Microscopy – TEM, SEM</li> </ul>                                                                                                                                                                                                                                                                                   | <b>2</b><br><b>1</b><br><b>3</b> |

|           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |
|-----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
|           | <b>3. Staining Techniques:</b><br><b>a.</b> Definition of Stain; Types of stains (Basic and Acidic), Properties and role of Fixatives, Mordants, Decolourisers and Accentuators <b>2</b><br><b>b.</b> Monochrome staining and Negative (Relief) staining <b>1</b><br><b>c.</b> Differential staining - Gram staining and Acid-fast staining <b>2</b><br><b>d.</b> Special staining- Capsule, Cell wall, Spore, Flagella, Lipid granules, metachromatic granules <b>3</b>                                                                                                                                                                                                                                                                                         |  |
| <b>II</b> | <b>4. Sterilization and Disinfection</b><br><b>a. Sterilization</b><br><ul style="list-style-type: none"> <li>Physical Agents - Heat, Radiation, Filtration <b>3</b></li> <li>Checking of efficiency of sterilization (Dry and Moist) – Biological and Chemical Indicators <b>4</b></li> </ul> <b>b. Disinfection:</b><br><ul style="list-style-type: none"> <li>Chemical agents and their mode of action - Aldehydes, Halogens, Quaternary ammonium compounds, Phenol and phenolic compounds, <b>4</b></li> <li>Heavy metals, Alcohol, Dyes, Detergents and Ethylene oxide. <b>4</b></li> <li>Characteristics of an ideal disinfectant <b>1</b></li> <li>Checking of efficiency of disinfectant - Phenol Coefficient (Rideal–Walker method) <b>2</b></li> </ul> |  |

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**F. Y. B. Sc. Microbiology Practicals Syllabus**

| <b>Semester I</b><br><b>Practical Course MB 113 (Implemented from 2019)</b><br><b>Based on theory paper I (MB 111) and Paper II (MB 112)</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                          |
|----------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|
| <b>Expt. No.</b>                                                                                                                             | <b>Topics</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <b>No. of Practicals</b> |
| 1                                                                                                                                            | a. Safety measures and Good Laboratory Practices in microbiology laboratory.<br>b. Introduction, operation, precautions and use of common microbiology laboratory instruments: Incubator, Hot air oven, Autoclave, Colorimeter, Laminar air flow hood, Clinical centrifuge.                                                                                                                                                                                                                          | 2                        |
| 2                                                                                                                                            | a. Construction (mechanical and optical), working and care of bright field microscope.<br>b. Permanent slide observation: Algae, Fungi and Protozoa<br>c. Wet mount slide preparation and its observation for: Bacteria, Algae, Fungi and Protozoa.                                                                                                                                                                                                                                                  | 3                        |
| 3                                                                                                                                            | a. Introduction and use of common laboratory glass wares: Test tubes, culture tubes, suspension tubes, screw capped tubes, Petri plates, pipettes (Mohr and serological) micropipettes, Pasteur pipettes, Erlenmeyer flask, volumetric flask, glass spreader, Durham's tube, Cragie's tube and inoculating needles (wire loop, stab needles).<br>b. Learning basic techniques in Microbiology: Wrapping of glassware, cotton plugging, cleaning and washing of glassware, biological waste disposal. | 2                        |
| 4                                                                                                                                            | Basic staining techniques:<br>a. Monochrome staining<br>b. Negative staining<br>c. Gram staining of bacteria                                                                                                                                                                                                                                                                                                                                                                                         | 3                        |
| 5                                                                                                                                            | Observation of motility in bacteria using: Hanging drop method and swarming growth method.                                                                                                                                                                                                                                                                                                                                                                                                           | 2                        |
| 6.                                                                                                                                           | Checking of efficacy of chemical disinfectant: Phenol Coefficient by Rideal-Walker method.                                                                                                                                                                                                                                                                                                                                                                                                           | 2                        |
|                                                                                                                                              | <b>TOTAL</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <b>14</b>                |

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**Semester II**  
**MB 121: Bacterial Cell and Biochemistry**

| Credits   | Topic                                                                                                                                                               | No. of Lectures (36) |
|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| <b>I</b>  | <b>1. Bacterial Cytology</b><br>Microbial cell size, shape and arrangements                                                                                         | <b>1</b>             |
|           | <b>2. Structure, chemical composition and functions of the following components in bacterial cell:</b>                                                              |                      |
|           | a. Cell wall (Gram positive, Gram negative)                                                                                                                         | <b>2</b>             |
|           | b. Concept of Mycoplasma, Spheroplast, protoplast, L-form                                                                                                           | <b>1</b>             |
|           | c. Cell membrane                                                                                                                                                    | <b>2</b>             |
|           | d. Endospore (spore formation and stages of sporulation)                                                                                                            | <b>1</b>             |
|           | e. Capsule                                                                                                                                                          | <b>1</b>             |
|           | f. Flagella                                                                                                                                                         | <b>2</b>             |
|           | g. Fimbriae and Pili                                                                                                                                                | <b>1</b>             |
|           | h. Ribosomes                                                                                                                                                        | <b>1</b>             |
|           | i. Chromosomal & extra-chromosomal material                                                                                                                         | <b>2</b>             |
|           | j. Cell inclusions (Gas vesicles, carboxysomes, PHB granules, metachromatic granules, glycogen bodies, starch granules, magnetosomes, sulfur granules, chlorosomes) | <b>4</b>             |
| <b>II</b> | <b>3. Chemical Basis of Microbiology</b>                                                                                                                            |                      |
|           | a. Atom, Biomolecules, types of bonds (covalent, co-ordinate bond, non-covalent) and linkages (ester, phospho-diester, peptide, glycosidic)                         | <b>2</b>             |
|           | b. Chemistry of Biomolecules: Structure, organization and functions                                                                                                 | <b>1</b>             |
|           | <b>4. Carbohydrates: Definition, classification</b>                                                                                                                 |                      |
|           | a. Monosaccharides: Classification based on aldehyde and ketone groups; structure of Ribose, Deoxyribose, Glucose, Galactose and Fructose.                          | <b>1</b>             |
|           | b. Disaccharides: Glycosidic bond, structure of lactose and sucrose.                                                                                                | <b>1</b>             |
|           | c. Polysaccharides: Structure and types<br>Examples-Starch, glycogen, Peptidoglycan, chitin                                                                         | <b>2</b>             |

|                                                                                                                                                                                                                                                                                                                         |                  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| <p><b>5. Lipids: Definition, classification</b></p> <p>a. Simple lipids – Triglycerides, Fats and oils, waxes.</p> <p>b. Compound lipids – Phospholipid, Glycolipids</p> <p>c. Derived lipids – Steroids, Cholesterol</p>                                                                                               | 2                |
| <p><b>6. Proteins: Definition, classification</b></p> <p>a. General structure of amino acids, peptide bond.</p> <p>b. Types of amino acids based on R group</p> <p>c. Structural levels of proteins: primary, secondary, tertiary and quaternary</p> <p>d. Study of Hemoglobin, flagellin and cytoskeletal proteins</p> | 1<br>1<br>1<br>1 |
| <p><b>7. Nucleic acids: Definition, classification</b></p> <p>a. DNA – structure and composition</p> <p>b. RNA – Types (m-RNA, t-RNA, r-RNA), structure and functions.</p>                                                                                                                                              | 2                |
| <p><b>8. Classification of Bacteria:</b></p> <p>Introduction to Bergey's Manual of Determinative and Systemic Bacteriology</p>                                                                                                                                                                                          | 2                |
| <p><b>9. Classification of Viruses: ICTV nomenclature</b></p>                                                                                                                                                                                                                                                           | 1                |

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**Semester II**  
**MB 122: Microbial cultivation and growth**

| <b>Credit</b> | <b>Topic</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <b>No. of Lectures (36)</b> |
|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|
| <b>I</b>      | <b>1. Cultivation of Microorganisms:</b> <ol style="list-style-type: none"> <li>a. Nutritional requirements and nutritional classification. <b>3</b></li> <li>b. Design and preparation of media: Common ingredients of media and types of media. <b>3</b></li> <li>c. Methods for cultivating photosynthetic, extremophilic and chemo-lithotrophic bacteria, anaerobic bacteria, algae, fungi, actinomycetes and viruses. <b>4</b></li> <li>d. Concept of Enrichment, Pure Culture, Isolation of culture by streak plate, pour plate, spread plate. <b>3</b></li> <li>e. Maintenance of bacterial and fungal cultures using different techniques. <b>3</b></li> <li>f. Culture collection centres and their role. <b>1</b></li> <li>g. Requirements and guidelines of National Biodiversity Authority for culture collection centres. <b>1</b></li> </ol> |                             |
| <b>II</b>     | <b>2. Bacterial growth:</b> <ol style="list-style-type: none"> <li>a. Kinetics of bacterial growth (Exponential growth model) <b>3</b></li> <li>b. Growth curve and Generation time <b>2</b></li> <li>c. Diauxic growth <b>1</b></li> <li>d. Measurement of bacterial growth- Methods of enumeration: <b>4</b></li> <li>e. Microscopic methods (Direct microscopic count, counting cells using improved Neubauer, Petroff-Hausser's chamber) <b>4</b></li> <li>f. Plate counts (Total viable count) <b>1</b></li> </ol>                                                                                                                                                                                                                                                                                                                                    |                             |

|           |                                                                                                               |          |
|-----------|---------------------------------------------------------------------------------------------------------------|----------|
| <b>g.</b> | Turbidometric methods (including Nephelometry)                                                                | <b>1</b> |
| <b>h.</b> | Estimation of biomass (Dry mass, Packed cell volume)                                                          | <b>1</b> |
| <b>i.</b> | Chemical methods (Cell carbon and nitrogen estimation)                                                        | <b>1</b> |
| <b>j.</b> | Factors affecting bacterial growth [pH, Temperature, Solute Concentration (Salt and Sugar)] and Heavy metals. | <b>4</b> |

### References:

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| <b>Semester II</b><br><b>Practical Course MB 123</b><br><b>based on theory paper I (MB 121) and Paper II (MB 122)</b> |                                                                                                                                                                                                                           |                          |
|-----------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|
| <b>Expt. No.</b>                                                                                                      | <b>Topics</b>                                                                                                                                                                                                             | <b>No. of Practicals</b> |
| <b>1</b>                                                                                                              | <b>i.</b> Preparation of simple laboratory nutrient media (Nutrient agar/broth, MacConkey's agar).                                                                                                                        | 1                        |
|                                                                                                                       | <b>ii.</b> Checking sterilization efficiency of autoclave using a biological indicator ( <i>B. stearothermophilus</i> )                                                                                                   | 1                        |
|                                                                                                                       | <b>iii.</b> Preparation of Winogradsky's column and observation of different types of microorganisms using bright field microscope.                                                                                       | 1                        |
| <b>2</b>                                                                                                              | <b>Special staining techniques:</b><br><b>i.</b> Endospore staining<br><b>ii.</b> Capsule staining                                                                                                                        | 2                        |
| <b>3</b>                                                                                                              | <b>Isolation of bacteria:</b><br>Streak plate technique (Colony and cultural characteristics)                                                                                                                             | 1                        |
| <b>4</b>                                                                                                              | <b>Enumeration of bacteria from fermented food / soil / water by:</b><br><b>i.</b> Spread plate method<br><b>ii.</b> Pour plate method                                                                                    | 2                        |
| <b>5</b>                                                                                                              | <b>Study of normal flora of skin:</b><br><b>i.</b> Cultivating and observing different morpho-forms of bacteria from skin.<br><b>ii.</b> Study of effect of washing on skin with soap and disinfectant on its microflora. | 2                        |
| <b>6</b>                                                                                                              | <b>To study the effect of different parameters on growth of <i>E. coli</i>:</b><br><b>i.</b> pH, temperature, sodium chloride concentration<br><b>ii.</b> Study of oligodynamic action of heavy metal                     | 3                        |
| <b>7</b>                                                                                                              | <b>Preservation of cultures on:</b><br>Slants, soil and on grain surfaces; revival of these cultures and lyophilized cultures.                                                                                            | 1                        |
|                                                                                                                       | <b>TOTAL</b>                                                                                                                                                                                                              | <b>14</b>                |

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Links: <https://microbiologysociety.org/static/uploaded/23cbf9c5-f8c8-4f91-b092a4ad819e6357.pdf>

Savitribai Phule Pune University [SPPU]

**B.Sc. (Chemistry)**

(Three Years Integrated Degree Program)

**Choice Based Credit System [CBCS]**

**From Academic Year**

**2019-2020**

**First Year (F.Y. B. Sc.)**

**Board of Studies (Chemistry)**

Savitribai Phule Pune University [SPPU]

Pune-41107

### **Structure of F. Y. B. Sc. Chemistry**

| Semester | Course    | Discipline Specific Core Course (DSCC)*               |
|----------|-----------|-------------------------------------------------------|
| I        | Theory    | CH-101 : Physical Chemistry ( 2 credit , 36 L)        |
|          | Theory    | CH-102 : Organic Chemistry (2 credit, 36 L)           |
|          | Practical | CH-103 : Chemistry Practical –I (1.5 Credit, 46.8 L)  |
| II       | Theory    | CH-201 :Inorganic Chemistry ( 2 credit , 36 L)        |
|          | Theory    | CH-202 : Analytical Chemistry (2 credit, 36 L)        |
|          | Practical | CH-203 : Chemistry Practical –II (1.5 Credit, 46.8 L) |

**\*N.B.:**

- i. Each lecture (L) will be of 50 minutes.
- ii. Each practical of 3h 15 min and 12 practicals per semester
- iii. 12 weeks for teaching 03 weeks for Contentious assessments
- iv. For details refer UG rules and regulations (CBCS for Science program under science & Technology) given in Appendix

# Savitribai Phule Pune University, Pune

## F.Y.B.Sc. Chemistry Syllabus

### (CBCS Semester Pattern)

From Academic Year 2019-2020

### Equivalence with Previous Syllabus

| New Course (2019 Semester Pattern)<br>( 50 min /L)              | Old Course (2013 Annual Pattern)<br>( 48 min /L)                |
|-----------------------------------------------------------------|-----------------------------------------------------------------|
| CH-101 : Physical Chemistry ( 2 credit , 36 L)<br>50 Marks      | Paper I : Physical and Inorganic<br>Chemistry ( 72 L) 100 Marks |
| CH-201 :Inorganic Chemistry ( 2 credit , 36 L)<br>50 Mark       |                                                                 |
| CH-102 : Organic Chemistry (2 credit, 36 L)<br>50 Marks         | Paper II : Organic and Inorganic<br>Chemistry ( 72 L) 100 Marks |
| CH-202 : Analytical Chemistry (2 credit, 36 L)<br>50 Marks      |                                                                 |
| CH-103 : Chemistry Practical-I (1.5 Credit, 46.8 L)<br>50 Marks | Paper III : Chemistry Practical<br>100 Marks                    |
| CH-203 : Chemistry Practical-II (1.5 Credit, 46.8L)<br>50 Marks |                                                                 |

**Preamble:**

The syllabus of Chemistry for First year has been redesigned for Choice based Credit System (CBCS) to be implemented from 2019-2020.

In CBCS pattern semester system has been adopted for FY, SY and TY which includes Discipline Specific Core Course (DSCC) at F Y level, Ability Enhancement Compulsory Course (AECC), Discipline Specific Elective Course (DSEC) and Skill Enhancement Course (SEC). DSCC courses have been introduced at FY level and AECC courses at SY level along with DSEC. At TY level DSEC and SEC courses have been introduced.

Syllabus for Specific Core Courses of Chemistry (2 Theory and 1 Practical) subject for F. Y. B. Sc. is to be implemented from the year 2019-20. Syllabus for S. Y. and T. Y. B. Sc. will be implemented from the year 2020-21 and 2021-22 respectively as per structure approved.

**Learning Objectives:**

1. To understand basic concept of physical, organic and Inorganic chemistry.
2. To impart practical skills and learn basics behind experiments.
3. To prepare background for advanced and applied studies in chemistry.



# SEMESTER-I

## CH- 101: Physical Chemistry (2 Credits, 36 Lectures of 50 min.)

### 1. Chemical Energetics

Review of thermodynamics and the Laws of Thermodynamics. Important principles and definitions of thermochemistry. Concept of standard state and standard enthalpies of formations, integral and differential enthalpies of solution and dilution. Calculation of bond energy, bond dissociation energy and resonance energy from thermochemical data. Variation of enthalpy of a reaction with temperature – Kirchhoff's equation. Statement of Third Law of thermodynamics and calculation of absolute entropies of substances, problems [11]

### 2. Chemical Equilibrium:

Introduction: Free Energy and equilibrium - Concept, Definition and significance

The reaction Gibbs Energy, Exergonic and endergonic reaction. The perfect gas equilibrium, the general case of equilibrium, the relation between equilibrium constants, Molecular interpretation of equilibrium constant. The response of equilibria to conditions- response to pressure, response to temperature, Van't Haff equation, Value of K at different temperature, Problems [14]

### 3. Ionic Equilibria

Strong, moderate and weak electrolytes, degree of ionization, factors affecting degree of ionization, ionization constant and ionic product of water. Ionization of weak acids and bases, pH scale, common ion effect. Salt hydrolysis-calculation of hydrolysis constant, degree of hydrolysis and pH for different salts. Buffer solutions. Solubility and solubility product of sparingly soluble salts– applications of solubility product principle. [14]

## Learning Outcome

### 1. Chemical Energetics

1. Students will be able to apply thermodynamic principles to physical and chemical process
2. Calculations of enthalpy, Bond energy, Bond dissociation energy, resonance energy
3. Variation of enthalpy with temperature –Kirchoff's equation
4. Third law of thermodynamic and its applications

### 2. Chemical Equilibrium

Knowledge of Chemical equilibrium will make students to understand

1. Relation between Free energy and equilibrium and factors affecting on equilibrium constant.
2. Exergonic and endergonic reaction
3. Gas equilibrium, equilibrium constant and molecular interpretation of equilibrium constant
4. Van't Haff equation and its application

### 3. Ionic equilibria

Ionic equilibria chapter will lead students to understand

1. Concept to ionization process occurred in acids, bases and pH scale
2. Related concepts such as Common ion effect hydrolysis constant, ionic product, solubility product
3. Degree of hydrolysis and pH for different salts, buffer solutions

## CH- 102: Organic Chemistry (2 Credits, 36 Lectures of 50 min.)

### Fundamentals of Organic Chemistry

Physical Effects, Electronic Displacements: Inductive Effect, Electromeric Effect, Resonance and Hyperconjugation. Cleavage of Bonds: Homolysis and Heterolysis. Structure, shape and reactivity of organic molecules: Nucleophiles and electrophiles. Reactive Intermediates: Carbocations, Carbanions and free radicals. Strength of organic acids and bases: Comparative study with emphasis on factors affecting pK values. Aromaticity: Benzenoids and Hückel's rule. [09]

### Stereochemistry

Introduction, classification, Interconversion of Wedge Formula, Newmann, Sawhorse and Fischer representations. Conformations with respect to ethane, butane and cyclohexane. Configuration: Geometrical - *cis* – *trans*, and E / Z Nomenclature (for upto two C=C systems). Optical isomerism Enantiomerism, Diastereomerism and Meso compounds). Concept of chirality (upto two carbon atoms). Threo and erythro; D and L; nomenclature; CIP Rules: R/ S (for upto 2 chiral carbon atoms) [14]

### Aliphatic Hydrocarbons

Functional group approach for the following reactions (preparations & reactions) to be studied in context to their structure.

**Alkanes:** (Up to 5 Carbons) *Preparation:* Catalytic hydrogenation, Wurtz reaction, Kolbe's synthesis, from Grignard reagent. *Reactions:* Free radical Substitution: Halogenation.

**Alkenes:** (Up to 5 Carbons) *Preparation:* Elimination reactions: Dehydration of alkenes and dehydrohalogenation of alkyl halides (Saytzeff's rule); *cis* alkenes (Partial catalytic hydrogenation) and *trans* alkenes (Birch reduction). *Reactions:* *cis*-addition (alk.  $\text{KMnO}_4$ ) and *trans*-addition (bromine), Addition of HX (Markownikoff's and anti-Markownikoff's addition), Hydration, Ozonolysis, oxymercuration-demercuration, Hydroboration-oxidation.

**Alkynes:** (Up to 5 Carbons) *Preparation:* Acetylene from  $\text{CaC}_2$  and conversion into higher alkynes; by dehalogenation of tetra halides and dehydrohalogenation of vicinal-dihalide *Reactions:* formation of metal acetylides, addition of bromine and alkaline  $\text{KMnO}_4$ , ozonolysis and oxidation with hot alk.  $\text{KMnO}_4$ . [13]

## **Learning Outcome**

1. The students are expected to understand the fundamentals, principles, and recent developments in the subject area.
2. It is expected to inspire and boost interest of the students towards chemistry as the main subject.
3. To familiarize with current and recent developments in Chemistry.
4. To create foundation for research and development in Chemistry.

## **Reference Books**

1. Graham Solomon, T.W., Fryhle, C.B. & Snyder, S.A. *Organic Chemistry*, John Wiley & Sons (2014).
  2. McMurry, J.E. *Fundamentals of Organic Chemistry*, 7th Ed. Cengage Learning India Edition, 2013.
  3. Sykes, P. *A Guidebook to Mechanism in Organic Chemistry*, Orient Longman, New Delhi (1988).
  4. Eliel, E.L. *Stereochemistry of Carbon Compounds*, Tata McGraw Hill education, 2000.
  5. Finar, I.L. *Organic Chemistry* (Vol. I & II), E.L.B.S.
  6. Morrison, R.T. & Boyd, R.N. *Organic Chemistry*, Pearson, 2010.
  7. Bahl, A. & Bahl, B.S. *Advanced Organic Chemistry*, S. Chand, 2010.
  8. Samuel Glasstone, *Thermodynamics for Chemists*, Affiliated East West Private Limited.
  9. B S Bahl, G D Tuli, Arun Bahl, *Essentials of Physical Chemistry*
  10. Peter Atkins and Julio de Paula, *Elements of Physical Chemistry*, Sixth edition ( 2013), Oxford press
  11. Ball D. W., *Physical Chemistry*, Thomson Press , India (2007)
  12. Castellan, G.W. *Physical Chemistry* 4th Ed. Narosa (2004).
  13. Atkins' *Physical Chemistry –Thermodynamics and Kinetics*, 11<sup>th</sup> Edition, Oxford Press
  14. Thomas Engel, Philip Reid; *Physical Chemistry*, Pearson Education (2006)
  15. J. N. Gurtu, A. Gurtu; *Advanced Physical Chemistry*, Pragati Edition
  16. Mortimer R. G., *Physical Chemistry*, 3rd Edition, Elsevier, Noida (UP)
  17. Samuel H. Maron and Carl F. Prutton, *Principles of physical Chemistry*, 4<sup>th</sup> Edition, Collier Macmillan Ltd.
-

## CH- 103: Chemistry Practical Course I

(1.5 Credits, 46.8 Lectures of 50 min.)

### Section A: Chemical and Lab Safety (Compulsory)

1. Toxicity of the compounds used in chemistry laboratory.
2. Safety symbol on labels of pack of chemicals and its meaning
3. What is MSDS sheets? Find out MSDS sheets of at least hazardous chemicals ( $K_2Cr_2O_7$ , Benzene, cadmium nitrate, sodium metal, etc.)
4. Precautions in handling of hazardous substances like Conc. acids, ammonia, organic solvents, etc.

### Section B: Physical Chemistry

#### a. Thermochemistry (Any three)

1. Determination of heat capacity of calorimeter for different volumes.
2. Determination of enthalpy of neutralization of hydrochloric acid with sodium hydroxide.
3. Determination of enthalpy of ionization of acetic acid.
4. Determination of integral enthalpy of solution of salts ( $KNO_3$ ,  $NH_4Cl$ ).
5. Determination of enthalpy of hydration of copper sulphate.
6. Study of the solubility of benzoic acid in water and determination of  $\Delta H$ .

#### b. Ionic equilibria (Two experiments)

1. Measurement of pH of different solutions like aerated drinks, fruit juices, shampoos and soaps (use dilute solutions of soaps and shampoos to prevent damage to the glass electrode) using pH-meter.

OR

1. Measurement of the pH of buffer solutions and comparison of the values with theoretical values.
2. Preparation of buffer solutions (Any One)
  - (i) Sodium acetate-acetic acid and determine its buffer capacity
  - (ii) Ammonium chloride-ammonium hydroxide and determine its buffer capacity

### Section C: Organic Chemistry (Five experiments)

1. To determine type and detection of extra elements (N, S, Cl, Br, I) in organic compounds (containing up to two extra elements) (Three)
2. Separation of constituents of mixtures by Chromatography: Measure the  $R_f$  value in each case (Two)
  - (a) Identify and separate the components of a given mixture of 2 amino acids (glycine, aspartic acid, glutamic acid, tyrosine or any other amino acids) / pigments from plant extract/ 2 organic compounds by paper chromatography
  - (b) Identify and separate the sugars present in the given mixture by paper chromatography.

**Note: Combination of two compounds/plant extract to be given**

**Reference Books:**

1. Svehla, G. *Vogel's Qualitative Inorganic Analysis*, Pearson Education, 2012.
2. Mendham, J. *Vogel's Quantitative Chemical Analysis*, Pearson, 2009.
3. Vogel, A.I., Tatchell, A.R., Furnis, B.S., Hannaford, A.J. & Smith, P.W.G., *Text book of Practical Organic Chemistry*, Prentice-Hall, 5th edition, 1996.
4. Mann, F.G. & Saunders, B.C. *Practical Organic Chemistry* Orient-Longman, 1960.
5. Khosla, B. D.; Garg, V. C. & Gulati, A. *Senior Practical Physical Chemistry*, R.Chand & Co.: New Delhi (2011).
6. Prof. Robert H. Hill Jr., David C. Finster *Laboratory Safety for Chemistry Students*, 2nd Edition Wiley ISBN: 978-1-119-02766-9 May 2016
7. *Prudent Practices in the Laboratory: Handling and Management of Chemical Hazards*, Updated Version, ISBN 978-0-309-13864-2 | DOI 10.17226/12654, THE NATIONAL ACADEMIES PRESS Washington, D.C.

**Learning Outcome**

1. Importance of chemical safety and Lab safety while performing experiments in laboratory
  2. Determination of thermochemical parameters and related concepts
  3. Techniques of pH measurements
  4. Preparation of buffer solutions
  5. Elemental analysis of organic compounds (non instrumental)
  6. Chromatographic Techniques for separation of constituents of mixtures
-

## SEMESTER-II

### CH-201: Inorganic Chemistry (2 Credits, 36 Lectures of 50 min.)

#### 1. Atomic Structure

**Origin of Quantum Mechanics:** Why study quantum mechanics? Quantum mechanics arose out of interplay of experiments and Theory Energy quantization- i) Black body radiation ii) The photoelectric effect iii) Wave particle duality-a) The particle character of electromagnetic radiation b) the wave character of particle, iv) diffraction by double slit v) atomic spectra, Review of-Bohr's theory and its limitations, Heisenberg Uncertainty principle.

**Quantum mechanics:** Time independent Schrodinger equation and meaning of various terms in it, Significance of  $\psi$  and  $\psi^2$ , Schrödinger equation for hydrogen atom. Radial and angular parts of the hydrogenic wavefunctions (atomic orbitals) and their variations for  $1s$ ,  $2s$ ,  $2p$ ,  $3s$ ,  $3p$  and  $3d$  orbitals (Only graphical representation). Radial and angular nodes and their significance. Radial distribution functions and the concept of the most probable distance with special reference to  $1s$  and  $2s$  atomic orbitals. Significance of quantum numbers, orbital angular momentum and quantum numbers  $ml$  and  $ms$ . Shapes of  $s$ ,  $p$  and  $d$  atomic orbitals, nodal planes. Discovery of spin, spin quantum number ( $s$ ) and magnetic spin quantum number ( $ms$ ). [14]

#### 2. Periodic table and Periodicity of Elements

**Periodic table:** periodic table after 150 years, review on the eve of international year of periodic table[IYPT].

**Periodicity of elements:** Rules for filling electrons in various orbitals, Electronic configurations of the atoms. Stability of half-filled and completely filled orbitals, concept of exchange energy. Relative energies of atomic orbitals, Anomalous electronic configurations

Long form of periodic table-s, p, d and f block elements,

Detailed discussion of following properties of elements with reference to s and p block

- Effective nuclear charge, shielding or screening effect
- Atomic and ionic radii
- Crystal radii
- Covalent radii
- Ionization energies
- Electronegativity, Pauling's / electronegativity scale
- Oxidation states of elements

[10]

#### 3. Chemical Bonding

Attainment of stable electronic configurations, Types of Chemical bonds: Ionic, covalent, coordinate and metallic bonds

**Ionic Bond:** General characteristics of ionic bonding, Types of ions, Energy considerations in ionic bonding, lattice energy and solvation energy and their importance in the context of stability and solubility of ionic compounds. Statement of Born-Landé equation for calculation of lattice energy,

Born-Haber cycle and its applications, polarizing power and polarizability. Fajan's rules, ionic character in covalent compounds, bond moment, dipole moment and percentage ionic character.

**Covalent bond:** Valence Bond Approach, Hybridization with suitable examples of linear, trigonal planar, square planar, tetrahedral, trigonal bipyramidal and octahedral arrangements. VSEPR theory, Assumptions, need of theory, application of theory to explain geometries of molecules such as i)  $\text{ClF}_3$  ii)  $\text{Cl}_2\text{O}$  iii)  $\text{BrF}_5$  iv)  $\text{XeO}_3$  v)  $\text{XeOF}_4$  [12]

## **Learning Outcome**

### **1. Atomic Structure**

1. Various theories and principles applied to reveal atomic structure
2. Origin of quantum mechanics and its need to understand structure of hydrogen atom
3. Schrodinger equation for hydrogen atom
4. Radial and angular part of hydrogenic wave functions
5. Significance of quantum numbers
6. Shapes of orbitals

### **2. Periodicity of Elements**

1. Explain rules for filling electrons in various orbitals- Aufbau's principle, Pauli exclusion principle, Hund's rule of maximum multiplicity
2. Discuss electronic configuration of an atom and anomalous electronic configurations.
3. Describe stability of half-filled and completely filled orbitals.
4. Discuss concept of exchange energy and relative energies of atomic orbitals
5. Design Skeleton of long form of periodic table.
6. Describe Block, group, modern periodic law and periodicity.
7. Classification of elements as main group, transition and inner transition elements
8. Write name, symbol, electronic configuration, trends and properties.
9. Explain periodicity in the following properties in details:
  - a. Effective nuclear charge, shielding or screening effect; some numerical problems.
  - b. Atomic and ionic size.
  - c. Crystal and covalent radii
  - d. Ionization energies
  - e. Electronegativity- definition, trend, Pauling electronegativity scale.
  - f. Oxidation state of elements

### **3. Chemical Bonding**

1. Attainment of stable electronic configurations.
2. Define various types of chemical bonds- Ionic, covalent, coordinate and metallic bond
3. Explain characteristics of ionic bond, types of ions, energy consideration in ionic bonding, lattice and solvation energy and their importance in the context of stability and solubility of ionic compounds
4. Summarize Born-Landé equation and Born-Haber cycle,
5. Define Fajan's rule, bond moment, dipole moment and percent ionic character.

6. Describe VB approach, Hybridization with example of linear, trigonal, square planer, tetrahedral, TBP, and octahedral.
7. Discuss assumption and need of VSEPR theory.
8. Interpret concept of different types of valence shell electron pairs and their contribution in bonding.
9. Application of non-bonded lone pairs in shape of molecule
10. Basic understanding of geometry and effect of lone pairs with examples such as  $\text{ClF}_3$ ,  $\text{Cl}_2\text{O}$ ,  $\text{BrF}_5$ ,  $\text{XeO}_3$  and  $\text{XeOF}_4$ .

## CH- 202: Analytical Chemistry (2 Credits, 36 Lectures of 50 min.)

### 1. Introduction to Analytical Chemistry

What is analytical Chemistry, the analytical perspectives, Common analytical problems. [03]

### 2. Calculations used in Analytical Chemistry

**Some important units of measurements**-SI units, distinction between mass and weight, mole, millimole and Calculations, significant figures

**Solution and their concentrations**- Molar concentrations, Molar analytical Concentrations, Molar equilibrium concentration, percent Concentration, part per million, part per billion, part per thousand, Solution –dilutant volume ration, functions , density and specific gravity of solutions, problems

**Chemical Stoichiometry** – Empirical and Molecular Formulas, Stoichiometric Calculations, Problems. [10]

### 3. Qualitative Analysis of Organic Compounds

Types of organic compounds, characteristic tests and classifications, reactions of different functional groups, analysis of binary mixtures.

Analysis – Detection of nitrogen, sulfur, halogen and phosphorous by Lassaigne's test.

Purification of organic compounds- Introduction, recrystallization, distillation, sublimation [05]

### 4. Chromatographic Techniques –Paper and Thin Layer Chromatography

Introduction- Introduction to chromatography, IUPAC definition of chromatography.

History of Chromatography- paper chromatography, Thin Layer Chromatography, Ion exchange Chromatography, Gas permeation Chromatography, affinity chromatography, Gas chromatography, Supercritical fluid chromatography, High Performance Liquid Chromatography, Capillary electrophoresis, Classification of chromatographic methods – according to separation methods, according to development procedures.

**Thin Layer Chromatography:** Theory and principles, outline of the method, surface adsorption and spot shape, Comparison of TLC with other forms of chromatography, adsorbents, preparation of plates, application of samples, development.

**Paper Chromatography-** Origin, overview of technique, sample preparation, types of paper, solvents, equilibrium, development, sample application and detection, Identification, Quantitative methods, applications of paper chromatography [14]



**5. pH meter**

Introduction, pH meter, Glass pH electrode, combination of pH electrode-Complete Cell, Standard Buffer –reference for pH measurement, Accuracy of pH measurement, Using pH meter –How does it works? Applications of pH meter. [04]

**Learning Outcomes****1. Introduction to Analytical Chemistry**

- i. Analytical Chemistry –branch of chemistry
- ii. Perspectives of analytical Chemistry
- iii. analytical problems

**2. Calculations used in Analytical Chemistry**

- i. Calculations of mole, molar concentrations and various units of concentrations which will be helpful for preparation of solution
- ii. Relation between molecular formula and empirical formula
- iii. Stoichiometric calculation
- iv. Define term mole, millimole, molar concentration, molar equilibrium concentration and Percent Concentration.
- v. SI units, distinction between mass and weight
- vi. Units such as parts per million, parts per billion, parts per thousand, solution-dilutant volume ratio, function density and specific gravity of solutions.

**3 Qualitative Analysis of Organic Compounds**

Basics of type determination, characteristic tests and classifications, reactions of different functional groups.

- i. Separation of binary mixtures and analysis
- ii. Elemental analysis -Detection of nitrogen, sulfur, halogen and phosphorous by Lassaigne's test.
- iii. Purification techniques for organic compounds.

**4. Chromatographic Techniques – Paper and Thin layer Chromatography**

- i. Basics of chromatography and types of chromatography
- ii. Theoretical background for Paper and Thin Layer Chromatography

**5. pH metry**

- i. pH meter and electrodes for pH measurement
- ii. Measurement of pH
- iii. Working of pH meter
- iv. Applications of pH meter

**Reference Books:**

1. Lee, J.D. *Concise Inorganic Chemistry* ELBS, 1991.
2. Cotton, F.A., Wilkinson, G. & Gaus, P.L. *Basic Inorganic Chemistry*, 3rd ed., Wiley.
3. Douglas, B.E., McDaniel, D.H. & Alexander, J.J. *Concepts and Models in Inorganic Chemistry*, John Wiley & Sons.
4. Huheey, J.E., Keiter, E.A., Keiter, R.L. & Medhi, O.K. *Inorganic Chemistry: Principles of Structure and Reactivity*, Pearson Education India, 2006.

5. Graham Solomon, T.W., Fryhle, C.B. & Snyder, S.A. *Organic Chemistry*, John Wiley & Sons (2014).
  6. McMurry, J.E. *Fundamentals of Organic Chemistry*, 7th Ed. Cengage Learning India Edition, 2013.
  7. Sykes, P. *A Guidebook to Mechanism in Organic Chemistry*, Orient Longman, New Delhi (1988).
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  9. Morrison, R.T. & Boyd, R.N. *Organic Chemistry*, Pearson, 2010.
  10. Bahl, A. & Bahl, B.S. *Advanced Organic Chemistry*, S. Chand, 2010.
  11. A Braithwait and F. J. Smith, *Chromatographic method*, 5<sup>th</sup> edition, Kluwer Academic publishers
  12. G D Christian -Analytical Chemistry
  13. Qualitative Organic Analysis 4<sup>th</sup> Edn by A I Vogel (ELBS)
  14. Vogel's Quantitative Analysis
  15. Douglas A Skoog, Donald M West, F James Holler, Stainly R Crouch, *Fundamentals of Analytical Chemistry*, 9<sup>th</sup> edition
  16. David Harvey, *Modern Analytical Chemistry*, McGraw Hill Higher education
  17. Gurudeep R Chatwal, Sham K Anand, *Instrumental Methods of Chemical Analysis*, Himalaya Publishing House.
  18. Barrow, G.M. *Physical Chemistry* Tata McGraw-Hill (2007).
  19. Kotz, J.C., Treichel, P.M. & Townsend, J.R. *General Chemistry* Cengage Learning India Pvt. Ltd., New Delhi (2009).
  20. Mahan, B.H. *University Chemistry* 3rd Ed. Narosa (1998).
  21. Petrucci, R.H. *General Chemistry* 5th Ed. Macmillan Publishing Co.: New York (1985).
  22. Atkins' *Physical Chemistry*, 10<sup>th</sup> edition (2014), Oxford University Press
  23. Thomas Engel, Philip Reid; *Physical Chemistry*, Pearson Education (2006)
  24. J. N. Gurtu, A. Gurtu, *Advanced Physical Chemistry*, Pragati Edition
  25. McQuarrie, D. A., & Simon, J. D., *Physical Chemistry: A molecular approach*. Sausalito, CA: University Science Books (1997)
  26. Atkins, P., & de Paula, J., *Physical Chemistry for the Life Sciences*. New York: W. H. Freeman and Company (2006)
  27. McMahon, D. (2005). *Quantum Mechanics Demystified*. New York: McGraw-Hill Professional
  28. Ladd, M. *Introduction to Physical Chemistry* (3rd ed). Cambridge, UK: Cambridge University Press (1998)
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## CH- 203: Chemistry Practical –II (1.5 Credits, 46.8 Lectures of 50 min.)

### Section A: Inorganic Chemistry

Wherever required standardization of volumetric reagent must be performed.

#### I] Synthesis of commercially important inorganic compounds (any two)

- 1) Synthesis of potash alum from aluminium metal (scrap Aluminium metal)
- 2) Synthesis of Mohr's Salt  $[(\text{FeSO}_4)(\text{NH}_4)_2\text{SO}_4] \cdot 6\text{H}_2\text{O}$
- 3) Preparation of Dark red inorganic pigment:  $\text{Cu}_2\text{O}$
- 4) Synthesis of  $\text{FeSO}_4 \cdot 7\text{H}_2\text{O}$

##### Note:

- i. In synthesized compound student must confirm the particular cation and anion by performing qualitative tests.
- ii. Costing of product for 100 g pack can be calculated on the basis of cost of raw materials used and percent yield of the product.
- iii. Synthesized compounds should be collected from all students and stored properly. They should be used in other experiments such as Mohr's salt for determination of water of crystallization. Potash alum and  $\text{FeSO}_4$  can be given in IQA experiments or for estimations at SY and TY level.

#### II] Volumetric Analysis (Any Two)

1. Estimation of sodium carbonate and sodium hydrogen carbonate present in a mixture.
2. Determination of basicity of boric acid or oxalic acid or citric acid hence determination of their equivalent weight.
3. Estimation of water of crystallization in Mohr's salt by titrating with  $\text{KMnO}_4$ .

#### III] Analysis of Commercial products containing inorganic substances (any two)

- 1) Estimation of Ca from calcium supplementary tablet by complexometric titration.
- 2) Estimation of acid neutralizing capacity of antacids like Gelusil tablet/ Gellusil syrup etc.
- 3) Estimation of selectively Cu(II) from brass alloy by iodometrically (Use  $\text{KIO}_3$  as primary standard for standardization of  $\text{Na}_2\text{S}_2\text{O}_3$  and **not**  $\text{K}_2\text{Cr}_2\text{O}_7$ ).

#### IV] To draw polar plots of s and p orbitals.

### Section B: Organic Chemistry

#### I] Organic Purification Techniques

1. Purification of organic compounds by i) crystallization (from water and alcohol) ii) distillation (Two Compounds), iii) Sublimation (micro technique).

#### II] Organic preparations: Derivatives

2. Preparations: Mechanism of various reactions involved to be discussed. Recrystallization, determination of melting point and calculation of quantitative yields to be done. (Any Two)
  - a) Bromination of Cinnamic acid using sodium bromide and Sodium bromate. (Green Chemistry Approach)

OR

- a) Bromination of acetanilide using KBr and Ceric ammonium nitrate in aqueous medium. (Green Chemistry Approach)
- 3) Semicarbazone derivatives of aldehydes and ketones
- 4) Oxime and 2,4-dinitrophenylhydrazone of aldehyde/ketone

**Note:** Presence of extra element in the synthesized compound must be tested (Br and N in respective compound)

**N. B.:**

1. Use molar concentrations for volumetric /estimations/synthesis experiments.
2. Use optimum concentrations and volumes
3. Two burette method should be used for volumetric analysis ( Homogeneous mixtures )
4. Use of microscale technique is recommended wherever possible

### **Reference Books:**

1. Svehla, G. *Vogel's Qualitative Inorganic Analysis*, Pearson Education, 2012.
2. Mendham, J. *Vogel's Quantitative Chemical Analysis*, Pearson, 2009.
3. Vogel, A.I., Tatchell, A.R., Furnis, B.S., Hannaford, A.J. & Smith, P.W.G., *Textbook of Practical Organic Chemistry*, Prentice-Hall, 5th edition, 1996.
4. Mann, F.G. & Saunders, B.C. *Practical Organic Chemistry* Orient-Longman, 1960.
5. Khosla, B. D.; Garg, V. C. & Gulati, A. *Senior Practical Physical Chemistry*, R. Chand & Co.: New Delhi (2011).

### **Learning Outcome**

1. Inorganic Estimations using volumetric analysis
2. Synthesis of Inorganic compounds
3. Analysis of commercial products
4. Purification of organic compounds
5. Preparations and mechanism of reactions involved

### **Course Outcome**

#### **CH- 101: Physical Chemistry**

After completing the course work learner will be acquired with knowledge of chemical energetics, Chemical equilibrium and ionic equilibria.

#### **CH- 102: Organic Chemistry**

Students will learn Fundamentals of organic chemistry, stereochemistry (Conformations, configurations and nomenclatures) and functional group approach for aliphatic hydrocarbons.

#### **CH- 201: Inorganic Chemistry**

Students will learn quantum mechanical approach to atomic structure, Periodicity of elements, various theories for chemical bonding.

**CH-202: Analytical Chemistry**

Students will know about basics of analytical chemistry, some techniques of analysis and able to do calculations essential for analysis.

**Lab Course CH 103 and CH-203**

1. The practical course is in relevance to the theory courses to improve the Understanding of the concepts.
  2. It would help in development of practical skills of the students.
  3. Use of microscale techniques wherever required
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**SAVITRIBAI PHULE PUNE UNIVERSITY**  
**F.Y.B.Sc. Practical Examination- Skeleton Paper**  
**Zoology Practical Paper (Credits: 1.5)**  
**Choice Based Credit System-2019 Pattern**

**Course Code:ZO-113**

**Time:3.00 hrs.**

**Semester:I**

**Max. Marks:35**

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- Q. 1 Identification: (10)
- a) Identify, classify and describe (Protozoa to Porifera).
  - b) Identify, classify and describe (Cnidaria to Platyhelminthes).
  - c) Identify and comment (any one from practical No.5).
  - d) Identify, sketch and label/ Identify and describe (Any one slide from practical No. 6).
- Q. 2 Identify the given specimen with the help of taxonomic identification key. (05)
- Q. 3 Estimate Dissolved oxygen/ Alkalinity/ Carbon dioxide from given water sample. (08)
- Q. 4 Identify the faunal organisms from given freshwater sample, sketch, label and comment on it. (07)

**OR**

Estimate the water holding capacity of given soil sample. Comment and find out the type of soil sample.

**OR**

Determine the density, frequency and abundance of species by quadrat method from the given data.

- Q. 5 Certified Journal, Tour/ field report and Viva- voce. (05)

**Examiner**

**Examiner**



# **Savitribai Phule Pune University**

*(Formerly University of Pune)*

**Three Year B.Sc. Degree Program in Biotechnology**

**(Faculty of Science & Technology)**

**F.Y. B. Sc. (Biotechnology)**

**Choice Based Credit System Syllabus**

**To be implemented from Academic Year 2019-2020**



**Preamble of the Syllabus:**

Biotechnology has expanded and established as an advanced interdisciplinary applied science. The study of Life itself is at the core of it and the interdisciplinary networking potential of biotechnology has given it a separate status in fundamental research as well as in modern industrial enterprise. Global and local focus has slowly shifted to not only current "Century of Knowledge" but also on to technology development and application in life sciences. In the milieu of research and industrialization for economic development and social change, biotechnology is an ideal platform to work.

The interdisciplinary nature of biotechnology integrates living systems including animal, plant and microbes and their studies from molecular biology to cell biology, from biochemistry to biophysics, from genetic engineering to stem cell research, from bioinformatics to genomics-proteomics, from environmental biology to biodiversity, from microbiology to bioprocess engineering, from bioremediation to material transformation and so on. The relevance and application of these studies on living organisms and their bioprocesses is extensively covered in this field with the help of technology. Green revolution and white revolution was possible in India thanks to the deeper and intrinsic understanding of biotechnology.

Economic and social renaissance is staged on biotechnology especially, since it's biomedical and cutting edge technological applications are tremendously powerful in shaping this century and exciting future.

Biotechnologists are always in demand as an efficient work force in fundamental research and industries. Education and research sectors require such interdisciplinary trained work force to develop future generations of science leaders. Career opportunities for graduate students are created and expanding at the biotechnology parks and in manufacturing industries, teaching, research institutes and IT industry.

The restructures syllabus is a choice based credit system with semester pattern. Biotechnology has grown extensively in last couple of decades. The syllabi till today had been sufficient to cater to the needs of students for building up their careers in industry and research. However, with the changing scenario at local and global level, we feel that the syllabus orientation should be altered to keep pace with developments in the education and industrial sector.

The need of the hour is to design appropriate syllabi that emphasize on teaching of technological as well as the economical aspects of modern biology. The proposed credit based curriculum ensures the requirement of academia and industry. Theory supplemented with extensive practical skill

sets will help a graduate student to avail the opportunities in the applied fields (research, industry or institutions) without any additional training. Thus, the university/college itself will be developing the trained and skilled man-power. Biotechnology being an interdisciplinary subject, this restructured syllabus will combine the principles of physical, chemical and biological sciences along with developing advanced technology.

Biotechnology curricula are operated at two levels viz. undergraduate and postgraduate. The undergraduate curricula are prepared to impart primarily basic knowledge of the respective subject from all possible angles while postgraduate syllabus emphasizes on more applied courses. In addition, students are to be trained to apply this knowledge particularly in day-to-day applications of biotechnology and to get a glimpse of research.

The basic aim of the revised course curriculum is to integrate various disciplines of life sciences which will cater the needs of human resources in academia and industry. The Overall objective of the Program is to promote education and research in biotechnology and provide academic and professional excellence for immediate productivity in academics, government organization, biomedical sectors, health and nutrition settings for ultimate benefit of society and sustainable development.

**The objectives of the course curriculum are:**

- To introduce the concepts in various allied subjects
- To enrich students' knowledge in basic and applied aspects of life sciences.
- To help the students to build interdisciplinary approach in teaching/ learning & in research.
- To inculcate the sense of scientific responsibilities and social awareness
- To help students build-up a progressive and successful career in academia and industry.

The present course curriculum will generate skilled human resource required in academia and Industry. In general, as a result of this program, the student will be able to achieve basic and advance knowledge based proficiency in applied subjects of life sciences, create and develop students with interdisciplinary mind set for learning science, improve problem solving aptitude using scientific methods in biotechnology and allied subjects, will adopt scientific approach for implications of biotechnology in society, environment and education, will demonstrate knowledge and learn various biological processes at cellular and molecular level and get expertise in the different techniques used in the fields of Biotechnology.

**Title of the Course: B.Sc. (Biotechnology)****Structure of the course:****Semester: I****Theory**

| <b>Course Code</b> | <b>Course Title</b>                | <b>Credits</b> | <b>Number of Lectures</b> | <b>Marks</b>                  |
|--------------------|------------------------------------|----------------|---------------------------|-------------------------------|
| BBt-101            | Fundamentals of Chemistry-I        | 2 Credits      | 30                        | 50 (35 External +15 Internal) |
| BBt-102            | Fundamentals of Physics            | 2 Credits      | 30                        | 50 (35 External +15 Internal) |
| BBt-103            | Biochemistry I                     | 2 Credits      | 30                        | 50 (35 External +15 Internal) |
| BBt-104            | Biophysics                         | 2 Credits      | 30                        | 50 (35 External +15 Internal) |
| BBt-105            | Animal Sciences I                  | 2 Credits      | 30                        | 50 (35 External +15 Internal) |
| BBt-106            | Plant Sciences I                   | 2 Credits      | 30                        | 50 (35 External +15 Internal) |
| BBt-107            | Microbiology I                     | 2 Credits      | 30                        | 50 (35 External +15 Internal) |
| BBt-108            | Biomathematics and Biostatistics-I | 2 Credits      | 30                        | 50 (35 External +15 Internal) |

**PRACTICAL**

|                                           |                                             |             |                   |                               |
|-------------------------------------------|---------------------------------------------|-------------|-------------------|-------------------------------|
| BBt-109                                   | Practical In Chemistry and Biochemistry     | 1.5 Credits | 15 P              | 50 (35 External +15 Internal) |
| BBt-110                                   | Practical In Plant and Animal science       | 1.5 Credits | 15 P              | 50 (35 External +15 Internal) |
| BBt-111                                   | Practical In Microbiology & Biostatistics-I | 1.5 Credits | 15 P              | 50 (35 External +15 Internal) |
| BBt-112                                   | Practical In Physics and Biophysics         | 1.5 Credits | 15 P              | 50 (35 External +15 Internal) |
| <b>Total Credits (Theory + Practical)</b> |                                             |             | <b>22 Credits</b> |                               |

**Semester II**

| <b>Course code</b> | <b>Course Title</b>                 | <b>Credits</b> | <b>Number of Lectures</b> | <b>Marks</b>                  |
|--------------------|-------------------------------------|----------------|---------------------------|-------------------------------|
| BBt-201            | Fundamentals of Chemistry II        | 2 Credits      | 30                        | 50 (35 External +15 Internal) |
| BBt-202            | Biochemistry II                     | 2 Credits      | 30                        | 50 (35 External +15 Internal) |
| BBt-203            | Bioinstrumentation                  | 2 Credits      | 30                        | 50 (35 External +15 Internal) |
| BBt-204            | Animal Sciences II                  | 2 Credits      | 30                        | 50 (35 External +15 Internal) |
| BBt-205            | Plant Sciences II                   | 2 Credits      | 30                        | 50 (35 External +15 Internal) |
| BBt-206            | Microbiology II                     | 2 Credits      | 30                        | 50 (35 External +15 Internal) |
| BBt-207            | Biomathematics and Biostatistics-II | 2 Credits      | 30                        | 50 (35 External +15 Internal) |
| BBt-208            | Computer in biology                 | 2 Credits      | 30                        | 50 (35 External +15 Internal) |

**PRACTICAL**

|                                           |                                                |                   |      |                               |
|-------------------------------------------|------------------------------------------------|-------------------|------|-------------------------------|
| BBt-209                                   | Practical In Chemistry & Biochemistry II       | 1.5 Credits       | 15 P | 50 (35 External +15 Internal) |
| BBt-210                                   | Practical In Plant and Animal science II       | 1.5 Credits       | 15 P | 50 (35 External +15 Internal) |
| BBt-211                                   | Practical In Microbiology & Bioinstrumentation | 1.5 Credits       | 15 P | 50 (35 External +15 Internal) |
| BBt-212                                   | Practical In Computer & Biostatistics          | 1.5 Credits       | 15 P | 50 (35 External +15 Internal) |
| <b>Total Credits (Theory + Practical)</b> |                                                | <b>22 Credits</b> |      |                               |

**B. Sc. Biotechnology (CBCS Semester Pattern)****S. Y. B. Sc. Biotechnology****Semester III**

| Course Code | Course Title                              | Credits   | Number of Lectures | Marks                         |
|-------------|-------------------------------------------|-----------|--------------------|-------------------------------|
| BBt-301     | Cell Biology I                            | 2 Credits | 30                 | 50 (35 External +15 Internal) |
| BBt-302     | Molecular Biology I                       | 2 Credits | 30                 | 50 (35 External +15 Internal) |
| BBt-303     | Genetics                                  | 2 Credits | 30                 | 50 (35 External +15 Internal) |
| BBt-304     | Metabolism                                | 2 Credits | 30                 | 50 (35 External +15 Internal) |
| BBt-305     | Environmental Biotechnology               | 2 Credits | 30                 | 50 (35 External +15 Internal) |
| BBt-306     | Bio analytical Techniques                 | 2 Credits | 30                 | 50 (35 External +15 Internal) |
| EVS-231     | AECC-I Environment science theory paper 1 | 2 Credits | 30                 | 50 (35 External +15 Internal) |
| LA-231      | AECC-II Language theory paper 1           | 2 Credits | 30                 | 50 (35 External +15 Internal) |

**PRACTICAL**

|                                           |                                                                |                   |      |                               |
|-------------------------------------------|----------------------------------------------------------------|-------------------|------|-------------------------------|
| BBt-309                                   | Practical in Cell Biology and Genetics                         | 2 Credits         | 15 P | 50 (35 External +15 Internal) |
| BBt-310                                   | Practical in Bio analytical Techniques                         | 2 Credits         | 15 P | 50 (35 External +15 Internal) |
| BBt-311                                   | Practical in Molecular Biology and Environmental Biotechnology | 2 Credits         | 15 P | 50 (35 External +15 Internal) |
| <b>Total Credits (Theory + Practical)</b> |                                                                | <b>22 Credits</b> |      |                               |

**Semester IV**

| <b>Course code</b> | <b>Course Title</b>                         | <b>Credits</b> | <b>Number of Lectures</b> | <b>Marks</b>                  |
|--------------------|---------------------------------------------|----------------|---------------------------|-------------------------------|
| BBt-401            | Cell Biology II                             | 2 Credits      | 30                        | 50 (35 External +15 Internal) |
| BBt-402            | Molecular Biology II                        | 2 Credits      | 30                        | 50 (35 External +15 Internal) |
| BBt-403            | Immunology                                  | 2 Credits      | 30                        | 50 (35 External +15 Internal) |
| BBt-404            | Animal Development                          | 2 Credits      | 30                        | 50 (35 External +15 Internal) |
| BBt-405            | Plant Development                           | 2 Credits      | 30                        | 50 (35 External +15 Internal) |
| BBt-406            | Microbial Biotechnology                     | 2 Credits      | 30                        | 50 (35 External +15 Internal) |
| EVS- 241           | AECC-III Environment science theory paper 2 | 2 Credits      | 30                        | 50 (35 External +15 Internal) |
| LA-241             | AECC- IV Language theory paper 2            | 2 Credits      | 30                        | 50 (35 External +15 Internal) |

**PRACTICAL**

|                                           |                                                            |                   |      |                               |
|-------------------------------------------|------------------------------------------------------------|-------------------|------|-------------------------------|
| BBt-409                                   | Practical in Molecular Biology and Microbial Biotechnology | 2 Credits         | 15 P | 50 (35 External +15 Internal) |
| BBt-410                                   | Practical in Animal and Plant Development                  | 2 Credits         | 15 P | 50 (35 External +15 Internal) |
| BBt-411                                   | Practical in Cell biology and immunology                   | 2 credit          | 15 P | 50 (35 External +15 Internal) |
| <b>Total Credits (Theory + Practical)</b> |                                                            | <b>22 Credits</b> |      |                               |

**B. Sc. Biotechnology (CBCS Semester Pattern)****T. Y. B. Sc. Biotechnology****Semester V**

| <b>Course code</b> | <b>Course Title</b>                                                                           | <b>Credits</b> | <b>Number of Lectures</b> | <b>Marks</b>                  |
|--------------------|-----------------------------------------------------------------------------------------------|----------------|---------------------------|-------------------------------|
| BBt-501            | Industrial Microbiology                                                                       | 2 Credits      | 30                        | 50 (35 External +15 Internal) |
| BBt-502            | R- DNA technology                                                                             | 2 Credits      | 30                        | 50 (35 External +15 Internal) |
| BBt-503            | Plant Tissue Culture                                                                          | 2 Credits      | 30                        | 50 (35 External +15 Internal) |
| BBt-504            | Animal Tissue Culture                                                                         | 2 Credits      | 30                        | 50 (35 External +15 Internal) |
| BBt-505            | Applied biotechnology I                                                                       | 2 Credits      | 30                        | 50 (35 External +15 Internal) |
| BBt-506            | Biodiversity and Systematics                                                                  | 2 Credit       | 30                        | 50 (35 External +15 Internal) |
| BBt-507            | SEC – I : Summer Industrial Internship / Review writing/ Start up Design or Case study Report | 2 Credits      | 30                        | 50 (35 External +15 Internal) |
| BBt-508            | SEC – II : Project formulation and presentation                                               | 2 Credits      | 30                        | 50 (35 External +15 Internal) |

**PRACTICAL**

|                                          |                                                             |                  |      |                               |
|------------------------------------------|-------------------------------------------------------------|------------------|------|-------------------------------|
| BBt-509                                  | Practical in Industrial Microbiology                        | 2 Credits        | 15 P | 50 (35 External +15 Internal) |
| BBt-510                                  | Practical in Plant Tissue Culture and Animal Tissue Culture | 2 Credits        | 15 P | 50 (35 External +15 Internal) |
| BBt-511                                  | Practical in R- DNA technology and Biodiversity             | 2 Credit         | 15 P | 50 (35 External +15 Internal) |
| <b>Total Credit (Theory + Practical)</b> |                                                             | <b>22 Credit</b> |      |                               |

**Semester VI**

| Course code   | Course Title                          | Credits   | Number of Lectures | Marks                          |
|---------------|---------------------------------------|-----------|--------------------|--------------------------------|
| BBt-601       | Enzyme and Enzyme Technology          | 2 Credits | 30                 | 50 (35 External +15 Internal)  |
| BBt-602       | Agriculture Biotechnology             | 2 Credits | 30                 | 50 (35 External +15 Internal)  |
| BBt-603       | Applied Biotechnology II              | 2 Credits | 30                 | 50 (35 External +15 Internal)  |
| BBt-604       | Food and Pharmaceutical Biotechnology | 2 Credits | 30                 | 50 (35 External +15 Internal)  |
| BBt-605       | Bioinformatics                        | 2 Credits | 30                 | 50 (35 External +15 Internal)  |
| BBt-606       | Bio safety and Bioethics and IPR      | 2 Credits | 30                 | 50 (35 External +15 Internal)  |
| BBt-607 & 608 | SEC – III & SEC – IV : Project        | 4 Credit  | 60                 | 100 (70 External +30 Internal) |

**PRACTICAL**

|                                         |                                                           |                  |      |                               |
|-----------------------------------------|-----------------------------------------------------------|------------------|------|-------------------------------|
| BBt-609                                 | Practical in Enzyme Technology                            | 2 Credits        | 15 P | 50 (35 External +15 Internal) |
| BBt-610                                 | Practical in Agriculture Biotechnology and Bioinformatics | 2 Credits        | 15 P | 50 (35 External +15 Internal) |
| BBt-611                                 | Practical in Food and Pharmaceutical Biotechnology        | 2 Credits        | 15 P | 50 (35 External +15 Internal) |
| <b>Total Credit(Theory + Practical)</b> |                                                           | <b>22 Credit</b> |      |                               |

**Note:**

- Each Credit = 15 Lecture
- Each credit will be equivalent to 15 clock hours of teaching and each practical credit is equivalent to 30 clock hours of teaching in a semester.



**Equivalence of previous syllabus along with proposed syllabus:**

| <b>S. No.</b> | <b>Paper Title of Previous Syllabus</b>                     | <b>Equivalent Paper Title of New Syllabus</b>                                                             |
|---------------|-------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|
| <b>1</b>      | Bb- 101 Fundamentals of Chemistry                           | BBt- 101 Fundamentals of Chemistry-I<br>BBt - 201 Fundamentals of Chemistry-II                            |
| <b>2</b>      | Bb- 102 Fundamentals of Physics                             | BBt- 102 Fundamentals of Physics<br>BBt- 203 Bioinstrumentation                                           |
| <b>3</b>      | Bb- 103 Basics of plant and animal sciences                 | BBt- 105 Animal Sciences I<br>BBt - 106 Plant Sciences I                                                  |
| <b>4</b>      | Bb- 104 Mathematics & Statistical Methods for Biologists    | BBt- 108 Biomathematics and Biostatistics-I<br>BBt- 207 Biomathematics and Biostatistics-II               |
| <b>5</b>      | Bb- 105 Fundamentals of Biological Chemistry                | BBt- 103 Biochemistry I<br>BBt- 202 Biochemistry II                                                       |
| <b>6</b>      | Bb- 106 Biophysics & Instrumentation                        | BBt- 104 Biophysics<br>BBt- 203 Bioinstrumentation                                                        |
| <b>7</b>      | Bb- 107 Microbiology                                        | BBt- 107 Microbiology I<br>BBt- 207 Microbiology II                                                       |
| <b>8</b>      | Bb- 108 Computers and applications                          | BBt- 208 Computer in Biology<br>BBt- 108 Biomathematics and Biostatistics-I                               |
| <b>9</b>      | Bb- 109 Practical in Chemistry & Biochemistry               | BBt- 109 Practical In Chemistry and Biochemistry I<br>BBt- 209 Practical In Chemistry and Biochemistry II |
| <b>10</b>     | Bb- 110 Techniques in Physics, Biophysics & Instrumentation | BBt- 112 Practical In Physics and Biophysics<br>BBt-211 Practical In Microbiology & Bioinstrumentation    |
| <b>11</b>     | Bb- 111 Laboratory Exercises in Biosciences                 | BBt- 110 Practical In Plant and animal science<br>BBt- 111 Practical In Microbiology                      |
| <b>12</b>     | Bb- 112 Quantitative Methods in Biology                     | BBt-212 Practical In Computer & Biostatistics                                                             |

**Course Code: BBt-101 Fundamentals of Chemistry-I (2 Credit Course)****Total Lectures=30**

| Unit | Topics                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | No. of Lectures |
|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| I    | <b>Atomic Structure</b><br>Historical background electronic structure of atom, atomic & molecular orbitals, Shapes of atomic orbitals molecular orbital method, selection rules to find electronic configuration of elements.                                                                                                                                                                                                                                                                                                  | 4               |
| II   | <b>Molecules</b><br>Diatomic molecules, Valence bond theory, VSEPR theory, hybridization involving s, p, d, orbitals(sp,sp <sup>2</sup> ,sp <sup>3</sup> ,dsp <sup>2</sup> ,sp <sup>2</sup> d,sp <sup>3</sup> d,sp <sup>3</sup> d <sup>2</sup> ), homo and heteronuclear diatomic molecules, bond order, magnetic properties                                                                                                                                                                                                   | 6               |
| III  | <b>Chemical Bonding</b><br>Types of bond covalent, ionic, hydrogen bonding, inter and intramolecular hydrogen bonding, dipole- dipole, dipole-induced dipole interaction, structure of water molecule, oxidation state. Hydrophobic & hydrophilic interaction,                                                                                                                                                                                                                                                                 | 6               |
| IV   | <b>Thermodynamics-</b><br>Types of systems, intensive and extensive properties, equilibrium and non-equilibrium states, reversible and irreversible processes, laws of thermodynamics, internal energy, enthalpy, entropy Endothermic and exothermic reactions, free energy and work, Gibb's Helmholtz equations, ATP and its role in bioenergetics, biological oxidation reduction reactions(in terms of electrons),                                                                                                          | 8               |
| V    | <b>Basics of Organic &amp; Stereochemistry-IUPAC nomenclature,</b><br>Reactions of functional groups- Alkane, Alkene, alkyne, alcohol, amines, alkyl halides, ether.<br>Organic reactions- oxidation, reduction, elimination, addition, substitution ( electrophilic/ Nucleophilic)<br>Conformations, configurations, isomerism (structural and stereoisomers), Enantiomers ,Chiral centers, Geometric isomers<br>Newman's & Fisher Projection formulae, epimers, anomers, furanose and pyranose form, free radical reactions. | 6               |

**Recommended Textbooks and References:**

1. General Chemistry , 1st edition (2000), C.N. R. Rao, Macmillan Publishers, India.
2. Principles of Physical Chemistry, 4th edition (1965), S.H. Maron and C.F. Prutton, Collier Macmillan Ltd
3. The elements of Physical Chemistry, 5th edition (2009), Atkins P, de Paula J. , W. H. Freeman Publication, USA
3. An Introduction to Electrochemistry, edition reprint, 2011, Samuel Glasstone, biblioBazaar, USA
4. Physical Chemistry for biological sciences, 1st edition, (2005), Chang R., University Science Books, USA
6. Physical Chemistry, 1st edition, (2003) David Ball, Thoson Learning, USA.

5. Essentials of Physical Chemistry, 24th edition, (2000), B S Bahl, G D Tuli, ArunBahl, S. Chand Limited, India.
6. Concise Inorganic Chemistry. 5th edition (2008), Author: J. D. Lee, John Wiley & Sons, USA.
7. Organic Chemistry, 6 th edition, (1992), Morrison Robert Thornton, Pearson Publication, Dorling Kindersley (India Pvt. Ltd.)
8. Guide book to Mechanism in Organic Chemistry by Peter Sykes, 6 th edition, (1996), Prentice Hall, India.

**Course Code: BBt-102 Fundamentals of Physics (2 Credit Course)****Total Lectures=30**

| Unit | Topics                                                                                                                                                                                                                                                                                                                                                                                                           | No. of lectures |
|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| I    | <b>Measurements:</b> Physical quantities, fundamental and derived units, System of Units, order of magnitude. Length: radius of proton to astronomical distances. Mass: atomic mass unit to mass of Earth. Time: fast elementary particle to age of Earth. Amount of substance. Luminous intensity. Inter-conversion of units.                                                                                   | 4               |
| II   | <b>Fluid mechanics:</b> Fluids: Definition, Pressure, density. Variation of pressure with depth in a fluid at rest. Measurement of pressure. Various units of pressure and their inter conversion. Streamline and turbulent flow. Equation of continuity. Flow of liquids through capillaries. Viscosity, Newton's law of viscosity, coefficient of viscosity. Ostwald's viscometer. Relevance to life sciences. | 5               |
| III  | <b>Surface Tension:</b> Surface tension and surface energy. Cohesive and adhesive forces. Capillary action, angle of contact, wettability. Factors affecting surface tension. Applications. Relevance to life sciences.                                                                                                                                                                                          | 5               |
| IV.  | <b>Waves and oscillations:</b> Difference. Types of waves (transverse and longitudinal). Reflection of waves. Principle of superposition of waves. Standing and travelling waves. Sound waves as pressure waves. Audible, ultrasonic, and infrasonic waves. Characteristics of sound waves. Beats. Doppler Effect. Applications in life sciences.                                                                | 8               |
| V    | <b>Geometrical Optics:</b> Reflection, Refraction (Snell's Law). Types of lenses, combinational lenses, radius of curvature, focal length, Lens maker equation. Microscopes. Optical power, diopter. Magnification. Mirrors. Aberrations.                                                                                                                                                                        | 8               |

**Recommended Textbooks and References**

1. Concepts of Physics. Volume I and Volume II. (2010). H. C. Verma.
2. Fundamentals of Physics, 9<sup>th</sup> edition (2010). David Halliday, Robert Resnick, Jearl Walker.
3. Sears and Zeemansky's University Physics, 13<sup>th</sup> edition (2012). Hugh Young, Roger Freedman, A. Lewis Ford.
4. A Textbook of Optics (2001). Dr. N. Subrahmanyam, BrijLal, Dr. M. N. Avadhanulu. By S. Chand publications.

**Course Code: BBt-103 Biochemistry I (2 Credit Course)****Total Lectures=30**

| Unit | Topics                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Lectures |
|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| I    | <b>Historical perspective:</b> <ul style="list-style-type: none"> <li>Origin of life, abiotic production of biomolecules, cellular and chemical foundation of life.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 3        |
| II   | <b>Water:</b> <ul style="list-style-type: none"> <li>Properties of water, Hydrogen bonding, ionization of water, interaction of biological molecules in water, osmosis, pH, titration curves, buffers, Biological buffers.</li> <li>Types of bond, Covalent and noncovalent interactions in biomolecules with suitable example, functional groups and modification of functional group relevant to biomolecules.</li> </ul>                                                                                                                                                                                                                                                                      | 8        |
| III  | <b>Carbohydrates:</b> <ul style="list-style-type: none"> <li>Classification of carbohydrates, sugars and nonsugars, Monosaccharides: Oligosaccharides and Polysaccharide.</li> <li>Monosaccharides: Structure &amp; properties of Monosaccharides, ketoses and aldoses D and L configuration, mutarotation, epimers, anomers, chemical and physical properties; glycosidic bond,</li> <li>Oligosaccharides: reducing and non-reducing sugars inversion of sugar</li> <li>Polysaccharides and its classification based on function<br/>Storage polysaccharide: eg starch, glycogen and inulin<br/>Structural polysaccharides: eg. cellulose, chitin</li> <li>Functions of Carbohydrate</li> </ul> | 10       |
| IV   | <b>Lipid:</b> <ul style="list-style-type: none"> <li>Classification of lipids: Simple &amp; complex lipids, fatty acids.</li> <li>Structure &amp; chemical and physical properties,</li> <li>Complex lipids: Triacylglycerol, Sphingolipids, Phospholipids and Glycolipids. Steroids.</li> <li>Lipoproteins</li> <li>Storage and structural lipids.</li> <li>Function of lipids</li> </ul>                                                                                                                                                                                                                                                                                                       | 9        |

**Recommended Textbooks and References**

1. Outlines of Biochemistry: 5th Edition, (2009), Erice Conn & Paul Stumpf ; John Wiley and Sons, USA
2. Fundamentals of Biochemistry. 3rd Edition, (2008), Donald Voet& Judith Voet , John Wiley and Sons, Inc. USA
3. Principles of Biochemistry, 4th edition (1997), Jeffery Zubey, McGraw-Hill College, USA

4. Biochemistry: 7th Edition, (2012), Jeremy Berg, Lubert Stryer, W.H. Freeman and company, NY
5. Lehninger , Principles of Biochemistry. 5th Edition (2008), David Nelson & Michael Cox, W.H. Freeman and company, NY.
6. Biochemistry. 5th Edition, (copu right 2013), Reginald Garrett and Charles Grisham, Brook/Cole, Cengage Learning, Boston, USA.
7. An Introduction to Practical Biochemistry. 3rd Edition, (2001), David Plummer, Tata McGraw Hill Edu. Pvt. Ltd. New Delhi, India
8. Biochemical Methods. 1st , (1995), S. Sadashivam, A. Manickam, New Age International Publishers, India

**Course Code: BBt-104 Biophysics (2 Credit Course)****Total Lectures=30**

| Unit | Topics                                                                                                                                                                                                                                                                                                                                                                                                                     | No. of lectures |
|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| I    | <b>Structure:</b> Introduction, Scope and definition of Biophysics. Biophysics at macroscopic, microscopic level and at the molecular level.                                                                                                                                                                                                                                                                               | 2               |
| II   | <b>Atomic structure:</b> Historical background, Bohr model. Significance of second and third postulate of Bohr's model. Derivation of radius and energy value. Quantization of energy levels. Vector atom model. Quantum numbers. Selection rules. Pauli's exclusion principle. Emission spectra with respect to Na atoms to understand selection rules.                                                                   | 7               |
| III  | <b>Radioactivity:</b> Nucleus, Properties. Nuclear forces. Nuclear models (liquid drop and shell model). Radioactive nucleus. Nuclear radiations and their properties - alpha, beta and gamma. Half life, physical and biological handling of alpha and beta emitting isotopes. GM counter- Principle, construction and working .                                                                                          | 7               |
| IV.  | <b>Cell membrane:</b> Organization of plasma membrane. diffusion-basics. Passive and active transport. Membrane potential, Nernst equation. Passive electrical properties of cell (capacitance, resistance). Active electrical properties. Electrical model (equivalent) of cell membrane. Depolarization, hyperpolarization of membrane (neuronal). Generation of action potential. Biopotentials : types and measurement | 8               |
| V    | <b>Biophysical properties:</b> Surface tension, adsorption, diffusion, osmosis, dialysis and colloids                                                                                                                                                                                                                                                                                                                      | 6               |

**Recommended Textbooks and References:**

1. Biophysics, an introduction. 1st edition. (2002) Cotteril R. John Willey and Sons Ltd., USA
2. Biophysics. 1st edition (2002), Pattabhi V and Gautham N. Kluwer Academic Publisher, USA.
3. Textbook of optics and atomic physics, 8th edition (1989) P.P. Khandelwal, Himlaya Publishing House, India.
4. Instrumentation measurements and analysis – 2nd edition (2003). Nakra and Choudhari, Tata McGraw Hill, India.
5. Nuclear Physics: An Introduction. 2nd edition (2011). S. B. Patel. Anshan Publication, India
6. Skoog & Lerry, Instrumental Methods of Analysis, Saunders College Publications, New York
7. H. H. Willard, Instrumental Methods of Analysis, CBS Publishers.
8. D.C. Harris, Quantitate Chemical Analysis, W. H. Freeman
9. Christian G.D, Analytical Chemistry, John & Sons, Singapore
10. Skoog, West and Holler, Analytical Chemistry, Saunders College Publications, New York

- 11 Vogel's Textbook of Qualitative Chemical Analysis, ELBS
12. J.A. Dean, Analytical Chemistry Notebook, McGraw Hill
13. John H. Kennedy, Analytical Chemistry: Principles, Saunders College Publication
14. W. Kemp, Organic Spectroscopy, ELBS
15. Hand book of Instrumental Techniques for Analytical Chemistry, Frank Settle, editor, Prentice Hall



**Course Code: BBT-105 Animal Sciences I (2 Credit Course)****Total Lectures=30**

| Unit       | Topics                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | No. of lectures |
|------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| <b>I</b>   | <b>Introduction to Kingdom Animalia</b> <ul style="list-style-type: none"> <li>Outline classification of non-chordates with examples</li> <li>Kingdom Protista General characters and classification up to classes; Locomotory Organelles and locomotion in Protozoa</li> <li>Phylum Porifera General characters and classification up to classes; Canal System in Sycon</li> <li>Phylum Cnidaria General characters and classification up to classes; Polymorphism in Hydrozoa</li> <li>Phylum Platyhelminthes General characters and classification up to classes</li> <li>Phylum Nemathelminthes General characters and classification up to classes</li> <li>Phylum Annelida General characters and classification up to classes</li> <li>Phylum Arthropoda General characters and classification up to classes; Metamorphosis in Insects(Drosophila)</li> <li>Phylum Mollusca General characters and classification up to classes</li> <li>Phylum Echinodermata General Characters and classification up to classes; Water-vascular system in Asteroidea.</li> </ul> | <b>6</b>        |
| <b>II</b>  | <b>Outline classification of chordates with examples</b> <ul style="list-style-type: none"> <li>Protochordates General features and examples</li> <li>Agnatha General features of Agnatha and classification of cyclostomes</li> <li>Pisces General features and Classification up to classes</li> <li>Amphibia General features and Classification up to classes</li> <li>Reptiles General features and Classification up to classes</li> <li>Aves General features and Classification up to classes</li> <li>Mammals General features and Classification up to classes</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <b>6</b>        |
| <b>III</b> | <b>Animal Tissues:(Histology)</b> <ul style="list-style-type: none"> <li>Structure, location, classification and functions of epithelial tissue, connective tissue, muscular tissue and nervous tissue</li> <li>Bone and Cartilage - Structure and types of bones and cartilages</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <b>6</b>        |
| <b>IV</b>  | <b>Introduction to Invertebrate and vertebrate model system</b> <ul style="list-style-type: none"> <li>Type of Invertebrate: i. Hydra ii. celegans iii. Drosophila iv. Honey bee: <i>Apis</i> sp.</li> <li>I Morphology</li> <li>ii. Mouthparts, sting apparatus</li> <li>iii. Social organization</li> <li>iv. Communication in Bees Type: <ul style="list-style-type: none"> <li>Vertebrate <ul style="list-style-type: none"> <li>Frog/Toad</li> </ul> </li> </ul> </li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <b>12</b>       |

**Recommended Textbooks and References**

1. Jordan, E.L. and Verma P.S. 1978, (i) Chordate Zoology S. Chand &amp; Company

Ltd. Ram Nagar. New Delhi.

2. Jordan, E.L. and Verma P.S. 1978 (ii) Invertebrate Zoology. S. Chand & Company Ltd. Ram Nagar. New Delhi.

3. Modern Text Book of Zoology: Invertebrates., R.L. Kotpal. Publisher, Rastogi Publications, 2012.

**Course Code: BBt-106 Plant Sciences I (2 Credit Course)****Total Lectures=30**

| <b>Unit</b> | <b>Topics</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <b>No. of lectures</b> |
|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| <b>I</b>    | <b>Introduction to plant world &amp; classification</b> <ul style="list-style-type: none"> <li>• General &amp; Unique features of plants</li> <li>• Principles, aims and objectives of plant classification , outline of the classification with example</li> <li>• A general account of different groups and their characters with one example each of Algae, Fungi, Bryophytes, Pteridophytes, Gymnosperms</li> <li>• Angiosperms – Characteristic features of Dicot and Monocot</li> </ul> | <b>10</b>              |
| <b>II</b>   | <b>Structure of Plant organs</b> <ul style="list-style-type: none"> <li>• Structure of plant Cell, characteristic feature and cell wall</li> <li>• Morphology &amp; modifications of</li> <li>• Vegetative plant organ : Stem , Leaf and Root</li> <li>• Reproductive plant organs – Flower &amp; Types of Inflorescence</li> </ul>                                                                                                                                                           | <b>8</b>               |
| <b>III</b>  | <b>Internal structure of plant organs</b> <ul style="list-style-type: none"> <li>• Plant Tissues and tissue systems,</li> <li>• Meristematic Tissue and its Type - with example</li> <li>• Permanent Tissue - Simple and Complex - with example</li> </ul>                                                                                                                                                                                                                                    | <b>4</b>               |
| <b>IV.</b>  | <b>Internal organization of plant body</b> <ul style="list-style-type: none"> <li>• Primary structure of shoot, root &amp; leaf.</li> <li>• Secondary growth, growth rings formation: cambium and its activities, periderm- cork cambium, secondary cortex and cork.</li> </ul>                                                                                                                                                                                                               | <b>8</b>               |

**Recommended Textbooks and References**

1. Dutta A.C. (2000) A Classbook of Botany (Oxford University Press, UK)
2. Ganguli, Das Dutta (2011) – College Botany Vol I, II and III (New Central Book Agency, Kolkata)
3. Esau K. (1977) Anatomy of seed plants (Wiley, USA)
4. Fahn, A. 1974 Plant Anatomy. Pergmon Press, USA and UK.

**Course Code: BBt-107 Microbiology I****(2 Credit Course)  
Total Lectures=30**

| <b>Unit</b> | <b>Topics</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <b>No. of lectures</b> |
|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| <b>I</b>    | <b>Introduction to Microbial World:</b> <ul style="list-style-type: none"> <li>History of Microbiology, Abiogenesis vs Biogenesis, Discovery of Microorganisms, Germ theory of diseases, Koch's postulates, Pre golden era, Golden Era, post golden Era, Contributions of various scientists in path breaking discoveries, inventions and Product Development.</li> <li>General Characters and their importance of Prokaryotes, Eubacteria, Archaeobacteria, Eukaryotic Microorganisms-(Fungi, Algae, protozoa) , Viruses, viroid and prions.</li> <li>Importance of study of Microbiology and relevance in Biotechnology (Brief discussion of application of Microbiology in various fields)</li> </ul> | <b>8</b>               |
| <b>II</b>   | <b>Classification of Microorganisms:</b> <ul style="list-style-type: none"> <li>All 5 major groups of microorganisms, Similarities and dissimilarities in relation to evolution.</li> <li>Difference between Prokaryotic and Eukaryotic organisms.</li> <li>Bacterial Classification: Bergey's Manual of Systemic Bacteriology</li> </ul>                                                                                                                                                                                                                                                                                                                                                                | <b>4</b>               |
| <b>III</b>  | <b>Bacterial cell structure:</b> <ul style="list-style-type: none"> <li>Ultrastructure of Bacteria- Cell wall (Gram Positive and Gram negative), Cell Membrane,</li> <li>Capsule, Flagella, Pili, slime layer, Ribosome, Nucleoid, Mesosomes, Endospore, Cell inclusions (Gas vesicles, carboxysomes, magnetosomes, PHB granules, Glycogen bodies, metachromatic granules)</li> </ul>                                                                                                                                                                                                                                                                                                                    | <b>8</b>               |
| <b>IV.</b>  | <b>Observation of Microorganisms:</b> <ul style="list-style-type: none"> <li>Bright field Microscope, Dark Field Microscope, Magnification, Resolution, Numerical aperture, Sample Preparation</li> <li>Wet Mount, hanging drop technique</li> <li>Theory of staining: Classification of stains, Stain (Basic and Acidic), Fixative, Mordant, Decoloriser, Accentuator</li> <li>Principles and methods of staining techniques for following (Monochrome, Negative, Differential (Gram, Acid fast ), Special staining- Endospore, flagella, cell wall, nucleic acid, capsule)</li> </ul>                                                                                                                  | <b>10</b>              |

**Recommended Textbooks and References**

1. Ingraham J. L. and Ingraham C.A. (2004). Introduction to Microbiology. 3rd Edition. Thomson Brooks / Cole.
2. Madigan M.T., Martinko J.M. (2006). Brock's Biology of Microorganisms. 11th Edition. Pearson Education Inc.
3. Prescott L.M., Harley J.P., AND Klein D.A. (2005). Microbiology, 6th Edition. MacGraw Hill Companies Inc.
4. Salle A.J. (1971) Fundamental Principles of Bacteriology. 7th Edition. Tata MacGraw Publishing Co.
5. Stanier R.Y., Adelberg E.A. and Ingraham J.L. (1987) General Microbiology, 5th Edition. Macmillan Press Ltd.
6. Tortora G.J., Funke B.R., Case C.L. (2006). Microbiology: An Introduction. 8th Edition. Pearson Education Inc.

**Course Code: BBT-108 Biomathematics and Biostatistics-I****(2 Credit Course)  
Total Lectures=30**

| Unit       | Topics                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | No. of lectures |
|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
|            | <b>Mathematics</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                 |
| <b>I</b>   | <b>Fundamentals Mathematical Calculations</b> <ul style="list-style-type: none"> <li>• <b>Exponents &amp; Powers:</b> Definition and Simple Powers with Numbers, Algebraic rules for working with Powers.</li> <li>• <b>Logarithm:</b> Definition, Laws of logarithm and Change of base theorem (without proofs) Examples based on laws.</li> <li>• <b>Permutations &amp; Combinations:</b> Counting Principle, Permutations with Repetitions (like &amp; dislikes), Circular Permutations, Permutations with r-particular things included/excluded.</li> <li>• <b>Co-ordinate geometry</b> – Area of triangle and quadrilateral, equation of straight line – in slope form, intercept form and perpendicular form. Conics (ellipse, parabola, hyperbola).</li> </ul> | <b>8</b>        |
| <b>II</b>  | <b>Matrices:</b> <ul style="list-style-type: none"> <li>• Definition, types of matrices, (zero, Identity, square, unit, scalar, triangular, diagonal, upper triangular, lower triangular, symmetric) Addition of matrices, multiplication of matrices, determinant (singular, non-singular).</li> </ul> <b>Vector spaces</b> <ul style="list-style-type: none"> <li>• Definition of vector spaces (10 axioms), subspace of vector space, linear combination, linear dependence, Independence of vectors, Dot and Cross product, Applications of vectors spaces in biology.</li> </ul>                                                                                                                                                                                 | <b>7</b>        |
|            | <b>Biostatistics</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                 |
| <b>III</b> | <b>Introduction to Statistics</b> <ul style="list-style-type: none"> <li>• Need of Statistics in biology, collection and organisation/classification, summarization and analysis of biological data</li> <li>• Data, Variables, parameters, populations and samples, types of sampling distribution.</li> <li>• Representation of data using frequency distribution diagram, histogram, ogive curves, bar and pie diagrams.</li> </ul>                                                                                                                                                                                                                                                                                                                                | <b>7</b>        |
| <b>IV</b>  | <b>Descriptive biostatistics</b> <ul style="list-style-type: none"> <li>• Measures of Central Tendency: Mean, Mode, Median.</li> <li>• Measures of Variability: Standard deviation, standard error, Range, Mean deviation, Quartile deviation and coefficient of variation.</li> </ul> <b>Correlation and Regression:</b> <ul style="list-style-type: none"> <li>• Positive and negative correlation, calculation of correlation coefficient, regression, linear regression and regression equation.</li> </ul>                                                                                                                                                                                                                                                       | <b>8</b>        |

**Recommended Textbooks and References**

1. Fundamentals of Mathematical Statistics by S.C. Gupta and V. K. Kapoor. Sultan Chand & Co.
2. Discrete Mathematics By B.S. Verma, Vishwa Prakashan.
3. Mathematics for Biological Science by Jagdish Arya & Ladner. 1979. Prentice Hall
4. Introduction to the Practice of Statistics, by David S. Moore, George P. McCabe, and Bruce A. Craig, 9th Edition, W.H. Freeman and Co., New York (2017).
5. Mathematics for Biological Scientists, M. Aitken, B. Broadhursts, S. Haldky, Garland Science (2009).
6. P.S.S. Sunderrao and J. Richards-An introduction to Biostatistics, Prentice Hall Pvt. Ltd. India
7. Fundamentals of Biostatistics. By Irfan A Khan.
8. Campbell R.C.- Statistics for Biologists, Cambridge University Press, Cambridge.

**Course Code: BBt-109 Practical in Chemistry and Biochemistry - I**  
**(1.5 Credit Course)**  
**(Total Practical =15) (15x3 hrs.)**

| Sr.No. | Title of Experiment                                                                                                                                                                           | No. of practical |
|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
|        | <b>Chemistry</b>                                                                                                                                                                              |                  |
| 1.     | Titrations <ul style="list-style-type: none"> <li>To study Acid base titration based by conductivity measurement.</li> <li>To determine alkali content in antacid tablet using HCl</li> </ul> | 1                |
| 2      | Chemical Kinetics : To study kinetics of ester hydrolysis                                                                                                                                     | 1                |
| 3      | Thermochemistry<br>To determine enthalpy and entropy change of a reaction<br>$2\text{FeCl}_3 + 3\text{Mg} \longrightarrow 2\text{Fe} + 3\text{MgCl}_2$                                        | 1                |
| 4      | Hardness of water : To estimate hardness of water by using EDTA                                                                                                                               | 1                |
| 5      | Qualitative analysis : To perform qualitative test for – Hydrocarbons, alcohols, aldehyde, ketones, aniline, amide                                                                            | 1                |
| 6      | pH-metry: To determine the pKa value of a given weak acid by pH-metry titration with strong base.                                                                                             | 2                |
|        | <b>Biochemistry</b>                                                                                                                                                                           |                  |
| 1      | Biochemical Calculations Preparation of solutions, buffers.                                                                                                                                   | 1                |
| 2      | Working of Colorimetry and preparation of standard graph<br>Calculate $\lambda$ max for given sample.                                                                                         | 1                |
| 3      | Isolation & identification of starch from plant source                                                                                                                                        | 1                |
| 4      | Saponification number : To find out saponification number of given lipid                                                                                                                      | 1                |
| 5      | :Qualitative analysis <ul style="list-style-type: none"> <li>Qualitative tests for sugars</li> <li>Qualitative test for Lipids</li> </ul>                                                     | 1                |
| 6      | To estimate concentration of reducing sugar in given sample by DNSA method                                                                                                                    | 1                |
| 7      | Quantitative Estimations :<br>To estimate concentration of cholesterol in given sample.                                                                                                       | 1                |



**Course Code: BBt-110 Practical in Plant and animal Science****(1.5 Credit Course)****Total Practical =15(15x3 hrs.)**

| <b>Sr. No.</b>        | <b>Title of Experiment</b>                                                                                                                               | <b>No. of Practical</b> |
|-----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|
| <b>Plant Science</b>  |                                                                                                                                                          |                         |
| 1                     | Study of Algae, fungi, bryophytes, pteridophytes , gymnosperms with one example each                                                                     | <b>2</b>                |
| 2                     | Study on morphological parameters of angiosperms                                                                                                         | <b>2</b>                |
| 3                     | Study on anatomy of root, stem & leaf of dicot plant                                                                                                     | <b>1</b>                |
| 4                     | Study on anatomy of root, stem & leaf of monocot plant                                                                                                   | <b>1</b>                |
| <b>Animal Science</b> |                                                                                                                                                          |                         |
| 5                     | Study of Paramecium <ul style="list-style-type: none"> <li>• Morphology</li> <li>• Reproduction-Binary fission &amp; Conjugation</li> </ul>              | <b>1</b>                |
| 6                     | Culturing of Paramecium                                                                                                                                  | <b>1</b>                |
| 7                     | Study of Hydra: Permanent slides <ul style="list-style-type: none"> <li>• Morphology</li> <li>• Reproduction</li> <li>• Regeneration in Hydra</li> </ul> | <b>2</b>                |
| 8                     | Study of Drosophila : Characters, sexual dimorphism – eye & wing mutations Life cycle                                                                    | <b>2</b>                |
| 9                     | Culturing Drosophila using standard methods                                                                                                              | <b>1</b>                |

**Course Code: BBt-111 Practical in Microbiology & Biostatistics****(1.5 Credit Course)****(Total Practical =15) (15x3 hrs.)**

| Sr.No. | Title of Experiment                                                                                                                                                                                                                                                                                                                   | No. of practical |
|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
|        | <b>Microbiology</b>                                                                                                                                                                                                                                                                                                                   |                  |
| 1.     | Introduction to Microbiology Laboratory and common microbiology laboratory instruments e.g. Incubator, Hot Air Oven, Autoclave, Colorimeter, pH Meter, Distillation Unit, Chemical Balance, Laminar air flow hood, Clinical Centrifuge                                                                                                | <b>2</b>         |
| 2.     | Handling of Microorganisms and Biosafety measures                                                                                                                                                                                                                                                                                     | <b>1</b>         |
| 3.     | Observation of Microorganisms. <ul style="list-style-type: none"> <li>• Use and Care of Compound Microscope</li> <li>• Wet Mount- pond water, fungal staining</li> <li>• Monochrome staining</li> <li>• Negative staining</li> <li>• Gram's staining</li> <li>• Spore staining</li> <li>• Motility- Hanging drop technique</li> </ul> | <b>5</b>         |
|        | <b>Biostatistics</b>                                                                                                                                                                                                                                                                                                                  |                  |
| 1      | Introduction to MS Excel and use of spreadsheets for data organization and basic mathematics calculations                                                                                                                                                                                                                             | <b>2</b>         |
| 2      | Data representation using various graphical types                                                                                                                                                                                                                                                                                     | <b>1</b>         |
| 3      | Hypothesis testing using 'Data analysis tools': t-test, Chi square test                                                                                                                                                                                                                                                               | <b>2</b>         |
| 4      | Analysis of variance                                                                                                                                                                                                                                                                                                                  | <b>1</b>         |
| 5      | Correlation and regression analysis of data and graphical representation                                                                                                                                                                                                                                                              | <b>1</b>         |

**Course Code: BBt-112 Practical in Physics and Biophysics**  
**(1.5 Credit Course)**  
**Total Practical =13 (13x3 hrs)**

| Sr.No. | Title of Experiment                                                               | No. of Practical |
|--------|-----------------------------------------------------------------------------------|------------------|
|        | <b>Physics</b>                                                                    |                  |
| 1      | Study of Vernier Callipers and Micrometer Screw Gauge                             | 1                |
| 2      | To study the components and working of travelling microscope                      | 1                |
| 3      | Surface-tension measurement: Using Jaeger's method/, soap bubble Method           | 2                |
| 4      | Viscosity measurement using Ostwald's viscometer (for known and Unknown viscosity | 1                |
| 5      | Study the Calibration of Spectrometer.                                            | 1                |
| 6      | To study Plane diffraction grating                                                | 1                |
|        | <b>Biophysics</b>                                                                 |                  |
| 1      | Study the process of Osmosis                                                      | 1                |
| 2      | Determine the surface tension of liquid                                           | 1                |
| 3      | Determination of Diffusion Pressure Deficit using potato tubers                   | 1                |
| 4      | Dialysis                                                                          | 1                |
| 5      | Working of a G.M. counter                                                         | 2                |

**Course Code: BBt-201 Fundamentals of Chemistry-II****(2 Credit Course)****Total Lectures=30**

| Unit       | Topics                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Lectures  |
|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| <b>I</b>   | <b>Ionic equilibria –</b> <ul style="list-style-type: none"> <li>pH, buffer, Equilibrium constant, Le Chatelier's principle, Acid and bases, strength of acid &amp; bases, dissociation constant, pK values, solubility product, Acid–base titrations, indicators used in titrations, Titration curves, Solubility product</li> <li>Ionic product, Condition for precipitation,</li> <li>Handerson Hasselbalch equation &amp; related problems, Osmosis, law of osmotic pressure and its measurement, determination of molecular weight from osmotic pressure</li> <li>Properties of water, water as a reactant, interaction of biomolecules with water</li> </ul> | <b>10</b> |
| <b>II</b>  | <b>Chemical kinetics –</b> <ul style="list-style-type: none"> <li>Rates of reactions, order, zero, first &amp; second order reactions, &amp; molecularity</li> <li>Differential and integrated rate equation</li> <li>Half-life periods, Arrhenius equation, collision theory of reaction rate, temperature dependent reaction rates</li> </ul>                                                                                                                                                                                                                                                                                                                    | <b>6</b>  |
| <b>III</b> | <b>Electrochemistry-</b> <ul style="list-style-type: none"> <li>Electrochemical cell, half cell, reaction, reduction potential, electrochemical series, thermodynamic potential function from cell potential measurement, Liquid junction potential, Huckel theory, overvoltage/overpotential</li> </ul>                                                                                                                                                                                                                                                                                                                                                           | <b>7</b>  |
| <b>IV</b>  | <b>Basics of mole concept</b> <ul style="list-style-type: none"> <li>Mole concept, Determination of molecular weight by gram molecular volume relationship, problems based on mole concept, Solutions, colligative properties,</li> <li>Methods of expressing concentrations, strength, Normality, Molarity and Molality, ppm.</li> <li>Volumetric experiments -acidimetry, alkalimetry, permanganometry, dichrometry, iodometry.</li> </ul>                                                                                                                                                                                                                       | <b>7</b>  |

**Recommended Textbooks and References**

1. University General Chemistry , 1st edition (2000), C.N. R. Rao, Macmillan Publishers, India ,
2. Principles of Physical Chemistry, 4th edition (1965), S.H. Maron and C.F. Prutton, Collier Macmillan Ltd
3. The elements of Physical Chemistry, 5th edition (2009), Atkins P, de Paula J. , W. H. Freeman Publication, USA
4. An Introduction to Electrochemistry , edition reprint, 2011, Samuel Glasstone, BiblioBazaar, USA

5. Physical Chemistry for biological sciences, 1st edition, (2005), Chang R., University Science Books, USA
6. Physical Chemistry, 1st edition, (2003) David Ball, Thoson Learning, USA.
6. Essentials of Physical Chemistry, 24th edition, (2000), B S Bahl, G D Tuli, ArunBahl, S. Chand Limited, India.
7. Concise Inorganic Chemistry.5th edition (2008), Author: J. D. Lee, John Wiley & Sons, USA.
8. Organic Chemistry, 6 th edition, (1992), Morrison Robert Thornton, Pearson Publication, Dorling Kindersley (India Pvt. Ltd.)
9. Guide book to Mechanism in Organic Chemistry by Peter Sykes, 6 th edition, (1996), Prentice Hall, India.

**Course Code: BBt-202 Biochemistry II****(2 Credit Course)  
Total Lectures=30**

| <b>Units</b> | <b>Topics</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <b>Lectures</b> |
|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| <b>I</b>     | <b>Proteins:</b> <ul style="list-style-type: none"> <li>• Functions of proteins,</li> <li>• Polymer of amino acids, Classification of amino acids,</li> <li>• Chemistry of amino acids: Ionisation of amino acid side chains, Configuration, zwitterion, reactions of amino acids, titration of amino acid, Isoelectric pH.</li> <li>• Protein structure: ,Primary structure and peptide bond formation , Secondary structure, secondary repeats Tertiary and Quarternary structure (eg. Haemoglobin).</li> <li>• Protein denaturation and renaturation.</li> </ul> | <b>10</b>       |
| <b>II</b>    | <b>Vitamins :</b> <ul style="list-style-type: none"> <li>• Classification, Structure and Biochemical functions of fat soluble and water soluble Vitamins.</li> <li>• Coenzymes: Thiamine , Riboflavin, Niacin, PIP, Coenzyme A, lipoic acid ,Folic acid and B12.</li> </ul>                                                                                                                                                                                                                                                                                         | <b>6</b>        |
| <b>III</b>   | <b>Enzymes:</b> <ul style="list-style-type: none"> <li>• General properties &amp; classification of enzymes</li> <li>• Biocatalyst, Active site, Specificity, Energy of activation, Reaction Rate. Rate law for enzyme catalyzed reaction</li> <li>• Enzyme units, specific activity, turnover number.</li> <li>• Lock and key, Induced fit hypothesis.</li> <li>• Parameters affecting enzyme activity(temp, pH, substrate, cofactor, enzyme con.)</li> <li>• Enzyme inhibition</li> </ul>                                                                         | <b>8</b>        |
| <b>IV</b>    | <b>Nucleic acids:</b> <ul style="list-style-type: none"> <li>• Purine, Pyrimidines, Nucleosides, Nucleotides, Polynucleotide.</li> <li>• Nucleoproteins</li> <li>• Covalent structure of DNA and RNA</li> <li>• Forces stabilizing nucleic acid structure</li> <li>• Properties of Nucleic Acid.</li> <li>• Denaturation &amp; renaturation of Nucleic Acids.</li> <li>• Different forms of DNA</li> </ul>                                                                                                                                                          | <b>6</b>        |

**Recommended Textbooks and References**

1. Outlines of Biochemistry: 5th Edition, (2009), Erice Conn & Paul Stumpf ; John Wiley and Sons, USA
2. Fundamentals of Biochemistry. 3rd Edition, (2008), Donald Voet& Judith Voet , John Wiley and Sons, Inc. USA
3. Principles of Biochemistry, 4th edition (1997), JefforyZubey, McGraw-Hill College, USA

4. Biochemistry:7th Edition, (2012), Jeremy Berg, Lubert Stryer, W.H. Freeman and company, NY
5. Lehninger , Principles of Biochemistry. 5th Edition (2008), David Nelson & Michael Cox, W.H. Freeman and company, NY.
6. Biochemistry. 5th Edition, (copu right 2013), Reginald Garrett and Charles Grisham, Brook/Cole, Cengage Learning, Boston, USA.
7. An Introduction to Practical Biochemistry.3rd Edition, (2001), David Plummer, Tata McGraw Hill Edu.Pvt.Ltd. New Delhi, India
8. Biochemical Methods.1st , (1995), S.Sadashivam, A.Manickam, New Age International Publishers, India

**Course Code: BBt-203 Bioinstrumentation****(2 Credit Course)  
Total Lectures=30**

| Unit | Topics                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | No. of lectures |
|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| I    | <b>Bio instrumentation :</b><br>Introduction, Concepts- Analytical techniques                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 2               |
| II   | <b>Spectroscopy:</b> <ul style="list-style-type: none"> <li>• Definition. Electromagnetic wave. Electromagnetic spectrum. Applications of each region of electromagnetic spectrum for spectroscopy.</li> <li>• Lambert-Beer's Law, types of sources, Instrumentation of single beam and double beam instrument. Introduction to molecular energy levels. Excitation. Absorption. Emission. Rotational spectra. Energy levels of rigid diatomic molecules.</li> <li>• Electron spectroscopy. UV-visible spectroscopy. Principle, construction and working of colorimeter, Spectrophotometer. Application to biomolecules (proteins, DNA, Hb, chlorophyll).</li> </ul> | 8               |
| III  | <b>Separation methods:</b> Theory of chromatography; instrumentation and applications of Thin layer chromatography (TLC)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 2               |
| IV.  | <b>Bioinstruments:</b> Concepts- Analytical techniques, .Principle construction, working and applications for analysis of biomolecules of following instruments. <ul style="list-style-type: none"> <li>• <b>pH meter</b>, isoelectric pH.</li> <li>• <b>Centrifuge</b> (RCF, sedimentation concept), different types of centrifuges. different rotors, differential and density gradient centrifugation, analytical ultra-centrifugation, determination of molecular weights and other applications,</li> <li>• <b>Mass spectroscopy</b> (Bainbridge mass spectrometer).</li> <li>• <b>Atomic absorption spectrometer</b> (AAS).</li> </ul>                         | 8               |
| V    | <b>Microscopes:</b><br>Concepts - Resolving power. Construction and working principles of the following microscopes– Stereo zoom (Dissecting), Compound , Light microscopy, Bright & Dark Field microscopy, Inverted, Phase contrast, Fluorescence.                                                                                                                                                                                                                                                                                                                                                                                                                  | 6               |
| VI   | <b>Thermoregulation:</b> Thermometric properties and types of thermometers (clinical, thermocouple, bimetallic, platinum resistance, thermistor - thermometers). Body temperature and its regulation.                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 4               |

**Recommended Textbooks and References**

1. Biophysics, an introduction. 1st edition. (2002) Cotteril R. John Willey and SonsLtd., USA
2. Biophysics. 1st edition (2002), Pattabhi V and Gautham N. Kluwer AcademicPublisher, USA.



3. Textbook of optics and atomic physics, 8th edition (1989) P.P. Khandelwal, Himlaya Publishing House, India.
4. Instrumentation measurements and analysis – 2nd edition (2003). Nakra and Choudhari, Tata McGraw Hill, India.

**Course Code: BBT-204 Animal Sciences II****(2 Credit Course)  
Total Lectures=30**

| Unit | Topics                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | No of lectures |
|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| I    | <b>Animal Physiology I</b> <ul style="list-style-type: none"> <li>Digestion: Structure and function of digestive glands; Digestion and absorption of carbohydrates, fats and proteins</li> <li>Respiratory: Physiology, External and internal Respiration, Transport of oxygen and carbon dioxide in blood, Factors affecting transport of gases.</li> </ul>                                                                                                                                                                                                        | 6              |
| II   | <b>Animal Physiology II</b> <ul style="list-style-type: none"> <li>Functioning of Excitable Tissue (Nerve and Muscle) Structure of neuron, Propagation of nerve impulse (myelinated and non-myelinated nerve fibre); Structure of skeletal muscle, Mechanism of muscle contraction (Sliding filament theory), Neuromuscular junction</li> <li>Endocrine and Reproductive Physiology Structure and function of endocrine glands (pituitary, thyroid, parathyroid, pancreas, adrenal, ovaries, and testes), Brief account of spermatogenesis and oogenesis</li> </ul> | 6              |
| III  | <b>Parasitology</b> <ul style="list-style-type: none"> <li>Introduction to Host-parasite Relationship Host, Definitive host, Intermediate host, Parasitism, Symbiosis, Commensalism</li> <li>Parasitic Protozoa Life history and pathogenicity of <i>Plasmodium vivax</i></li> <li>Parasitic Helminthes Life history and pathogenicity of <i>Fasciola hepatica</i></li> <li>Parasitic Helminthes Life history and pathogenicity of <i>Taenia sp.</i></li> </ul>                                                                                                     | 10             |
| IV   | <b>Economic Zoology</b> <ul style="list-style-type: none"> <li>Vermiculture</li> <li>Aquaculture</li> <li>Sericulture</li> <li>Apiculture</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                | 8              |

**Recommended Textbooks and References**

1. Economic Zoology, Shukla & Upadhyaya, 4th Edition., Rastogi Publications, 2009.
2. Modern Parasitology: A Textbook of Parasitology, 2nd edition, (1993) F. E. G. Cox, Wiley & Sons, USA
3. Guyton, A.C. & Hall, J.E. (2006). Textbook of Medical Physiology. XI Edition. Hercourt Asia PTE Ltd. / W.B. Saunders Company.
4. Tortora, G.J. & Grabowski, S. (2006). Principles of Anatomy & Physiology. XI Edition John Wiley & son

**Course Code: BBt-205 - Plant sciences II****(2 Credit Course)  
Total Lectures=30**

| Unit       | Topics                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | No. of lectures |
|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| <b>I</b>   | <b>Plant water relationship and its importance</b> <ul style="list-style-type: none"> <li>• Definition, significance and mechanism: <ul style="list-style-type: none"> <li>i. Permeability</li> <li>ii. Diffusion&amp; imbibition</li> <li>iii Osmosis &amp; its types</li> </ul> </li> <li>• Relation between osmotic pressure (OP),turgor pressure(TP) and wall pressure (WP) , DPD (Suction pressure)</li> <li>• Absorption and Transport of water</li> <li>• Introduction and mechanism of Ascent of sap - transpiration and guttation, Translocation of mineral elements. (Capillarity, Imbibition, Atmospheric pressure and Cohesion-tension)</li> </ul> | <b>9</b>        |
| <b>II</b>  | <b>Plant Metabolism:</b> <ul style="list-style-type: none"> <li>• Photosynthesis: - Photosynthesis pigments, concept of two photo systems, photophosphorylation, calvin cycle, CAM plants, photorespiration, compensation point.</li> <li>• Respiration: Mechanism - Glycolysis, Krebs's cycle and ETS</li> <li>• Nitrogen metabolism- inorganic &amp; molecular nitrogen fixation</li> </ul>                                                                                                                                                                                                                                                                  | <b>8</b>        |
| <b>III</b> | <b>Growth and development of plants</b> <ul style="list-style-type: none"> <li>• Essential nutrients for Plant growth and their role</li> <li>• Plant growth regulators</li> <li>• Introduction to physiology of flowering: <ul style="list-style-type: none"> <li>a) Photoperiodism b) Vernalisation</li> </ul> </li> </ul>                                                                                                                                                                                                                                                                                                                                   | <b>8</b>        |
| <b>IV</b>  | <b>Economic importance of plants:</b><br>Cereals, Pulses, Oil seeds, Fiber plants, Medicinal Plants, Timber yielding, Beverages with examples                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <b>5</b>        |

**Recommended Textbooks and References**

1. Devlin R.M. (1983) - Fundamentals of Plant Physiology (Mac. Millan, New York).
2. Salisbury, F.B. and Ross, C.W. 1991 Plant Physiology, Wadsworth Publishing Co. Ltd.
3. Nelson, D.L., Cox, M.M. 2004 Lehninger Principles of Biochemistry, 4th edition, W.H. Freeman and Company, New York, USA.
4. Economic Botany: Hill, A.W ; McGraw Hill Book Co., New York.
5. Economic Botany: Pandey, B.P. ;S.Chand and Co., New Delhi.
6. Economic Botany: Sen, S. ; New Central Book Agency, Calcutta.

**Course Code: BBt-206 Microbiology- II****(2 Credit Course)****Total Lectures=30**

| <b>Unit</b> | <b>Topic</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <b>No. of lectures</b> |
|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| <b>I</b>    | <b>Cultivation, growth and isolation of microorganisms:</b> <ul style="list-style-type: none"> <li>Basic Nutritional (Macro and micro), and environmental requirements (Hydrogen ion concentration, Temperature and Oxygen and other), Nutritional classification of bacteria</li> <li>Design of media (Bacterial and Fungal): Types of media and Composition: Liquid, semi-solid and solid media, Selective media, Enrichment media, Enriched media, differential media, selective and differential media, Minimal media and there uses.</li> <li>Reproduction in microorganisms: Binary Fission and other asexual methods of reproduction, logarithmic representation of bacterial populations, phases of growth, calculation of generation time and specific growth rate.</li> <li>Cultivation –Concept of Pure culture, co-culture and Mixed culture, Colony characteristics.</li> <li>Isolation of microorganisms and pure culture techniques: Streak, Spread, Serial Dilution, Pour plate, Enrichment, Single cell isolation Colony</li> <li>Preservation and Maintenance methods</li> </ul> | <b>15</b>              |
| <b>II.</b>  | <b>Control of microbial growth:</b> <ul style="list-style-type: none"> <li>Definition: Sterilization and Disinfection.</li> <li>Physical Agents – Heat (Dry and Moist heat), pasteurization, Radiation, Filtration</li> <li>Principle and working of Autoclave and Hot air oven.</li> <li>Sterilization Efficiency</li> <li><b>Chemical Agents and their Mode of Action</b> - Aldehydes, Halogens, Quaternary Ammonium Compounds, Phenol and Phenolic Compounds, Heavy Metals, Alcohol, Dyes, and Detergents</li> <li><b>Disinfectant</b>-Characteristics of an Ideal disinfectant, Examples of Disinfectants and Evaluation of Disinfectant</li> <li><b>Antibiotics and other chemotherapeutic agents</b>- Examples and mode of action (one example each), Concept of MIC and MBC</li> </ul>                                                                                                                                                                                                                                                                                                      | <b>12</b>              |
| <b>III.</b> | <b>Microbial Interactions</b> (Any 2 examples each) <ul style="list-style-type: none"> <li>Microbe-Plant,</li> <li>Microbe-Animal</li> <li>Microbe-Microbe interaction</li> <li>Handling of microorganisms and Biosafety measures.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <b>3</b>               |

**Recommended Textbooks and References**

1. Ingraham J. L. and Ingraham C.A. (2004). Introduction to Microbiology. 3rd Edition. Thomson Brooks / Cole.
2. Madigan M.T., Martinko J.M. (2006). Brock's Biology of Microorganisms. 11th Edition. Pearson Education Inc.
3. Prescott L.M., Harley J.P., AND Klein D.A. (2005). Microbiology, 6th Edition. MacGraw Hill Companies Inc.
4. Salle A.J. (1971) Fundamental Principles of Bacteriology. 7th Edition. Tata MacGraw Publishing Co.
5. Stanier R.Y., Adelberg E.A. and Ingraham J.L. (1987) General Microbiology, 5th Edition. Macmillan Press Ltd.
6. Tortora G.J., Funke B.R., Case C.L. (2006). Microbiology: An Introduction. 8th Edition. Pearson Education Inc.

**Course Code: BBt-207 Biomathematics and Biostatistics-II****(2 Credit Course)****Total Lectures=30**

| Unit       | Topics                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | No. of lectures |
|------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
|            | <b>Mathematics</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                 |
| <b>I</b>   | <b>Linear equations</b> <ul style="list-style-type: none"> <li>Homogeneous and non-homogeneous linear equation system</li> <li>Eigen values and Eigen vectors,</li> <li>Applications of linear equations in biology</li> </ul> <b>Differentials equations</b> <ul style="list-style-type: none"> <li>Types (ordinary and partial), order and degree of differential equation.</li> <li>Homogeneous and non-homogeneous differential equation.</li> <li>Applications: growth and decay, law of cooling.</li> </ul>                                                                                    | <b>7</b>        |
| <b>II</b>  | <b>Differential Calculus</b> <ul style="list-style-type: none"> <li>Derivative and its physical significance, derivative of a function, implicit function, basic rules for differentiation, maxima and minima – their applications in biology (wave equation, heat equation, laplace equation).</li> </ul> <b>Integral Calculus</b> <ul style="list-style-type: none"> <li>Integration of functions, basic rules for integration, definite and indefinite integrals, geometric meaning of integration, applications in finding area under curves. Applications of integration in biology.</li> </ul> | <b>8</b>        |
|            | <b>Biostatistics</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                 |
| <b>III</b> | <b>Probability and probability distribution</b> <ul style="list-style-type: none"> <li>Probability theory experiments</li> <li>Discrete random variable, binomial distribution and the poisson distribution, Normal distribution and application in biosciences</li> </ul>                                                                                                                                                                                                                                                                                                                           | <b>8</b>        |
| <b>IV</b>  | <b>Hypothesis testing and correlation</b> <ul style="list-style-type: none"> <li>Purpose of hypothesis testing, data, assumptions and hypothesis, significance level, types of errors</li> <li>Test statistics: Testing mean, testing variance, distribution of test statistics (t and z).</li> <li>Student's t – test, chi square test, ANOVA (One and Two way)</li> </ul>                                                                                                                                                                                                                          | <b>7</b>        |

**Recommended Textbooks and References**

1. Fundamentals of Mathematical Statistics by S.C. Gupta and V.K.Kapoor. Sultan Chand &Co.
2. Discrete Mathematics By B.S. Verma, VishwaPrakashan.
3. Mathematics for Biological Science by JagdishArya& Ladner.1979. Prentice Hall.

4. Thomas' Calculus, by George B. Thomas, Joel Hass, Christopher Heil, Maurice D. Weir, 14<sup>th</sup> edition, Pearson Publishers (2018).
5. Elementary Differential Equations and Boundary Value Problems, by William E. Boyce and Richard C. DiPrima, 10<sup>th</sup> edition, Wiley publication (2012).
6. Introduction to the Practice of Statistics, by David S. Moore, George P. McCabe, and Bruce A. Craig, 9<sup>th</sup> Edition, W.H. Freeman and Co., New York (2017).
7. Mathematics for Biological Scientists, M. Aitken, B. Broadhursts, S. Haldky, Garland Science (2009).
8. Fundamentals of Biostatistics. by Irfan A Khan.
9. P.S.S. Sunderrao and J. Richards-An introduction to Biostatistics, Prentice Hall Pvt. Ltd. India.
10. Differential Calculus by Shanti Narain
11. Integral Calculus by Shanti Narain
12. Differential Equation by A.R. Forsyth

**Course Code: BBT-208 Computers in biology****(2 Credit Course)****Total Lectures=3**

| Unit       | Topics                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | No. of Lectures |
|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| <b>I</b>   | <b>History:</b> <ul style="list-style-type: none"> <li>Generations of computers (I, II, III, IV, V)</li> <li>Modern computers: The workstation, The Minicomputer, Mainframe Computers, Parallel processing Computer &amp; The Super Computer.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <b>2</b>        |
|            | <b>Introduction to computers:</b> <ul style="list-style-type: none"> <li>Overview and functions of a computer system</li> <li>Input and output devices</li> <li>Storage devices: Hard disk, Diskette, Magnetic tape, RAID, ZIP devices, Digital tape, CD-ROM, DVD (capacity and access time)</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <b>3</b>        |
|            | <b>Introduction to operating system:</b> <ul style="list-style-type: none"> <li>Operating system concept-Windows and unix/Linux</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <b>2</b>        |
| <b>II</b>  | <b>Data processing &amp; presentation:</b> <ul style="list-style-type: none"> <li>Introduction : MS office (Word, Excel &amp; Power Point)</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <b>2</b>        |
|            | <b>Computer viruses:</b> <ul style="list-style-type: none"> <li>An overview of Computer viruses</li> <li>What is a virus? Virus symptoms, How do they get transmitted?</li> <li>General Precautions</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <b>3</b>        |
|            | <b>Internet searches:</b> <ul style="list-style-type: none"> <li>Concepts in text-based searching, Searching Medline. Pub Med, bibliographic database</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <b>3</b>        |
| <b>III</b> | <b>Databases</b><br>Introduction & need of databases, Types of databases<br>Basic concepts in: <ul style="list-style-type: none"> <li>Data Abstraction</li> <li>Data Models</li> <li>Instances &amp; Schemes</li> <li>E-R Model (Entity and entity sets; Relations and relationship sets; E-R diagrams; Reducing E-R Diagrams to tables)</li> </ul> Network Data Model: Basic concepts<br>Hierarchical Data Model: Basic concepts<br>Multimedia Database: Basic concepts and Applications<br>Indexing and Hashing <ul style="list-style-type: none"> <li>B + Tree indexed files</li> <li>B Tree indexed files</li> <li>Static Hash functions</li> <li>Dynamic Hash functions</li> </ul> Text Databases<br>Introduction & Overview of Biological database, Types of Biological Database | <b>9</b>        |



|           |                                                                                                  |          |
|-----------|--------------------------------------------------------------------------------------------------|----------|
| <b>IV</b> | <b>Bioinformatics:</b> Introduction to bioinformatics, History, Goals, Relation to other fields. | <b>6</b> |
|-----------|--------------------------------------------------------------------------------------------------|----------|

**Recommended Textbooks and References**

1. Bioinformatics –Principles and Applications by ZhumurGhosh, BibekanandMallick-Oxford university press
2. Introduction to Bioinformatics by Teresa Attwood and David.J.Parry Smith- Pearson education
3. Computer Fundamentals , 4th edition (2004) P.K. Sinha, BPB publication, India
4. Computer Networks. 4th edition (2008). Tanenbaum. Pearson Education, India
5. Introduction To Database Management Systems, 1st edition, (2004), AtulKahate, Pearson education, India.

**Course Code: BBT-209 Practical in Chemistry and Biochemistry– II**

**(1.5 Credit Course)**  
**(Total Practical =15) (15x3 hrs.)**

| Sr.No. | Title of Experiment                                                                                                                                                                                    | No. of Practical |
|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
|        | <b>Chemistry</b>                                                                                                                                                                                       |                  |
| 1.     | Viscometer : To determine viscosity of a given liquid by Ostwald's viscometer                                                                                                                          | 1                |
| 2      | Titration : To determine content of acetic acid in vinegar using NaOH                                                                                                                                  | 1                |
| 3      | Titration : To determine normality/molarity using acid base volumetric titration                                                                                                                       | 2                |
| 4      | Stereochemistry : To study different conformations of biomolecules using models                                                                                                                        | 1                |
| 5      | Separation techniques : <ul style="list-style-type: none"> <li>To study Separation Techniques like Recrystallization, distillation, sublimation,</li> <li>To separate plant pigments by TLC</li> </ul> | 2                |
|        | <b>Biochemistry</b>                                                                                                                                                                                    |                  |
| 6      | Estimations : <ul style="list-style-type: none"> <li>Estimation of concentration of protein by Biuret method</li> <li>Estimation of concentration of protein by Lowery's method</li> </ul>             | 2                |
| 7      | Estimation of concentration of cholesterol                                                                                                                                                             | 1                |
| 8      | Melting temperature of nucleic acid : To determine $T_m$ of DNA                                                                                                                                        | 1                |
| 9      | Thin layer chromatography : To separate amino acids and sugars by thin layer chromatography (TLC)                                                                                                      | 2                |
| 10     | Enzyme activity : To find out enzyme activity (amylase)                                                                                                                                                | 1                |

**Course Code: BBt-210 Practical in Plant and Animal sciences II****(1.5 Credit Course)****Total Practical =15(15x3 Hrs.)**

| Sr.No.                 | Title of Experiment                                                                                                           | No. of Practical |
|------------------------|-------------------------------------------------------------------------------------------------------------------------------|------------------|
| <b>Plant Sciences</b>  |                                                                                                                               |                  |
| 1                      | Study the process of Osmosis and Turgor pressure and determination of Diffusion Pressure Deficit                              | 1                |
| 2                      | Determination of rate of respiration                                                                                          | 1                |
| 3                      | Estimation of chlorophyll content in photosynthesizing and non-photosynthesizing leaf                                         | 1                |
| 4                      | Effect of plant growth regulators on germination of seed                                                                      | 1                |
| 5                      | Studies on economically important plants: Students should prepare herbarium specimens with their uses                         | 2                |
| <b>Animal Sciences</b> |                                                                                                                               |                  |
| 6                      | Study and Dissection of Honey Bee , Mounting of Mouth parts, pollen basket, Antenna Cleaner, Sting Apparatus , legs and wings | 2                |
| 7                      | Study of <i>Plasmodium sps.</i>                                                                                               | 1                |
| 8                      | Study of <i>Fasciola sp.</i>                                                                                                  | 1                |
| 9                      | Enumeration of red blood cells using haemocytometer.                                                                          | 1                |
| 10                     | Collection ,Classification and preservation of Insects                                                                        | 2                |

**Course Code: BBT-211: Practical in Microbiology II and Bioinstrumentation****(1.5 Credit Course)  
(12-15 Practical (15x3 hrs.))**

| Sr. No.                   | Title of Experiment                                                                                                                                                                                                                                            | No. of Practical |
|---------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| <b>Microbiology</b>       |                                                                                                                                                                                                                                                                |                  |
| 1                         | <b>Preparation of Media and Glassware</b> <ul style="list-style-type: none"> <li>Bacterial growth media- Nutrient broth, Nutrient agar plates, butts and slants, MacConkey's agar plates.</li> <li>Fungal growth media- potato dextrose agar plates</li> </ul> | 1                |
| 2.                        | Aseptic transfer techniques                                                                                                                                                                                                                                    | 1                |
| 3.                        | Demonstration of microbes in air, on table surface, finger tips on nutrient media.                                                                                                                                                                             | 1                |
| 4.                        | <b>Cultivation of microorganisms:</b><br>Isolation and purification of bacteria by streak plate technique                                                                                                                                                      | 1                |
|                           | <b>Enumeration of bacteria by using following techniques:</b> <ul style="list-style-type: none"> <li>Spread plate</li> <li>Serial dilution and Pour plate</li> <li>Neubauer's chamber (yeast cells)</li> </ul>                                                 | 4                |
| <b>Bioinstrumentation</b> |                                                                                                                                                                                                                                                                |                  |
| 1                         | Working and components of various types of Centrifuges                                                                                                                                                                                                         | 1                |
| 2                         | Microscopy – Components and working of Bright field compound microscope                                                                                                                                                                                        | 1                |
| 3                         | Functioning and Standardization of pH meter and Preparation of buffers and measurement of pH                                                                                                                                                                   | 1                |
| 4                         | Separation and identification of amino acids by paper chromatography.                                                                                                                                                                                          | 1                |
| 5                         | Separation and identification of sugars by TLC                                                                                                                                                                                                                 | 1                |
| 6                         | Beer and Lambert's Law – Components and working of Colorimeter, Spectrophotometer                                                                                                                                                                              | 1                |
| 7                         | Absorption spectra of DNA melting and protein                                                                                                                                                                                                                  | 1                |
| 8                         | To find out isoelectric point of amino acids                                                                                                                                                                                                                   | 1                |

**Course Code: BBT-212 Practical in Computer and Biostatistics****(1.5 Credit Course)****Total Practical= 15(15x3 hrs.)**

| <b>Sr.No.</b>        | <b>Title of Experiment</b>                                                                                                                                                                                                                                                                    | <b>No of Practical</b> |
|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| <b>Computer</b>      |                                                                                                                                                                                                                                                                                               |                        |
| 1                    | A:Tutorials operating systems: DOS<br>File handling: copy, rename, delete, type<br>Directory structure: make, rename, move directory                                                                                                                                                          | 1                      |
| 2                    | Word Processing (Microsoft Word): Creating, Saving & Operating a document, Editing, Inserting, Deleting, Formatting, Moving & Copying Text, Find & Replace, Spell Checker & Grammar Check, Document Enhancement (Borders, Shading, Header, Footer), Printing Document (Page Layout, Margins), | 1                      |
| 3                    | Introduction to the use of Wizards & Templates, Working with Graphics (Word Art), Working with Tables & Charts, Inserting Pictures                                                                                                                                                            | 1                      |
| 4                    | Spreadsheet Applications (Microsoft Excel): Worksheet Basics: Entering information in a Worksheet, Saving & Opening a Worksheet, Editing, Copying & Moving Data, Inserting, Deleting & Moving Columns & Rows, Clearing.                                                                       | 2                      |
| 5                    | Database Applications (Microsoft Access): Fields, Records, Files, Organization of Files. Access Modes: Updating Records, Querying, Reports, Forms & sub forms.                                                                                                                                | 2                      |
| <b>Biostatistics</b> |                                                                                                                                                                                                                                                                                               |                        |
| 1                    | Introduction to MS Excel and use of spreadsheets for data organization and basic mathematics calculations                                                                                                                                                                                     | 2                      |
| 2                    | Hypothesis testing using 'Data analysis tools': t-test, Chi square test.                                                                                                                                                                                                                      | 2                      |
| 3                    | Analysis of variance                                                                                                                                                                                                                                                                          | 1                      |
| 4                    | Correlation and regression analysis of data and graphical representation                                                                                                                                                                                                                      | 2                      |



# **Savitribai Phule Pune University**

*(Formerly University of Pune)*

**Three Year B.Sc. Degree Program in Chemistry**

**(Faculty of Science & Technology)**

**F.Y.B.Sc. Chemistry**

**Choice Based Credit System [CBCS] Syllabus**

**To be implemented from Academic Year 2019-2020**

**Structure of F. Y. B. Sc. Chemistry**

| Semester | Course    | Discipline Specific Core Course (DSCC)*               |
|----------|-----------|-------------------------------------------------------|
| I        | Theory    | CH-101 : Physical Chemistry ( 2 credit , 36 L)        |
|          | Theory    | CH-102 : Organic Chemistry (2 credit, 36 L)           |
|          | Practical | CH-103 : Chemistry Practical –I (1.5 Credit, 46.8 L)  |
| II       | Theory    | CH-201 :Inorganic Chemistry ( 2 credit , 36 L)        |
|          | Theory    | CH-202 : Organic Chemistry (2 credit, 36 L)           |
|          | Practical | CH-203 : Chemistry Practical –II (1.5 Credit, 46.8 L) |

**\*N.B.:**

- i. Each lecture (L) will be of 50 minutes.**
- ii. Each practical of 3h 15 min and 12 practicals per semester**
- iii. 12 weeks for teaching 03 weeks for Continuous Assessments**

# SavitribaiPhule Pune University, Pune

## F.Y.B.Sc. Chemistry Syllabus

### (CBCS Semester Pattern)

From Academic Year 2019-2020

### Equivalence with Previous Syllabus

| New Course (2019 Semester Pattern)<br>( 50 min /L)              | Old Course (2013 Annual Pattern)<br>( 48 min /L)                |
|-----------------------------------------------------------------|-----------------------------------------------------------------|
| CH-101 : Physical Chemistry ( 2 credit , 36 L)<br>50 Marks      | Paper I : Physical and Inorganic<br>Chemistry ( 72 L) 100 Marks |
| CH-201 :Inorganic Chemistry ( 2 credit , 36 L)<br>50 Mark       |                                                                 |
| CH-102 : Organic Chemistry (2 credit, 36 L)<br>50 Marks         | Paper II : Organic and Inorganic<br>Chemistry ( 72 L) 100 Marks |
| CH-202 : Organic Chemistry (2 credit, 36 L)<br>50 Marks         |                                                                 |
| CH-103 : Chemistry Practical-I (1.5 Credit, 46.8 L)<br>50 Marks | Paper III : Chemistry Practical<br>100 Marks                    |
| CH-203 : Chemistry Practical-II (1.5 Credit, 46.8L)<br>50 Marks |                                                                 |

### Learning Objectives:

1. To understand basic concept of physical, organic and Inorganic chemistry.
2. To impart practical skills and learn basics behind experiments.
3. To prepare background for advanced and applied studies in chemistry.



## SEMESTER-I

### CH- 101: Physical Chemistry (2 Credits, 36 Lectures of 50 min.)

#### 1. Chemical Energetics

Review of thermodynamics and the Laws of Thermodynamics. Important principles and definitions of thermochemistry. Concept of standard state and standard enthalpies of formations, integral and differential enthalpies of solution and dilution. Calculation of bond energy, bond dissociation energy and resonance energy from thermochemical data. Variation of enthalpy of a reaction with temperature – Kirchhoff's equation. Statement of Third Law of thermodynamics and calculation of absolute entropies of substances, problems

(11 L)

#### 2. Chemical Equilibrium:

Introduction: Free Energy and equilibrium - Concept, Definition and significance  
The reaction Gibbs Energy, Exergonic and endergonic reaction. The perfect gas equilibrium, the general case of equilibrium, the relation between equilibrium constants, Molecular interpretation of equilibrium constant. The response of equilibria to conditions- response to pressure, response to temperature, Van't Hoff equation, Value of K at different temperature, Problems

(11 L)

#### 3. Ionic Equilibria

Strong, moderate and weak electrolytes, degree of ionization, factors affecting degree of ionization, ionization constant and ionic product of water. Ionization of weak acids and bases, pH scale, common ion effect. Salt hydrolysis-calculation of hydrolysis constant, degree of hydrolysis and pH for different salts. Buffer solutions. Solubility and solubility product of sparingly soluble salts-applications of solubility product principle.

(14 L)

### Learning Outcome

#### 1. Chemical Energetics

1. Students will be able to apply thermodynamic principles to physical and chemical process
2. Calculations of enthalpy, Bond energy, Bond dissociation energy, resonance energy
3. Variation of enthalpy with temperature –Kirchoff's equation
4. Third law of thermodynamic and its applications

#### 2. Chemical Equilibrium

Knowledge of Chemical equilibrium will make students to understand

1. Relation between Free energy and equilibrium and factors affecting on equilibrium constant.
2. Exergonic and endergonic reaction
3. Gas equilibrium, equilibrium constant and molecular interpretation of equilibrium constant
4. Van't Hoff equation and its application

### 3. Ionic equilibria

Ionic equilibria chapter will lead students to understand

1. Concept to ionization process occurred in acids, bases and pH scale
2. Related concepts such as Common ion effect hydrolysis constant, ionic product, solubility product
3. Degree of hydrolysis and pH for different salts, buffer solutions

## CH- 102: Organic Chemistry (2 Credits, 36 Lectures of 50 min.)

### Fundamentals of Organic Chemistry

Physical Effects, Electronic Displacements: Inductive Effect, Electromeric Effect, Resonance and Hyperconjugation. Cleavage of Bonds: Homolysis and Heterolysis. Structure, shape and reactivity of organic molecules: Nucleophiles and electrophiles. Reactive Intermediates: Carbocations, Carbanions and free radicals. Strength of organic acids and bases: Comparative study with emphasis on factors affecting pK values. Aromaticity: Benzenoids and Hückel's rule.

(9 L)

### Stereochemistry

Introduction, classification, Interconversion of Wedge Formula, Newmann, Sawhorse and Fischer representations. Conformations with respect to ethane, butane and cyclohexane. Configuration: Geometrical - *cis* – *trans*, and E / Z Nomenclature (for upto two C=C systems). Optical isomerism Enantiomerism, Diastereomerism and Meso compounds). Concept of chirality (upto two carbon atoms). Threo and erythro; D and L; nomenclature; CIP Rules: R/ S (for upto 2 chiral carbon atoms)

(14L)

### Aliphatic Hydrocarbons

Functional group approach for the following reactions (preparations & reactions) to be studied in context to their structure.

**Alkanes:** (Up to 5 Carbons) *Preparation:* Catalytic hydrogenation, Wurtz reaction, Kolbe's synthesis, from Grignard reagent. *Reactions:* Free radical Substitution: Halogenation.

**Alkenes:** (Up to 5 Carbons) *Preparation:* Elimination reactions: Dehydration of alkenes and dehydrohalogenation of alkyl halides (Saytzeff's rule); *cis* alkenes (Partial catalytic hydrogenation) and *trans* alkenes (Birch reduction). *Reactions:* *cis*-addition (alk.  $\text{KMnO}_4$ ) and *trans*-addition (bromine), Addition of HX (Markownikoff's and anti-Markownikoff's addition), Hydration, Ozonolysis, oxymercuration-demercuration, Hydroboration-oxidation.

**Alkynes:** (Upto 5 Carbons) *Preparation:* Acetylene from  $\text{CaC}_2$  and conversion into higher alkynes; by dehalogenation of tetra halides and dehydrohalogenation of vicinal-dihalide *Reactions:* formation of metal acetylides, addition of bromine and alkaline  $\text{KMnO}_4$ , ozonolysis and oxidation with hot alk.  $\text{KMnO}_4$ .

(13 L)

## **Learning Outcome**

1. The students are expected to understand the fundamentals, principles, and recent developments in the subject area.
2. It is expected to inspire and boost interest of the students towards chemistry as the main subject.
3. To familiarize with current and recent developments in Chemistry.
4. To create foundation for research and development in Chemistry.

## **Reference Books**

1. Graham Solomon, T.W., Fryhle, C.B. & Snyder, S.A. *Organic Chemistry*, John Wiley & Sons (2014).
  2. Mc Murry, J.E. *Fundamentals of Organic Chemistry*, 7th Ed. Cengage Learning India Edition, 2013.
  3. Sykes, P. *A Guidebook to Mechanism in Organic Chemistry*, Orient Longman, New Delhi (1988).
  4. Eliel, E.L. *Stereochemistry of Carbon Compounds*, Tata McGraw Hill education, 2000.
  5. Finar, I.L. *Organic Chemistry* (Vol. I & II), E.L.B.S.
  6. Morrison, R.T. & Boyd, R.N. *Organic Chemistry*, Pearson, 2010.
  7. Bahl, A. & Bahl, B.S. *Advanced Organic Chemistry*, S. Chand, 2010.
  8. Marron and Prutton, *Principal of Physical Chemistry*
  9. B S Bahl, G D Tuli, Arun Bahl , *Essentials of Physical Chemistry*
  10. Peter Atkins and Julio de Paula , *Elements of Physical Chemistry*, Sixth edition ( 2013), Oxford press
  11. Atkins' *Physical Chemistry –Thermodynamics and Kinetics*, 11<sup>th</sup> Edition , Oxford Press
  12. Thomas Engel, Philip Reid; *Physical Chemistry* , Pearson Education (2006)
  13. J. N. Gurtu, A. Gurtu; *Advanced Physical Chemistry*, Pragati Edition
  14. Samuel H. Maron and Carl F. Prutton, *Principal of physical Chemistry*, 4<sup>th</sup> Edition, Collier Macmillan Ltd.
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## CH- 103: Chemistry Practical Course I

(1.5 Credits, 46.8 Lectures of 50 min.)

### Section A: Chemical and Lab Safety (Compulsory)

1. Toxicity of the compounds used in chemistry laboratory.
2. Safety symbol on labels of pack of chemicals and its meaning
3. What is MSDS sheets? Find out MSDS sheets of at least hazardous chemicals ( $K_2Cr_2O_7$ , Benzene, cadmium nitrate, sodium metal, etc.)
4. Precautions in handling of hazardous substances like Conc. acids, ammonia, organic solvents, etc.

### Section B: Physical Chemistry

#### a. Thermochemistry (Any three)

1. Determination of heat capacity of calorimeter for different volumes.
2. Determination of enthalpy of neutralization of hydrochloric acid with sodium hydroxide.
3. Determination of enthalpy of ionization of acetic acid.
4. Determination of integral enthalpy of solution of salts ( $KNO_3$ ,  $NH_4Cl$ ).
5. Determination of enthalpy of hydration of copper sulphate.
6. Study of the solubility of benzoic acid in water and determination of  $\Delta H$ .

#### b. Ionic equilibria (Two experiments)

1. Measurement of pH of different solutions like aerated drinks, fruit juices, shampoos and soaps (use dilute solutions of soaps and shampoos to prevent damage to the glass electrode) using pH-meter.

OR

1. Measurement of the pH of buffer solutions and comparison of the values with theoretical values.
2. Preparation of buffer solutions (**Any One**)
  - (i) Sodium acetate-acetic acid and determine its buffer capacity
  - (ii) Ammonium chloride-ammonium hydroxide and determine its buffer capacity

### Section C: Organic Chemistry(Five experiments)

1. Detection of extra elements (N, S, Cl, Br, I) in organic compounds (containing upto two extra elements) (**Three**)
2. Separation of constituents of mixtures by Chromatography: Measure the  $R_f$  value in each case(**Two**)
  - (a) Identify and separate the components of a given mixture of 2 amino acids (glycine, aspartic acid, glutamic acid, tyrosine or any other amino acid) by paper chromatography
  - (b) Identify and separate the sugars present in the given mixture by paper chromatography.

**Note: Combination of two compounds to be given**

**Reference Books:**

1. Svehla, G. *Vogel's Qualitative Inorganic Analysis*, Pearson Education, 2012.
2. Mendham, J. *Vogel's Quantitative Chemical Analysis*, Pearson, 2009.
3. Vogel, A.I., Tatchell, A.R., Furnis, B.S., Hannaford, A.J. & Smith, P.W.G., *Textbook of Practical Organic Chemistry*, Prentice-Hall, 5th edition, 1996.
4. Mann, F.G. & Saunders, B.C. *Practical Organic Chemistry* Orient-Longman, 1960.
5. Khosla, B. D.; Garg, V. C. & Gulati, A. *Senior Practical Physical Chemistry*, R.Chand & Co.: New Delhi (2011).
6. Prof. Robert H. Hill Jr., David C. Finster *Laboratory Safety for Chemistry Students*, 2nd Edition Wiley ISBN: 978-1-119-02766-9 May 2016
7. *Prudent Practices in the Laboratory: Handling and Management of Chemical Hazards*, Updated Version, ISBN 978-0-309-13864-2 | DOI 10.17226/12654, THE NATIONAL ACADEMIES PRESS Washington, D.C.

**Learning Outcome**

1. Importance of chemical safety and Lab safety while performing experiments in laboratory
  2. Determination of thermochemical parameters and related concepts
  3. Techniques of pH measurements
  4. Preparation of buffer solutions
  5. Elemental analysis of organic compounds (non instrumental )
  6. Chromatographic Techniques for separation of constituents of mixtures
-

## SEMESTER-II

### CH-201: Inorganic Chemistry (2 Credits, 36 Lectures of 50 min.)

#### 1. Atomic Structure

**Origin of Quantum Mechanics:** Why study quantum mechanics ?, Quantum mechanics arose out of interplay of experiments and Theory Energy quantization- i) Black body radiation ii) The photoelectric effect iii) Wave particle duality-a) The particle character of electromagnetic radiation b) the wave character of particle, iv) diffraction by double slit v) atomic spectra, Review of-Bohr's theory and its limitations, Heisenberg Uncertainty principle.

**Quantum mechanics:** Time independent Schrodinger equation and meaning of various terms in it, Significance of  $\psi$  and  $\psi^2$ , Schrödinger equation for hydrogen atom. Radial and angular parts of the hydrogenic wave functions (atomic orbitals) and their variations for 1s, 2s, 2p, 3s, 3p and 3d orbitals (Only graphical representation). Radial and angular nodes and their significance. Radial distribution functions and the concept of the most probable distance with special reference to 1s and 2s atomic orbitals. Significance of quantum numbers, orbital angular momentum and quantum numbers  $m_l$  and  $m_s$ . Shapes of s, p and d atomic orbitals, nodal planes. Discovery of spin, spin quantum number ( $s$ ) and magnetic spin quantum number ( $m_s$ ).

(12 L)

#### 2. Periodicity of Elements

Rules for filling electrons in various orbitals, Electronic configurations of the atoms. Stability of half-filled and completely filled orbitals concept of exchange energy. Relative energies of atomic orbitals, Anomalous electronic configurations

Long form of periodic table-s, p, d, and f block elements

Detailed discussion of following properties of elements with reference to s and p block

- Effective nuclear charge, shielding or screening effect
- Atomic and ionic radii
- Crystal radii
- Covalent radii
- Ionization energies
- Electronegativity, Pauling's / electronegativity scale
- Oxidation states of elements

(09 L)

#### 3. Chemical Bonding

Attainment of stable electronic configurations, Types of Chemical bonds: Ionic, covalent, coordinate and metallic bonds

**Ionic Bond:** General characteristics of ionic bonding, Types of ions, Energy considerations in ionic bonding, lattice energy and solvation energy and their importance in the context of stability and solubility of ionic compounds. Statement of Born-Landé equation for calculation of lattice energy,

Born-Haber cycle and its applications, polarizing power and polarizability. Fajan's rules, ionic character in covalent compounds, bond moment, dipole moment and percentage ionic character.

**Covalent bond:** Valence Bond Approach, Hybridization with suitable examples of linear, trigonal planar, square planar, tetrahedral, trigonal bipyramidal and octahedral arrangements. VSEPR theory, Assumptions, need of theory, application of theory to explain geometries of molecules such as i)  $\text{ClF}_3$  ii)  $\text{Cl}_2\text{O}$  iii)  $\text{BrF}_5$  iv)  $\text{XeO}_3$  v)  $\text{XeOF}_4$

(09 L)

#### 4. Calculations used in Analytical Chemistry

**Some important units of measurements**-SI units, distinction between mass and weight, mole, millimole and Calculations

**Solution and their concentrations**- Molar concentrations, Molar analytical Concentrations, Molar equilibrium concentration, percent Concentration, part per million, part per billion, part per thousand, Solution –dilutant volume ration, functions, density and specific gravity of solutions, problems

**Chemical Stoichiometry** – Empirical and Molecular Formulas, Stoichiometric Calculations, Problems.

(06 L)

### Learning Outcome

#### 1. Atomic Structure

1. Various theories and principles applied to reveal atomic structure
2. Origin of quantum mechanics and its need to understand structure of hydrogen atom
3. Schrodinger equation for hydrogen atom
4. Radial and angular part of hydrogenic wave functions
5. Significance of quantum numbers
6. Shapes of orbitals

#### 2. Periodicity of Elements

1. Explain rules for filling electrons in various orbitals- Aufbau's principle, Pauli exclusion principle, Hund's rule of maximum multiplicity
2. Discuss electronic configuration of an atom and anomalous electronic configurations.
3. Describe stability of half-filled and completely filled orbitals.
4. Discuss concept of exchange energy and relative energies of atomic orbitals
5. Design Skeleton of long form of periodic table.
6. Describe Block, group, modern periodic law and periodicity.
7. Classification of elements as main group, transition and inner transition elements
8. Write name, symbol, electronic configuration, trends and properties.
9. Explain periodicity in the following properties in details:
  - a. Effective nuclear charge, shielding or screening effect; some numerical problems.
  - b. Atomic and ionic size.
  - c. Crystal and covalent radii

- d. Ionization energies
- e. Electronegativity- definition, trend, Pauling electronegativity scale.
- f. Oxidation state of elements

### 3. Chemical Bonding

1. Attainment of stable electronic configurations.
2. Define various types of chemical bonds- Ionic, covalent, coordinate and metallic bond
3. Explain characteristics of ionic bond, types of ions, energy consideration in ionic bonding, lattice and solvation energy and their importance in the context of stability and solubility of ionic compounds
4. Summarize Born-Landé equation and Born-Haber cycle,
5. Define Fajan's rule, bond moment, dipole moment and percent ionic character.
6. Describe VB approach, Hybridization with example of linear, trigonal, square planar, tetrahedral, TBP, and octahedral.
7. Discuss assumption and need of VSEPR theory.
8. Interpret concept of different types of valence shell electron pairs and their contribution in bonding.
9. Application of non-bonded lone pairs in shape of molecule
10. Basic understanding of geometry and effect of lone pairs with examples such as  $\text{ClF}_3$ ,  $\text{Cl}_2\text{O}$ ,  $\text{BrF}_5$ ,  $\text{XeO}_3$  and  $\text{XeOF}_4$ .

### 4. Calculations used in Analytical Chemistry

1. Calculations of mole, molar concentrations and various units of concentrations which will be helpful for preparation of solution
2. Relation between molecular formula and empirical formula
3. Stoichiometric calculation
4. Define term mole, millimole, molar concentration, molar equilibrium concentration and Percent Concentration.
5. SI units, distinction between mass and weight
6. Units such as parts per million, parts per billion, parts per thousand, solution-dilutant volume ratio, function density and specific gravity of solutions.

## CH- 202: Organic Chemistry (2 Credits, 36 Lectures of 50 min.)

Functional group approach for the following reactions (preparations & reactions) to be studied in context to their structure.

### 1. Aromatic hydrocarbons

*Preparation* (Case benzene): from phenol, by decarboxylation, from acetylene, from benzene sulphonic acid. *Reactions* (Case benzene): Electrophilic substitution: nitration, halogenation and sulphonation. Friedel-Craft's reaction (alkylation and acylation) (upto 4 carbons on benzene). Side chain oxidation of alkyl benzenes (upto 4 carbons on benzene).

(07 L)



## 2. Alkyl and Aryl Halides

**Alkyl Halides** (Upto 5 Carbons) Types of Nucleophilic Substitution ( $S_N1$ ,  $S_N2$  and  $S_Ni$ ) reactions. *Preparation*: from alkenes and alcohols. *Reactions*: hydrolysis, nitrite & nitro formation, nitrile & isonitrile formation. Williamson's ether synthesis: Elimination vs substitution.

**Aryl Halides** *Preparation*: (Chloro, bromo and iodo-benzene case): from phenol, Sandmeyer & Gattermann reactions. *Reactions (Chlorobenzene)*: Aromatic nucleophilic substitution (replacement by  $-OH$  group) and effect of nitro substituent. Benzyne Mechanism:  $KNH_2/NH_3$  (or  $NaNH_2/NH_3$ ). Reactivity and Relative strength of C-Halogen bond in alkyl, allyl, benzyl, vinyl and aryl halides.

(12 L)

## 3. Alcohols, Phenols and Ethers (Upto 5 Carbons)

**Alcohols**: *Preparation*: Preparation of  $1^\circ$ ,  $2^\circ$  and  $3^\circ$  alcohols: using Grignard reagent, Ester hydrolysis, Reduction of aldehydes, ketones, carboxylic acid and esters. *Reactions*: With sodium, HX (Lucas test), esterification, oxidation (with PCC, alk.  $KMnO_4$ , acidic dichromate, conc.  $HNO_3$ ). Oppeneauer oxidation *Diols*: (Upto 6 Carbons) oxidation of diols. Pinacol-Pinacolone rearrangement.

**Phenols**: (Phenol case) *Preparation*: Cumen ehydroperoxide method, from diazonium salts. *Reactions*: Electrophilic substitution: Nitration, halogenation and sulphonation. Reimer- Tiemann Reaction, Gattermann-Koch Reaction, Houben-Hoesch Condensation, Schotten – Baumann Reaction.

**Ethers (aliphatic and aromatic)**: Cleavage of ethers with HI.

(12 L)

## 4. Aldehydes and ketones (aliphatic and aromatic): (Formaldehyde, acetaldehyde, acetone and benzaldehyde)

*Preparation*: from acid chlorides and from nitriles.

*Reactions* – Reaction with HCN, ROH,  $NaHSO_3$ ,  $NH_2-G$  derivatives. Iodoform test. Aldol Condensation, Cannizzaro's reaction, Wittig reaction, Benzoin condensation. Clemenson reduction and Wolff Kishner reduction. Meerwein-Pondorff Verley reduction.

(05 L)

## Reference Books:

1. Lee, J.D. *Concise Inorganic Chemistry* ELBS, 1991.
2. Cotton, F.A., Wilkinson, G. & Gaus, P.L. *Basic Inorganic Chemistry*, 3rd ed., Wiley.
3. Douglas, B.E., McDaniel, D.H. & Alexander, J.J. *Concepts and Models in Inorganic Chemistry*, John Wiley & Sons.
4. Huheey, J.E., Keiter, E.A., Keiter, R.L. & Medhi, O.K. *Inorganic Chemistry: Principles of Structure and Reactivity*, Pearson Education India, 2006.
5. Graham Solomon, T.W., Fryhle, C.B. & Snyder, S.A. *Organic Chemistry*, John Wiley & Sons (2014).
6. Mc Murry, J.E. *Fundamentals of Organic Chemistry*, 7th Ed. Cengage Learning India Edition, 2013.

7. Sykes, P. *A Guidebook to Mechanism in Organic Chemistry*, Orient Longman, New Delhi (1988).
  8. Finar, I.L. *Organic Chemistry* (Vol. I & II), E.L.B.S.
  9. Morrison, R.T. & Boyd, R.N. *Organic Chemistry*, Pearson, 2010.
  10. Bahl, A. & Bahl, B.S. *Advanced Organic Chemistry*, S. Chand, 2010.
  11. Barrow, G.M. *Physical Chemistry* Tata McGraw-Hill (2007).
  12. Castellan, G.W. *Physical Chemistry* 4th Ed. Narosa (2004).
  13. Kotz, J.C., Treichel P.M. & Townsend, J.R. *General Chemistry* Cengage Learning India Pvt. Ltd., New Delhi (2009).
  14. Mahan, B.H. *University Chemistry* 3rd Ed. Narosa (1998).
  15. Petrucci, R.H. *General Chemistry* 5th Ed. Macmillan Publishing Co.: New York (1985).
  16. Douglas A Skoog, Donald M West , F James Holler , Stainly R Crouch , *Fundamentals of Analytical Chemistry*, 9<sup>th</sup> edition
  17. *Atkins' Physical Chemistry*, 10<sup>th</sup> edition (2014), Oxford University Press
  18. Thomas Engel, Philip Reid; *Physical Chemistry*, Pearson Education (2006)
  19. J. N. Gurtu, A. Gurtu; *Advanced Physical Chemistry*, Pragati Edition
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## CH- 203: Chemistry Practical –II (1.5 Credits, 46.8 Lectures of 50 min.)

### Section A: Inorganic Chemistry

#### I. Volumetric Analysis (Any Three)

1. Estimation of sodium carbonate and sodium hydrogen carbonate present in a mixture.
2. Estimation of oxalic acid by titrating it with  $\text{KMnO}_4$ .
3. Estimation of water of crystallization in Mohr's salt by titrating with  $\text{KMnO}_4$ .
4. Estimation of Fe (II) ions by titrating it with  $\text{K}_2\text{Cr}_2\text{O}_7$  using internal indicator.
5. To draw polar plots of s and p orbitals

#### II] Synthesis of commercially important inorganic compounds (any two)

- 1) Synthesis of potash alum from aluminum metal (scrap Aluminum metal)
- 2) Synthesis of Mohr's Salt  $[(\text{FeSO}_4)(\text{NH}_4)_2\text{SO}_4] \cdot 6\text{H}_2\text{O}$
- 3) Preparation of Dark red inorganic pigment ( $\text{Cu}_2\text{O}$ )
- 4) Synthesis of  $\text{FeSO}_4 \cdot 7\text{H}_2\text{O}$

#### III] Analysis of commercial products (any one)

- 1) Estimation of Ca from calcium supplementary tablet by complexometric titration.
- 2) Estimation of acid neutralizing capacity of antacids like Gelusil tablet/ gellusil syrup etc.
- 3) Estimation of Cu (II) from brass alloy by iodometrically.

### Section B: Organic Chemistry

1. Purification of organic compounds by crystallization (from water and alcohol) and distillation.

#### (Two Compounds)

1. Preparations: Mechanism of various reactions involved to be discussed. Recrystallization, determination of melting point and calculation of quantitative yields to be done. (Any Two)
  - a) Bromination of Cinnamic acid using sodium bromide and Sodium bromate.

#### (Green Chemistry Approach)

#### OR

- a) Bromination of acetanilide using KBr and Ceric ammonium nitrate in aqueous medium. (Green Chemistry Approach)
- b) Semicarbazone derivatives of aldehydes and ketones
- c) Oxime and 2,4-dinitrophenylhydrazone of aldehyde/ketone

#### N. B.:

1. Use molar concentrations for volumetric /estimations/synthesis experiments.
2. Use optimum concentrations and volumes
3. Two burette method should be used for volumetric analysis ( Homogeneous mixtures )
4. Use of microscale technique is recommended wherever possible

### Reference Books:

1. Svehla, G. *Vogel's Qualitative Inorganic Analysis*, Pearson Education, 2012.
2. Mendham, J. *Vogel's Quantitative Chemical Analysis*, Pearson, 2009.
3. Vogel, A.I., Tatchell, A.R., Furnis, B.S., Hannaford, A.J. & Smith, P.W.G., *Textbook of Practical Organic Chemistry*, Prentice-Hall, 5th edition, 1996.
4. Mann, F.G. & Saunders, B.C. *Practical Organic Chemistry* Orient-Longman, 1960.

5. Khosla, B. D.; Garg, V. C. & Gulati, A. Senior Practical Physical Chemistry, R.Chand & Co.: New Delhi (2011).

### **Learning Outcome**

1. Inorganic Estimations using volumetric analysis
2. Synthesis of Inorganic compounds
3. Analysis of commercial products
4. Purification of organic compounds
5. Preparations and mechanism of reactions involved

### **Course Outcome**

#### **CH- 101: Physical Chemistry**

After completing the course work learner will be acquired with knowledge of chemical energetics, Chemical equilibrium and ionic equilibria.

#### **CH- 102: Organic Chemistry**

Will learn Fundamentals of organic chemistry, stereochemistry (Conformations, configurations and nomenclatures) and functional group approach for aliphatic hydrocarbons

#### **CH- 201: Inorganic Chemistry**

Students will learn quantum mechanical approach to atomic structure, Periodicity of elements, various theories for chemical bonding and calculations used in analytical chemistry

#### **CH-202: Organic Chemistry**

Students will learn Functional group approach for the various reactions (preparations & reactions) in context to their structure

#### **Lab Course CH 103 and CH-203**

1. The practical course is in relevance to the theory courses to improve the Understanding of the concepts.
  2. It would help in development of practical skills of the students.
  3. Use of microscale techniques wherever required
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# **Savitribai Phule Pune University**

*(Formerly University of Pune)*

**Three Year B.Sc. Degree Program in Chemistry**

**(Faculty of Science & Technology)**

**F.Y.B.Sc. Chemistry**

**Choice Based Credit System [CBCS] Syllabus**

**To be implemented from Academic Year 2019-2020**

**Structure of F. Y. B. Sc. Chemistry**

| Semester | Course    | Discipline Specific Core Course (DSCC)*               |
|----------|-----------|-------------------------------------------------------|
| I        | Theory    | CH-101 : Physical Chemistry ( 2 credit , 36 L)        |
|          | Theory    | CH-102 : Organic Chemistry (2 credit, 36 L)           |
|          | Practical | CH-103 : Chemistry Practical –I (1.5 Credit, 46.8 L)  |
| II       | Theory    | CH-201 :Inorganic Chemistry ( 2 credit , 36 L)        |
|          | Theory    | CH-202 : Organic Chemistry (2 credit, 36 L)           |
|          | Practical | CH-203 : Chemistry Practical –II (1.5 Credit, 46.8 L) |

**\*N.B.:**

- i. Each lecture (L) will be of 50 minutes.
- ii. Each practical of 3h 15 min and 12 practicals per semester
- iii. 12 weeks for teaching 03 weeks for Continuous Assessments

# SavitribaiPhule Pune University, Pune

## F.Y.B.Sc. Chemistry Syllabus

### (CBCS Semester Pattern)

From Academic Year 2019-2020

### Equivalence with Previous Syllabus

| New Course (2019 Semester Pattern)<br>( 50 min /L)              | Old Course (2013 Annual Pattern)<br>( 48 min /L)                |
|-----------------------------------------------------------------|-----------------------------------------------------------------|
| CH-101 : Physical Chemistry ( 2 credit , 36 L)<br>50 Marks      | Paper I : Physical and Inorganic<br>Chemistry ( 72 L) 100 Marks |
| CH-201 :Inorganic Chemistry ( 2 credit , 36 L)<br>50 Mark       |                                                                 |
| CH-102 : Organic Chemistry (2 credit, 36 L)<br>50 Marks         | Paper II : Organic and Inorganic<br>Chemistry ( 72 L) 100 Marks |
| CH-202 : Organic Chemistry (2 credit, 36 L)<br>50 Marks         |                                                                 |
| CH-103 : Chemistry Practical-I (1.5 Credit, 46.8 L)<br>50 Marks | Paper III : Chemistry Practical<br>100 Marks                    |
| CH-203 : Chemistry Practical-II (1.5 Credit, 46.8L)<br>50 Marks |                                                                 |

### Learning Objectives:

1. To understand basic concept of physical, organic and Inorganic chemistry.
2. To impart practical skills and learn basics behind experiments.
3. To prepare background for advanced and applied studies in chemistry.

## SEMESTER-I

### CH- 101: Physical Chemistry (2 Credits, 36 Lectures of 50 min.)

#### 1. Chemical Energetics

Review of thermodynamics and the Laws of Thermodynamics. Important principles and definitions of thermochemistry. Concept of standard state and standard enthalpies of formations, integral and differential enthalpies of solution and dilution. Calculation of bond energy, bond dissociation energy and resonance energy from thermochemical data. Variation of enthalpy of a reaction with temperature – Kirchhoff's equation. Statement of Third Law of thermodynamics and calculation of absolute entropies of substances, problems

(11 L)

#### 2. Chemical Equilibrium:

Introduction: Free Energy and equilibrium - Concept, Definition and significance  
The reaction Gibbs Energy, Exergonic and endergonic reaction. The perfect gas equilibrium, the general case of equilibrium, the relation between equilibrium constants, Molecular interpretation of equilibrium constant. The response of equilibria to conditions- response to pressure, response to temperature, Van't Hoff equation, Value of K at different temperature, Problems

(11 L)

#### 3. Ionic Equilibria

Strong, moderate and weak electrolytes, degree of ionization, factors affecting degree of ionization, ionization constant and ionic product of water. Ionization of weak acids and bases, pH scale, common ion effect. Salt hydrolysis-calculation of hydrolysis constant, degree of hydrolysis and pH for different salts. Buffer solutions. Solubility and solubility product of sparingly soluble salts-applications of solubility product principle.

(14 L)

### Learning Outcome

#### 1. Chemical Energetics

1. Students will be able to apply thermodynamic principles to physical and chemical process
2. Calculations of enthalpy, Bond energy, Bond dissociation energy, resonance energy
3. Variation of enthalpy with temperature –Kirchoff's equation
4. Third law of thermodynamic and its applications

#### 2. Chemical Equilibrium

Knowledge of Chemical equilibrium will make students to understand

1. Relation between Free energy and equilibrium and factors affecting on equilibrium constant.
2. Exergonic and endergonic reaction
3. Gas equilibrium, equilibrium constant and molecular interpretation of equilibrium constant
4. Van't Hoff equation and its application



### 3. Ionic equilibria

Ionic equilibria chapter will lead students to understand

1. Concept to ionization process occurred in acids, bases and pH scale
2. Related concepts such as Common ion effect hydrolysis constant, ionic product, solubility product
3. Degree of hydrolysis and pH for different salts, buffer solutions

## CH- 102: Organic Chemistry (2 Credits, 36 Lectures of 50 min.)

### Fundamentals of Organic Chemistry

Physical Effects, Electronic Displacements: Inductive Effect, Electromeric Effect, Resonance and Hyperconjugation. Cleavage of Bonds: Homolysis and Heterolysis. Structure, shape and reactivity of organic molecules: Nucleophiles and electrophiles. Reactive Intermediates: Carbocations, Carbanions and free radicals. Strength of organic acids and bases: Comparative study with emphasis on factors affecting pK values. Aromaticity: Benzenoids and Hückel's rule.

(9 L)

### Stereochemistry

Introduction, classification, Interconversion of Wedge Formula, Newmann, Sawhorse and Fischer representations. Conformations with respect to ethane, butane and cyclohexane. Configuration: Geometrical - *cis* – *trans*, and E / Z Nomenclature (for upto two C=C systems). Optical isomerism Enantiomerism, Diastereomerism and Meso compounds). Concept of chirality (upto two carbon atoms). Threo and erythro; D and L; nomenclature; CIP Rules: R/ S (for upto 2 chiral carbon atoms)

(14L)

### Aliphatic Hydrocarbons

Functional group approach for the following reactions (preparations & reactions) to be studied in context to their structure.

**Alkanes:** (Up to 5 Carbons) *Preparation:* Catalytic hydrogenation, Wurtz reaction, Kolbe's synthesis, from Grignard reagent. *Reactions:* Free radical Substitution: Halogenation.

**Alkenes:** (Up to 5 Carbons) *Preparation:* Elimination reactions: Dehydration of alkenes and dehydrohalogenation of alkyl halides (Saytzeff's rule); *cis* alkenes (Partial catalytic hydrogenation) and *trans* alkenes (Birch reduction). *Reactions:* *cis*-addition (alk.  $\text{KMnO}_4$ ) and *trans*-addition (bromine), Addition of HX (Markownikoff's and anti-Markownikoff's addition), Hydration, Ozonolysis, oxymercuration-demercuration, Hydroboration-oxidation.

**Alkynes:** (Upto 5 Carbons) *Preparation:* Acetylene from  $\text{CaC}_2$  and conversion into higher alkynes; by dehalogenation of tetra halides and dehydrohalogenation of vicinal-dihalide *Reactions:* formation of metal acetylides, addition of bromine and alkaline  $\text{KMnO}_4$ , ozonolysis and oxidation with hot alk.  $\text{KMnO}_4$ .

(13 L)

## **Learning Outcome**

1. The students are expected to understand the fundamentals, principles, and recent developments in the subject area.
2. It is expected to inspire and boost interest of the students towards chemistry as the main subject.
3. To familiarize with current and recent developments in Chemistry.
4. To create foundation for research and development in Chemistry.

## **Reference Books**

1. Graham Solomon, T.W., Fryhle, C.B. & Snyder, S.A. *Organic Chemistry*, John Wiley & Sons (2014).
  2. Mc Murry, J.E. *Fundamentals of Organic Chemistry*, 7th Ed. Cengage Learning India Edition, 2013.
  3. Sykes, P. *A Guidebook to Mechanism in Organic Chemistry*, Orient Longman, New Delhi (1988).
  4. Eliel, E.L. *Stereochemistry of Carbon Compounds*, Tata McGraw Hill education, 2000.
  5. Finar, I.L. *Organic Chemistry* (Vol. I & II), E.L.B.S.
  6. Morrison, R.T. & Boyd, R.N. *Organic Chemistry*, Pearson, 2010.
  7. Bahl, A. & Bahl, B.S. *Advanced Organic Chemistry*, S. Chand, 2010.
  8. Marron and Prutton, *Principal of Physical Chemistry*
  9. B S Bahl, G D Tuli, Arun Bahl , *Essentials of Physical Chemistry*
  10. Peter Atkins and Julio de Paula , *Elements of Physical Chemistry*, Sixth edition ( 2013), Oxford press
  11. Atkins' *Physical Chemistry –Thermodynamics and Kinetics*, 11<sup>th</sup> Edition , Oxford Press
  12. Thomas Engel, Philip Reid; *Physical Chemistry* , Pearson Education (2006)
  13. J. N. Gurtu, A. Gurtu; *Advanced Physical Chemistry*, Pragati Edition
  14. Samuel H. Maron and Carl F. Prutton, *Principal of physical Chemistry*, 4<sup>th</sup> Edition, Collier Macmillan Ltd.
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## CH- 103: Chemistry Practical Course I

(1.5 Credits, 46.8 Lectures of 50 min.)

### Section A: Chemical and Lab Safety (Compulsory)

1. Toxicity of the compounds used in chemistry laboratory.
2. Safety symbol on labels of pack of chemicals and its meaning
3. What is MSDS sheets? Find out MSDS sheets of at least hazardous chemicals ( $K_2Cr_2O_7$ , Benzene, cadmium nitrate, sodium metal, etc.)
4. Precautions in handling of hazardous substances like Conc. acids, ammonia, organic solvents, etc.

### Section B: Physical Chemistry

#### a. Thermochemistry (Any three)

1. Determination of heat capacity of calorimeter for different volumes.
2. Determination of enthalpy of neutralization of hydrochloric acid with sodium hydroxide.
3. Determination of enthalpy of ionization of acetic acid.
4. Determination of integral enthalpy of solution of salts ( $KNO_3$ ,  $NH_4Cl$ ).
5. Determination of enthalpy of hydration of copper sulphate.
6. Study of the solubility of benzoic acid in water and determination of  $\Delta H$ .

#### b. Ionic equilibria (Two experiments)

1. Measurement of pH of different solutions like aerated drinks, fruit juices, shampoos and soaps (use dilute solutions of soaps and shampoos to prevent damage to the glass electrode) using pH-meter.

OR

1. Measurement of the pH of buffer solutions and comparison of the values with theoretical values.
2. Preparation of buffer solutions (**Any One**)
  - (i) Sodium acetate-acetic acid and determine its buffer capacity
  - (ii) Ammonium chloride-ammonium hydroxide and determine its buffer capacity

### Section C: Organic Chemistry(Five experiments)

1. Detection of extra elements (N, S, Cl, Br, I) in organic compounds (containing upto two extra elements) (**Three**)
2. Separation of constituents of mixtures by Chromatography: Measure the  $R_f$  value in each case(**Two**)
  - (a) Identify and separate the components of a given mixture of 2 amino acids (glycine, aspartic acid, glutamic acid, tyrosine or any other amino acid) by paper chromatography
  - (b) Identify and separate the sugars present in the given mixture by paper chromatography.

**Note: Combination of two compounds to be given**

**Reference Books:**

1. Svehla, G. *Vogel's Qualitative Inorganic Analysis*, Pearson Education, 2012.
2. Mendham, J. *Vogel's Quantitative Chemical Analysis*, Pearson, 2009.
3. Vogel, A.I., Tatchell, A.R., Furnis, B.S., Hannaford, A.J. & Smith, P.W.G., *Textbook of Practical Organic Chemistry*, Prentice-Hall, 5th edition, 1996.
4. Mann, F.G. & Saunders, B.C. *Practical Organic Chemistry* Orient-Longman, 1960.
5. Khosla, B. D.; Garg, V. C. & Gulati, A. *Senior Practical Physical Chemistry*, R.Chand & Co.: New Delhi (2011).
6. Prof. Robert H. Hill Jr., David C. Finster *Laboratory Safety for Chemistry Students*, 2nd Edition Wiley ISBN: 978-1-119-02766-9 May 2016
7. *Prudent Practices in the Laboratory: Handling and Management of Chemical Hazards*, Updated Version, ISBN 978-0-309-13864-2 | DOI 10.17226/12654, THE NATIONAL ACADEMIES PRESS Washington, D.C.

**Learning Outcome**

1. Importance of chemical safety and Lab safety while performing experiments in laboratory
  2. Determination of thermochemical parameters and related concepts
  3. Techniques of pH measurements
  4. Preparation of buffer solutions
  5. Elemental analysis of organic compounds (non instrumental )
  6. Chromatographic Techniques for separation of constituents of mixtures
-

## SEMESTER-II

### CH-201: Inorganic Chemistry (2 Credits, 36 Lectures of 50 min.)

#### 1. Atomic Structure

**Origin of Quantum Mechanics:** Why study quantum mechanics ?, Quantum mechanics arose out of interplay of experiments and Theory Energy quantization- i) Black body radiation ii) The photoelectric effect iii) Wave particle duality-a) The particle character of electromagnetic radiation b) the wave character of particle, iv) diffraction by double slit v) atomic spectra, Review of-Bohr's theory and its limitations, Heisenberg Uncertainty principle.

**Quantum mechanics:** Time independent Schrodinger equation and meaning of various terms in it, Significance of  $\psi$  and  $\psi^2$ , Schrödinger equation for hydrogen atom. Radial and angular parts of the hydrogenic wave functions (atomic orbitals) and their variations for 1s, 2s, 2p, 3s, 3p and 3d orbitals (Only graphical representation). Radial and angular nodes and their significance. Radial distribution functions and the concept of the most probable distance with special reference to 1s and 2s atomic orbitals. Significance of quantum numbers, orbital angular momentum and quantum numbers  $m_l$  and  $m_s$ . Shapes of s, p and d atomic orbitals, nodal planes. Discovery of spin, spin quantum number ( $s$ ) and magnetic spin quantum number ( $m_s$ ).

(12 L)

#### 2. Periodicity of Elements

Rules for filling electrons in various orbitals, Electronic configurations of the atoms. Stability of half-filled and completely filled orbitals concept of exchange energy. Relative energies of atomic orbitals, Anomalous electronic configurations

Long form of periodic table-s, p, d, and f block elements

Detailed discussion of following properties of elements with reference to s and p block

- Effective nuclear charge, shielding or screening effect
- Atomic and ionic radii
- Crystal radii
- Covalent radii
- Ionization energies
- Electronegativity, Pauling's / electronegativity scale
- Oxidation states of elements

(09 L)

#### 3. Chemical Bonding

Attainment of stable electronic configurations, Types of Chemical bonds: Ionic, covalent, coordinate and metallic bonds

**Ionic Bond:** General characteristics of ionic bonding, Types of ions, Energy considerations in ionic bonding, lattice energy and solvation energy and their importance in the context of stability and solubility of ionic compounds. Statement of Born-Landé equation for calculation of lattice energy,

Born-Haber cycle and its applications, polarizing power and polarizability. Fajan's rules, ionic character in covalent compounds, bond moment, dipole moment and percentage ionic character.

**Covalent bond:** Valence Bond Approach, Hybridization with suitable examples of linear, trigonal planar, square planar, tetrahedral, trigonal bipyramidal and octahedral arrangements. VSEPR theory, Assumptions, need of theory, application of theory to explain geometries of molecules such as i)  $\text{ClF}_3$  ii)  $\text{Cl}_2\text{O}$  iii)  $\text{BrF}_5$  iv)  $\text{XeO}_3$  v)  $\text{XeOF}_4$

(09 L)

#### 4. Calculations used in Analytical Chemistry

**Some important units of measurements**-SI units, distinction between mass and weight, mole, millimole and Calculations

**Solution and their concentrations**- Molar concentrations, Molar analytical Concentrations, Molar equilibrium concentration, percent Concentration, part per million, part per billion, part per thousand, Solution –dilutant volume ration, functions, density and specific gravity of solutions, problems

**Chemical Stoichiometry** – Empirical and Molecular Formulas, Stoichiometric Calculations, Problems.

(06 L)

### Learning Outcome

#### 1. Atomic Structure

1. Various theories and principles applied to reveal atomic structure
2. Origin of quantum mechanics and its need to understand structure of hydrogen atom
3. Schrodinger equation for hydrogen atom
4. Radial and angular part of hydrogenic wave functions
5. Significance of quantum numbers
6. Shapes of orbitals

#### 2. Periodicity of Elements

1. Explain rules for filling electrons in various orbitals- Aufbau's principle, Pauli exclusion principle, Hund's rule of maximum multiplicity
2. Discuss electronic configuration of an atom and anomalous electronic configurations.
3. Describe stability of half-filled and completely filled orbitals.
4. Discuss concept of exchange energy and relative energies of atomic orbitals
5. Design Skeleton of long form of periodic table.
6. Describe Block, group, modern periodic law and periodicity.
7. Classification of elements as main group, transition and inner transition elements
8. Write name, symbol, electronic configuration, trends and properties.
9. Explain periodicity in the following properties in details:
  - a. Effective nuclear charge, shielding or screening effect; some numerical problems.
  - b. Atomic and ionic size.
  - c. Crystal and covalent radii

- d. Ionization energies
- e. Electronegativity- definition, trend, Pauling electronegativity scale.
- f. Oxidation state of elements

### 3. Chemical Bonding

1. Attainment of stable electronic configurations.
2. Define various types of chemical bonds- Ionic, covalent, coordinate and metallic bond
3. Explain characteristics of ionic bond, types of ions, energy consideration in ionic bonding, lattice and solvation energy and their importance in the context of stability and solubility of ionic compounds
4. Summarize Born-Landé equation and Born-Haber cycle,
5. Define Fajan's rule, bond moment, dipole moment and percent ionic character.
6. Describe VB approach, Hybridization with example of linear, trigonal, square planar, tetrahedral, TBP, and octahedral.
7. Discuss assumption and need of VSEPR theory.
8. Interpret concept of different types of valence shell electron pairs and their contribution in bonding.
9. Application of non-bonded lone pairs in shape of molecule
10. Basic understanding of geometry and effect of lone pairs with examples such as  $\text{ClF}_3$ ,  $\text{Cl}_2\text{O}$ ,  $\text{BrF}_5$ ,  $\text{XeO}_3$  and  $\text{XeOF}_4$ .

### 4. Calculations used in Analytical Chemistry

1. Calculations of mole, molar concentrations and various units of concentrations which will be helpful for preparation of solution
2. Relation between molecular formula and empirical formula
3. Stoichiometric calculation
4. Define term mole, millimole, molar concentration, molar equilibrium concentration and Percent Concentration.
5. SI units, distinction between mass and weight
6. Units such as parts per million, parts per billion, parts per thousand, solution-dilutant volume ratio, function density and specific gravity of solutions.

## CH- 202: Organic Chemistry (2 Credits, 36 Lectures of 50 min.)

Functional group approach for the following reactions (preparations & reactions) to be studied in context to their structure.

### 1. Aromatic hydrocarbons

*Preparation* (Case benzene): from phenol, by decarboxylation, from acetylene, from benzene sulphonic acid. *Reactions* (Case benzene): Electrophilic substitution: nitration, halogenation and sulphonation. Friedel-Craft's reaction (alkylation and acylation) (upto 4 carbons on benzene). Side chain oxidation of alkyl benzenes (upto 4 carbons on benzene).

(07 L)

## 2. Alkyl and Aryl Halides

**Alkyl Halides** (Upto 5 Carbons) Types of Nucleophilic Substitution ( $S_N1$ ,  $S_N2$  and  $S_Ni$ ) reactions. *Preparation*: from alkenes and alcohols. *Reactions*: hydrolysis, nitrite & nitro formation, nitrile & isonitrile formation. Williamson's ether synthesis: Elimination vs substitution.

**Aryl Halides** *Preparation*: (Chloro, bromo and iodo-benzene case): from phenol, Sandmeyer & Gattermann reactions. *Reactions (Chlorobenzene)*: Aromatic nucleophilic substitution (replacement by  $-OH$  group) and effect of nitro substituent. Benzyne Mechanism:  $KNH_2/NH_3$  (or  $NaNH_2/NH_3$ ). Reactivity and Relative strength of C-Halogen bond in alkyl, allyl, benzyl, vinyl and aryl halides.

(12 L)

## 3. Alcohols, Phenols and Ethers (Upto 5 Carbons)

**Alcohols**: *Preparation*: Preparation of  $1^\circ$ ,  $2^\circ$  and  $3^\circ$  alcohols: using Grignard reagent, Ester hydrolysis, Reduction of aldehydes, ketones, carboxylic acid and esters. *Reactions*: With sodium, HX (Lucas test), esterification, oxidation (with PCC, alk.  $KMnO_4$ , acidic dichromate, conc.  $HNO_3$ ). Oppeneauer oxidation *Diols*: (Upto 6 Carbons) oxidation of diols. Pinacol-Pinacolone rearrangement.

**Phenols**: (Phenol case) *Preparation*: Cumen ehydroperoxide method, from diazonium salts. *Reactions*: Electrophilic substitution: Nitration, halogenation and sulphonation. Reimer- Tiemann Reaction, Gattermann-Koch Reaction, Houben-Hoesch Condensation, Schotten – Baumann Reaction.

**Ethers (aliphatic and aromatic)**: Cleavage of ethers with HI.

(12 L)

## 4. Aldehydes and ketones (aliphatic and aromatic): (Formaldehyde, acetaldehyde, acetone and benzaldehyde)

*Preparation*: from acid chlorides and from nitriles.

*Reactions* – Reaction with HCN, ROH,  $NaHSO_3$ ,  $NH_2-G$  derivatives. Iodoform test. Aldol Condensation, Cannizzaro's reaction, Wittig reaction, Benzoin condensation. Clemenson reduction and Wolff Kishner reduction. Meerwein-Pondorff Verley reduction.

(05 L)

## Reference Books:

1. Lee, J.D. *Concise Inorganic Chemistry* ELBS, 1991.
2. Cotton, F.A., Wilkinson, G. & Gaus, P.L. *Basic Inorganic Chemistry*, 3rd ed., Wiley.
3. Douglas, B.E., McDaniel, D.H. & Alexander, J.J. *Concepts and Models in Inorganic Chemistry*, John Wiley & Sons.
4. Huheey, J.E., Keiter, E.A., Keiter, R.L. & Medhi, O.K. *Inorganic Chemistry: Principles of Structure and Reactivity*, Pearson Education India, 2006.
5. Graham Solomon, T.W., Fryhle, C.B. & Snyder, S.A. *Organic Chemistry*, John Wiley & Sons (2014).
6. Mc Murry, J.E. *Fundamentals of Organic Chemistry*, 7th Ed. Cengage Learning India Edition, 2013.



7. Sykes, P. *A Guidebook to Mechanism in Organic Chemistry*, Orient Longman, New Delhi (1988).
  8. Finar, I.L. *Organic Chemistry* (Vol. I & II), E.L.B.S.
  9. Morrison, R.T. & Boyd, R.N. *Organic Chemistry*, Pearson, 2010.
  10. Bahl, A. & Bahl, B.S. *Advanced Organic Chemistry*, S. Chand, 2010.
  11. Barrow, G.M. *Physical Chemistry* Tata McGraw-Hill (2007).
  12. Castellan, G.W. *Physical Chemistry* 4th Ed. Narosa (2004).
  13. Kotz, J.C., Treichel P.M. & Townsend, J.R. *General Chemistry* Cengage Learning India Pvt. Ltd., New Delhi (2009).
  14. Mahan, B.H. *University Chemistry* 3rd Ed. Narosa (1998).
  15. Petrucci, R.H. *General Chemistry* 5th Ed. Macmillan Publishing Co.: New York (1985).
  16. Douglas A Skoog, Donald M West , F James Holler , Stainly R Crouch , *Fundamentals of Analytical Chemistry*, 9<sup>th</sup> edition
  17. *Atkins' Physical Chemistry*, 10<sup>th</sup> edition (2014), Oxford University Press
  18. Thomas Engel, Philip Reid; *Physical Chemistry*, Pearson Education (2006)
  19. J. N. Gurtu, A. Gurtu; *Advanced Physical Chemistry*, Pragati Edition
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## CH- 203: Chemistry Practical –II (1.5 Credits, 46.8 Lectures of 50 min.)

### Section A: Inorganic Chemistry

#### I. Volumetric Analysis (Any Three)

1. Estimation of sodium carbonate and sodium hydrogen carbonate present in a mixture.
2. Estimation of oxalic acid by titrating it with  $\text{KMnO}_4$ .
3. Estimation of water of crystallization in Mohr's salt by titrating with  $\text{KMnO}_4$ .
4. Estimation of Fe (II) ions by titrating it with  $\text{K}_2\text{Cr}_2\text{O}_7$  using internal indicator.
5. To draw polar plots of s and p orbitals

#### II] Synthesis of commercially important inorganic compounds (any two)

- 1) Synthesis of potash alum from aluminum metal (scrap Aluminum metal)
- 2) Synthesis of Mohr's Salt  $[(\text{FeSO}_4)(\text{NH}_4)_2\text{SO}_4] \cdot 6\text{H}_2\text{O}$
- 3) Preparation of Dark red inorganic pigment ( $\text{Cu}_2\text{O}$ )
- 4) Synthesis of  $\text{FeSO}_4 \cdot 7\text{H}_2\text{O}$

#### III] Analysis of commercial products (any one)

- 1) Estimation of Ca from calcium supplementary tablet by complexometric titration.
- 2) Estimation of acid neutralizing capacity of antacids like Gelusil tablet/ gellusil syrup etc.
- 3) Estimation of Cu (II) from brass alloy by iodometrically.

### Section B: Organic Chemistry

1. Purification of organic compounds by crystallization (from water and alcohol) and distillation.

#### (Two Compounds)

1. Preparations: Mechanism of various reactions involved to be discussed. Recrystallization, determination of melting point and calculation of quantitative yields to be done. (Any Two)
  - a) Bromination of Cinnamic acid using sodium bromide and Sodium bromate.

#### (Green Chemistry Approach)

#### OR

- a) Bromination of acetanilide using KBr and Ceric ammonium nitrate in aqueous medium. (Green Chemistry Approach)
- b) Semicarbazone derivatives of aldehydes and ketones
- c) Oxime and 2,4-dinitrophenylhydrazone of aldehyde/ketone

#### N. B.:

1. Use molar concentrations for volumetric /estimations/synthesis experiments.
2. Use optimum concentrations and volumes
3. Two burette method should be used for volumetric analysis ( Homogeneous mixtures )
4. Use of microscale technique is recommended wherever possible

### Reference Books:

1. Svehla, G. *Vogel's Qualitative Inorganic Analysis*, Pearson Education, 2012.
2. Mendham, J. *Vogel's Quantitative Chemical Analysis*, Pearson, 2009.
3. Vogel, A.I., Tatchell, A.R., Furnis, B.S., Hannaford, A.J. & Smith, P.W.G., *Textbook of Practical Organic Chemistry*, Prentice-Hall, 5th edition, 1996.
4. Mann, F.G. & Saunders, B.C. *Practical Organic Chemistry* Orient-Longman, 1960.

5. Khosla, B. D.; Garg, V. C. & Gulati, A. Senior Practical Physical Chemistry, R.Chand & Co.: New Delhi (2011).

### **Learning Outcome**

1. Inorganic Estimations using volumetric analysis
2. Synthesis of Inorganic compounds
3. Analysis of commercial products
4. Purification of organic compounds
5. Preparations and mechanism of reactions involved

### **Course Outcome**

#### **CH- 101: Physical Chemistry**

After completing the course work learner will be acquired with knowledge of chemical energetics, Chemical equilibrium and ionic equilibria.

#### **CH- 102: Organic Chemistry**

Will learn Fundamentals of organic chemistry, stereochemistry (Conformations, configurations and nomenclatures) and functional group approach for aliphatic hydrocarbons

#### **CH- 201: Inorganic Chemistry**

Students will learn quantum mechanical approach to atomic structure, Periodicity of elements, various theories for chemical bonding and calculations used in analytical chemistry

#### **CH-202: Organic Chemistry**

Students will learn Functional group approach for the various reactions (preparations & reactions) in context to their structure

#### **Lab Course CH 103 and CH-203**

1. The practical course is in relevance to the theory courses to improve the Understanding of the concepts.
  2. It would help in development of practical skills of the students.
  3. Use of microscale techniques wherever required
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# **Savitribai Phule Pune University**

*(Formerly University of Pune)*

**Three Year B.Sc. Degree Program in Mathematics**

**(Faculty of Science & Technology)**

**F.Y.B.Sc. (Mathematics)**

**Choice Based Credit System Syllabus**

**To be implemented from Academic Year 2019-2020**

## **Title of the Course: B. Sc (Mathematics)**

### **Preamble:**

SavitribaiPhule Pune University has decided to change the syllabi of various faculties from June,2019. Taking into consideration the rapid changes in science and technology and new approaches in different areas of mathematics and related subjects board of studies in mathematics with concern of teachers of mathematics from different colleges affiliated to SavitribaiPhule Pune University has prepared the syllabus of F. Y. B.Sc. Mathematics. To develop the syllabus the U.G.C. Model curriculum is followed.

### Aims:

- (i) Give the students a sufficient knowledge of fundamental principles, methods and a clear perception of innumerable power of mathematical ideas and tools and know how to use them by modeling, solving and interpreting.
- (ii) Reflecting the broad nature of the subject and developing mathematical tools for continuing further study in various fields of science and technology.
- (iii) Enhancing students' overall development and to equip them with mathematical modeling abilities, problem solving skills, creative talent and power of communication necessary for various kinds of employment.
- (iv) Enabling students to develop a positive attitude towards mathematics as an interesting and valuable subject of study.

### Objectives:

- (i) A student should be able to recall basic facts about mathematics and should be able to display knowledge of conventions such as notations, terminology and recognize basic geometrical figures and graphical displays, state important facts resulting from their studies.
- (ii) A student should get a relational understanding of mathematical concepts and concerned structures, and should be able to follow the patterns involved, mathematical reasoning.
- (iii) A student should get adequate exposure to global and local concerns that explore them many aspects of Mathematical Sciences.
- (iv) A student be able to apply their skills and knowledge, that is, translate information presented verbally into mathematical form, select and use appropriate mathematical formulae or techniques in order to process the information and draw the relevant conclusion.
- (v) A student should be made aware of history of mathematics and hence of its past, present and future role as part of our culture.

**Course Outcome:**

Upon successful completion of this course, the student will be able to:

- i) The mathematical maturity of students in their current and future courses shall develop.
- ii) The student develops theoretical, applied and computational skills.
- iii) The student gains confidence in proving theorems and solving problems.

**Structure of the course:**

|                  | Semester - I  |                              | Semester -II  |                              | Credit     |
|------------------|---------------|------------------------------|---------------|------------------------------|------------|
| <b>Paper I</b>   | <b>MT-111</b> | <b>Algebra</b>               | <b>MT-121</b> | <b>Analytical Geometry</b>   | <b>2</b>   |
| <b>Paper II</b>  | <b>MT-112</b> | <b>Calculus - I</b>          | <b>MT-122</b> | <b>Calculus - II</b>         | <b>2</b>   |
| <b>Paper III</b> | <b>MT-113</b> | <b>Mathematics Practical</b> | <b>MT-123</b> | <b>Mathematics Practical</b> | <b>1.5</b> |

**Proposed Structure of S. Y. B. Sc. Mathematics Courses:**

|                  | Semester - III    |                                             | Semester -IV     |                              |          |
|------------------|-------------------|---------------------------------------------|------------------|------------------------------|----------|
| <b>Paper I</b>   | <b>MT-231</b>     | <b>Calculus of Several Variables</b>        | <b>MT-241</b>    | <b>Linear Algebra-I</b>      | <b>2</b> |
| <b>Paper II</b>  | <b>MT-232 (A)</b> | <b>Laplace Transform and Fourier Series</b> | <b>MT-242(A)</b> | <b>Vector Calculus</b>       | <b>2</b> |
|                  | <b>MT-232 (B)</b> | <b>Computational Geometry</b>               | <b>MT-242(B)</b> | <b>Numerical Analysis</b>    | <b>2</b> |
| <b>Paper III</b> | <b>MT-233</b>     | <b>Mathematics Practical</b>                | <b>MT-243</b>    | <b>Mathematics Practical</b> | <b>2</b> |

**Proposed Structure of T. Y. B. Sc. Mathematics Courses:**

| Semester- V   |                                            | Semester- VI  |                                            | Credit   |
|---------------|--------------------------------------------|---------------|--------------------------------------------|----------|
| <b>MT 351</b> | <b>Matric Spaces</b>                       | <b>MT 361</b> | <b>Complex Analysis</b>                    | <b>2</b> |
| <b>MT 352</b> | <b>Real Analysis-I</b>                     | <b>MT 362</b> | <b>Real Analysis-II</b>                    | <b>2</b> |
| <b>MT 353</b> | <b>Problem Course on MT 351 and MT 352</b> | <b>MT 363</b> | <b>Problem Course on MT 361 and MT 362</b> | <b>2</b> |
| <b>MT 354</b> | <b>Group Theory-I</b>                      | <b>MT 364</b> | <b>Ring Theory-I</b>                       | <b>2</b> |
| <b>MT 355</b> | <b>Ordinary Differential Equations-I</b>   | <b>MT 365</b> | <b>Partial Differential Equations-I</b>    | <b>2</b> |
| <b>MT 356</b> | <b>Problem Course on MT 354 and MT 355</b> | <b>MT 366</b> | <b>Problem Course on MT 364 and MT 365</b> | <b>2</b> |

| Select Any Two out of six courses |                                                        |         |                                                        |   |
|-----------------------------------|--------------------------------------------------------|---------|--------------------------------------------------------|---|
| MT357:A                           | Operations Research                                    | MT367:A | Optimization Techniques                                | 2 |
| MT357:B                           | Number Theory                                          | MT367:B | Graph theory                                           | 2 |
| MT357:C                           | C- Programming                                         | MT367:C | Lebesgue Integration                                   | 2 |
| MT357:D                           | Lattice Theory                                         | MT367:D | Financial Mathematics                                  | 2 |
| MT357:E                           | Python Course -I                                       | MT367:E | Python Course-II                                       | 2 |
| MT357:F                           | Machine Learning Course- I                             | MT367:F | Machine Learning Course- II                            | 2 |
| MT 338                            | Practical based on papers selected from 357 A to 357 F | MT 348  | Practical based on papers selected from 367 A to 367 F | 2 |
| MT-3510                           | Skill Enhancement course in maths                      | MT-3511 | Skill Enhancement course in maths                      | 2 |
| MT-3610                           | Skill Enhancement course in maths                      | MT-3611 | Skill Enhancement course in maths                      | 2 |

All three above courses are compulsory.

### 1. Equivalence of Previous syllabus along with new syllabus:

|           | Old course                                   | New Course                                                               |
|-----------|----------------------------------------------|--------------------------------------------------------------------------|
| Paper I   | MT-101 : Algebra and Geometry                | MT-111: Algebra and<br>MT-121 : Analytical Geometry                      |
| Paper II  | MT-102 : Calculus and Differential Equations | MT-112 : Calculus - I and<br>MT-122 : Calculus – II                      |
| Paper III | MT-103 : Mathematics Practical               | MT – 113 : Mathematics Practical and<br>MT – 113 : Mathematics Practical |

**Details of Syllabus:****Semester – I****MT 111- Algebra****Unit 1: Sets Relations and Functions (8 Lectures)**

- 1.1 Sets, Relations, Equivalence relations, Equivalence classes and partitions of a set
- 1.2 Functions, Basic terminology, Types of Functions, Inverse of a Function, Composition of Functions (Excluding theorems only examples).

**Unit2: Divisibility Theory in the Integers(10 Lectures)**

- 2.1 Mathematical Induction: Well-Ordering Principle.
- 2.2 The Division Algorithm, The Greatest Common Divisor, Euclid's Lemma, The Least Common Multiple, The Euclidean Algorithm.

**Unit 3: Primes and the theory of Congruence (8 Lectures)**

- 3.1 The Fundamental Number of Arithmetic: Prime Numbers, Euclid's Lemma.
- 3.2 The theory of Congruence: Basic Properties of congruence.
- 3.3 Fermat's Theorem

**Unit 4: Complex Numbers (10 Lectures)**

- 4.1 Sums and Products, Basic Algebraic Properties, Moduli, Complex Conjugates, Exponential form, Products and Quotients, De-Moivre's theorem.
- 4.2 Roots of Complex Numbers: The  $n^{\text{th}}$  roots of unity.
- 4.3 Regions in Complex Plane.

**Text Books:**

- 1. **A Foundation Course in Mathematics, Ajit Kumar, S. Kumeresan and Bhaba Kumar Sarma, Narosa Publication House.**  
Unit 1: Chapter 2: Sec. 2.1 to 2.5, Chapter 3: Sec. 3.1 to 3.6, Chapter 4: Sec. 4.1 to 4.4.
- 2. **Elementary Number Theory, David M. Burton, Tata McGraw Hill, Sixth Edition.**  
Unit 2: Textbook 2: Chapter 1: Sec. 1.1, Chapter 2: Sec. 2.2 to 2.4  
Unit 3: Textbook 2: Chapter 3: Sec. 3.1, Chapter 4: Sec. 4.1, 4.2, Chapter 5: Sec. 5.2.
- 3. **Complex Variables and Applications, James Ward Brown and Ruel V. Churchill, Mc-Graw Hill, Seventh Edition.**



Unit 4: Textbook 3: Chapter 1: Sec 1 to 10.

**Reference Books:**

1. Textbook of Algebra, S. K. Shah and S. C. Garg, Vikas Publishing House Pvt. Ltd. Edition 2017.
2. Introduction to Real Analysis by R.G. Bartle and D.R. Sherbert, John Wiley and Sons Inc, Fourth Edition.

**MT 112: CALCULUS - I****Unit 1: Real Numbers (06 Lectures)**

- 1.1 The Algebraic and Order Properties of  $\mathbb{R}$ :  
Algebraic properties of  $\mathbb{R}$ , Order properties of  $\mathbb{R}$ , Well-Ordering Property of  $\mathbb{N}$ . Arithmetic mean-Geometric mean inequality, Bernoulli's inequality.  
(Revision: essential properties should be revised with illustrative examples)
- 1.2 Absolute Value and the Real Line:  
Absolute value function and its properties, triangle inequality and its consequences, neighborhood of a point on real line.
- 1.3 The Completeness Property of  $\mathbb{R}$ :  
Definitions of Upper bound, Lower bound, supremum, infimum of subsets of  $\mathbb{R}$ , completeness property of  $\mathbb{R}$ .
- 1.4 Applications of the Supremum Property:  
Archimedean property and its consequences, The density theorem (without proof).

**Unit 2. Sequences (10 Lectures)**

- 2.1 Sequences and Their Limits:  
Definition and examples of sequences of real numbers, Definition of limit of sequence and uniqueness of limit, Examples on limit of sequence.
- 2.2 Limits Theorems:  
Definition of bounded sequence, Every convergent sequence is bounded, Algebra of limits.
- 2.3 Monotone Sequences:  
Definition and examples of monotone sequences, Monotone convergence theorem and examples.
- 2.4 Subsequences and Bolzano -Weierstrass Theorem:  
Definition of subsequence and examples, Divergence criteria, Monotone Subsequence theorem (without proof), Bolzano -Weierstrass theorem (first proof).

**Unit 3. Limits (08 lectures)**

- 3.1 Functions and their Graphs:

Functions, domain and range, graphs of functions, representing a function numerically, Vertical line test, Piecewise defined functions, increasing and decreasing functions, even and odd functions symmetry, common functions

### 3.2 Limits of Functions:

Definition of cluster point and examples, definition of limit of a function, sequential criterion for limits, divergence criteria.

### 3.3 Limit Theorems:

Algebra of limits (proofs using sequential criterion) ,Squeeze theorem.

### 3.4 Some extension of limit concepts:

one-sided limits, infinite limits (without proof) .

## Unit 4: Continuity

(12 lectures)

### 4.1 Continuous Functions:

Definition of continuous function at a point , sequential criterion for continuity, Divergence criterion, combination of continuous functions.

### 4.2 Continuous Functions on Intervals:

Properties of continuous functions on an interval, Boundedness theorem (without proof), The minimum -maximum theorem(without proof), Location of root theorem (Without proof), Bolzano's intermediate value theorem. Continuous function maps closed bounded interval to closed bounded interval, Preservation of interval theorem.

## Textbook Books:

### 1. Introduction to Real Analysis by R.G. Bartle and D.R. Sherbert, John Wiley and Sons Inc, Fourth Edition.

Unit 1: Chapter 2: Sec 2.1 (2.1.1 to 2.1.13), Sec. 2.2(2.2.1 to 2.2.9), 2.3, 2.4(2.4.1, 2.4.3 to 2.4.6, 2.4.8, 2.4.9).

Unit 2: Chapter 3: Sec. 3.1(3.1.1 to 3.1.7, 3.1.10, 3.1.11), Sec. 3.2(3.2.1 to 3.2.11), Sec. 3.3(3.3.1, 3.3.4), Sec. 3.4 (3.4.1 to 3.4.3, 3.4.5 to 3.4.8).

Unit 3: Chapter 4: Sec. 4.1(4.1.1, 4.1.3 to 4.1.9), Sec. 4.2(4.2.1 to 4.2.8), Sec. 4.3 (4.3.1 to 4.3.9).

Unit 4: Chapter 5: Sec. 5.1, Sec. 5.2, Sec 5.3 ( 5.3.1 to 5.3.5, 5.3.7 to 5.3.10).

### 2. Thomas Calculus, Thirteenth edition, Pearson Publication.

Unit 3: Text book-2: Chapter 1: Sec. 1.1.

## Reference books:

- 1 Introduction to Real analysis, William F.Trench, Free edition, 2010.
- 2 Calculus of a single variable Ron Larson , Bruce Edwards, tenth edition.
- 3 Elementary Analysis, The Theory of Calculus, Kenneth A. Ross, Springer Publication, second edition.
- 4 Calculus and its Applications, Marvin L. Bittinger, David J. Ellenbogen and Scott A. Surgent, Addison Wesley, tenth edition.

### MT 113: Mathematics Practical

(Practicals based on the applications of articles in MT 111 and MT 112)

In Semester-I, we should conduct 3 written practical and 3 practical on maxima software for each paper MT-111 and MT-112.

#### List of Practical

Practical 1 : Problems on Unit 1 and Unit 2(Written) from MT-111.

Practical 2 : Problems on Unit 3 (Written) from MT-111.

Practical 3 : Problems on Unit 4(Written) from MT-111.

Practical 4 :Introduction to maxima software forMT-111.

Practical 5 : Problems on unit 1 and unit 2 from MT-111using maxima software.

Practical 6 : Problems on Unit 3 and Unit 4 from MT-111using maxima software.

Practical 7: Problems on Unit 1 and Unit 2(Written) from MT-112.

Practical 8 : Problems on Unit 3 (Written) from MT-112.

Practical 9 : Problems on Unit 4(Written) from MT-112.

Practical 10 :Introduction to maxima software for MT-112.

Practical 11 : Problems on unit 1 and unit 2 from MT-112using maxima software.

Practical 12 : Problems on Unit 3 and Unit 4 from MT-112 using maxima software.

#### Note:

1 The soft copy of practicals on maxima software will be prepared and provided by the Board of Studies in mathematics.

2. Practical on maxima software can be performed on computer and android mobiles.

3. Android mobiles are allowed for practical examination on maxima software .

4. Practical examination of 25 marks on written problems, 10 marks for problems on maxima software ( 5 marks for writing syntax and 5 marks to perform the same on android mobile or computer).

## Semester - II

### MT 121-Analytical Geometry

#### Unit 1: Analytical Geometry of Two Dimension (10 Lectures)

- 1.1. Change of axes: translation and rotation.
- 1.2. Conic Sections: General equation of second degree in two variables
- 1.3. Reduction to standard form, center of conic, nature of conic.

#### Unit 2: Planes (10 Lectures)

- 2.1. Direction cosines and direction ratios, Equation of plane, Normal form, Transform to the normal form, Plane passing through three non-collinear points, Intercept form, Angle between two planes.
- 2.2. Distance of a point from a plane, Distance between parallel planes, Systems of planes, two sides of planes, Bisector planes.

#### Unit 3: Lines in three dimension (8 lectures)

- 3.1. Equations of a line in Symmetric and unsymmetrical forms, Line passing through two points, Angle between a line and a plane.
- 3.2. Perpendicular distance of a point from a plane, Condition for two lines to be coplanar (without proof).

#### Unit 4: Sphere (8 Lectures)

- 4.1. Equation of a sphere in different forms, plane section of a sphere.
- 4.2. Equation of a circle, sphere through a given circle
- 4.3. Intersection of a sphere and a line, Equation of tangent plane to sphere.

#### Text Books:

1. Analytic Geometry in Two and Three Dimensions : Von Steuben

Unit1: Sec, 8.4

2. Analytical Solid Geometry: Shantinayakan; S. Chand and Company Ltd, New Delhi, 1998.

Unit2: Sec. 1.6,1.7, Sec. 2.1 to 2.7

Unit3: Sec. 3.1 to 3.4, 3.7

Unit4: Sec. 6.1 to 6.6.

#### Reference Book:

1. P.K.Jain and Khalil Ahmad, A Text Book of Analytical Geometry of Three Dimensions, Wiley Eastern Ltd. 1999.

## MT 122: Calculus-II

**Unit 1:      Differentiation                                  (10 lectures)**

- 1.1. The Derivatives:  
Definition of the derivative of a function at a point, every differentiable function is continuous, Rules of differentiation, Caratheodary's theorem (without proof), The chain rule, Derivative of inverse function (without proof, only examples).
- 1.2 The Mean Value Theorems:  
Interior extremum theorem, Mean Value theorems and their Consequences, Intervals of increasing and decreasing of a function, first derivative test for extrema.

**Unit 2: L' Hospital Rule and Successive Differentiation(10 lectures)**

- 2.1 L'Hospital Rule:  
Indeterminate forms, L'Hospital Rules(without proof)
- 2.2 Taylor's theorem: Taylor's theorem and Maclaurin's theorem with Lagrange's form of remainder(Without proof).
- 2.3 Successive Differentiation: The nth derivative and Leibnitz theorem for successive differentiation.

## Unit 3: Ordinary Differential Equations (08 lectures)

- 3.1 Linear first order equations.
- 3.2 Separable equations.
- 3.3 Existence and Uniqueness of solutions of nonlinear equations.

## Unit 4: Exact Differential Equations (08 lectures)

- 4.1 Transformation of nonlinear equations to separable equations.
- 4.2 Exact differential equations.
- 4.3 Integrating factors.

**Textbooks:**

1. Introduction to Real Analysis by R.G. Bartle and D.R. Sherbert, John Wiley and Sons, Inc., Fourth Edition.

Unit 1: Chapter 6: Sec. 6.1(6.1.1 to 6.1.8), Sec 6.2(6.2.1 to 6.2.8).

Unit 2: Chapter 6: Sec 6.3(6.3.1 to 6.3.7), Sec 6.4(6.4.1 to 6.4.3).

2. **Differential Calculus by Shanti Narayan, Tenth Revised Edition.**

Units 2: Chapter 5: Sec. 5.1 to 5.6.

3. **Elementary Differential equations, William F. Trench, E-book (Free download)**

Unit 3: Chapter 2: Sec 2.1 to 2.3.

Unit 4: Chapter 2: Sec 2.4 to 2.6.

**Reference books:**

1. Introduction to Real analysis, William F.Trench, Free edition, 2010.
2. Calculus of a single variable Ron Larson , Bruce Edwards, tenth edition.
3. Elementary Analysis, The Theory of Calculus, Kenneth A. Ross, Springer Publication, second edition.
4. Calculus and its Applications, Marvin L. Bittinger, David J. Ellenbogen and Scott A. Surgent, Addison Wesley, tenth edition.
5. Ordinary and partial Differential equations, M.D. Raisingania, S. Chand and Company, 2009.

**MT 123: Mathematics Practical**

(Practical based on the applications of articles in MT 121 and MT 122)

In Semester-II, we should conduct 4 written practical and 2 practical on maxima software for each paper MT-121 and MT-122.

**List of Practical**

- Practical 1 : Problems on Unit 1 (Written) from MT-121.  
Practical 2 : Problems on Unit 2 (Written) from MT-121.  
Practical 3 : Problems on Unit 3 (Written) from MT-121.  
Practical 4 : Problems on Unit 4 (Written) from MT-121.  
Practical 5 : Problems on unit 1 and unit 2 from MT-121 using maxima software.  
Practical 6 : Problems on Unit 3 and Unit 4 from MT-121 using maxima software.  
Practical 7: Problems on Unit 1 (Written) from MT-122.  
Practical 8 : Problems on Unit 2 (Written) from MT-122.  
Practical 9 : Problems on Unit 3 (Written) from MT-122.  
Practical 10 : Problems on Unit 4 (Written) from MT-122.  
Practical 11 : Problems on unit 1 and Unit 2 from MT-122 using maxima software.  
Practical 12: Problems on Unit 3 and Unit 4 from MT-122 using maxima software.

**Note:**

- 1 The soft copy of practical on maxima software will be prepared and provided by the Board of Studies in mathematics.
2. Practicals on maxima software can be performed on computer and android mobiles.
3. Android mobiles are allowed for practical examination on maxima software .
4. Practical examination 25 marks on written problems, 10 marks for problems on maxima software ( 5 marks for writing syntax and 5 marks to perform the same on android mobile or computer).

**Modalities For Conducting The Practical and The Practical Examination:**

- 1) There will be one 3 hour practical session for each batch of 15 students per week.
- 2) The College will conduct the Practical Examination at least 15 days before the commencement of the Main Theory Examination. The practical examination will consist of written examination of 20 marks, 10 marks on maxima software and oral examination of 05 marks.
- 3) There will be no external examiner, the practical exam will be of the duration of 3 hours.
- 4) The subject teacher will set a question paper based on pattern as follows:
  - Q1.** Any 2 out of 4 each question of 5 marks on paper - I.
  - Q2.** Any 2 out of 4 each question of 5 marks on paper - II.
  - Q3.** (a) Any 1 out of 2 each question of 5 marks on maxima software from paper – I.  
(b) Any 1 out of 2 each question of 5 marks on maxima software from paper – II.
- 5) Each student will maintain a journal to be provided by the college.
- 7) The internal 15 marks will be given on the basis of journal prepared by student and the cumulative performance of student at practical.
- 8) It is recommended that concept may be illustrated using computer software maxima and graphing calculators wherever possible.
- 9) Study tours may be arranged at places having important mathematical institutes or historical places.
- 10) **Special Instruction:**
  - a) There should be well equipped mathematics practical laboratory of size 20 X 20 sq. fts containing at least 10 computers.
  - b) Examiners should set separate question papers, solutions and scheme of marking for each batch and claim the remuneration as per rule.
  - c) Before starting each practical necessary introduction, basic definitions, intuitive inspiring ideas and prerequisites must be discussed.



# **Savitribai Phule Pune University**

*(Formerly University of Pune)*

**Three Year B.Sc. Degree Program in Physics**

**(Faculty of Science & Technology)**

**F.Y.B.Sc. (Physics)**

**Choice Based Credit System Syllabus**

**To be implemented from Academic Year 2019-2020**



## **Title of the Course: B.Sc. (Physics)**

### **Preamble:**

The curriculum for the B. Sc. (Physics) programme is designed to cater to the requirement of Choice Based Credit System following the University Grants Commission (UGC) guidelines. In the proposed structure, due consideration is given to Core and Elective Courses (Discipline specific - Physics), along with Ability Enhancement (Compulsory and Skill based) Courses. Furthermore, continuous assessment is an integral part of the CBCS, which will facilitate systematic and thorough learning towards better understanding of the subject. The systematic and planned curricula from first year to the third year (comprised of six semesters) shall motivate the student for pursuing higher studies in Physics and inculcate enough skills for becoming an entrepreneur.

### **Objectives:**

- To foster scientific attitude, provide in-depth knowledge of scientific and technological concepts of Physics.
- To enrich knowledge through problem solving, minor/major projects, seminars, tutorials, review of research articles/papers, participation in scientific events, study visits, etc.
- To familiarize with recent scientific and technological developments.
- To create foundation for research and development in Physics.
- To help students to learn various experimental and computational tools thereby developing analytical abilities to address real world problems.
- To train students in skills related to research, education, industry, and market.
- To help students to build-up a progressive and successful career in Physics.

**Structure of the Course:**

| Subject Name | Year | Semester | Course Type                           | Course Code | Course Name                                              | Credit |
|--------------|------|----------|---------------------------------------|-------------|----------------------------------------------------------|--------|
| Physics      | 1    | I        | Compulsory Course                     | PHY-111     | Mechanics and Properties of Matter                       | 2      |
|              |      |          |                                       | PHY-112     | Physics Principles and Applications                      | 2      |
|              |      |          |                                       | PHY-113     | Physics Laboratory-IA                                    | 1.5    |
|              |      | II       | Compulsory Course                     | PHY-121     | Heat and Thermodynamics                                  | 2      |
|              |      |          |                                       | PHY-122     | Electricity and Magnetism                                | 2      |
|              |      |          |                                       | PHY-123     | Physics Laboratory-IB                                    | 1.5    |
|              | 2    | III      | Compulsory Course                     | PHY-231     | Mathematical Methods in Physics I                        | 2      |
|              |      |          |                                       | PHY-232     | Electronics I /Instrumentation                           | 2      |
|              |      |          |                                       | PHY-233     | Physics Laboratory-2A                                    | 2      |
|              |      |          | Ability Enhancement Compulsory Course | PHY-2310    | Environment -I                                           | 2      |
|              |      |          |                                       | PHY-2311    | Language-I                                               | 2      |
|              |      |          |                                       |             |                                                          |        |
|              |      | IV       | Compulsory Course                     | PHY-241     | Oscillations, Waves and Sound                            | 2      |
|              |      |          |                                       | PHY-242     | Optics                                                   | 2      |
|              |      |          |                                       | PHY-243     | Physics Laboratory-2B                                    | 2      |
|              |      |          | Ability Enhancement Compulsory Course | PHY-2410    | Environment –II                                          | 2      |
|              |      |          |                                       | PHY-2411    | Language-II                                              | 2      |
|              |      |          |                                       |             |                                                          |        |
|              | 3    | V        | Discipline Specific Elective Course   | PHY- 351    | Mathematical Methods in Physics II                       | 2      |
|              |      |          |                                       | PHY- 352    | Electrodynamics                                          | 2      |
|              |      |          |                                       | PHY- 353    | Classical Mechanics                                      | 2      |
|              |      |          |                                       | PHY- 354    | Atomic and Molecular Physics                             | 2      |
|              |      |          |                                       | PHY- 355    | Computational Physics                                    | 2      |
|              |      |          |                                       | PHY- 356    | Elective I (Select any One)                              | 2      |
|              |      |          |                                       | PHY- 357    | Physics Laboratory-3A                                    | 2      |
|              |      |          |                                       | PHY- 358    | Physics Laboratory-3B                                    | 2      |
|              |      |          |                                       | PHY- 359    | Physics Laboratory-3C                                    | 2      |
|              |      |          | Skill Enhancement Course              | PHY-3510    | Maintenance and Repairing of Laboratory equipment – I    | 2      |
|              |      |          |                                       | PHY- 3511   | Household Electrification, Maintenance and repairing - I | 2      |

|    |                                     |           |                                                          |   |
|----|-------------------------------------|-----------|----------------------------------------------------------|---|
| VI | Discipline Specific Elective Course | PHY- 361  | Solid State Physics                                      | 2 |
|    |                                     | PHY- 362  | Quantum Mechanics                                        | 2 |
|    |                                     | PHY- 363  | Thermodynamics and Statistical Physics                   | 2 |
|    |                                     | PHY- 364  | Nuclear Physics                                          | 2 |
|    |                                     | PHY- 365  | Electronics II /Advanced Electronics                     | 2 |
|    |                                     | PHY- 366  | Elective II (Select any One)                             | 2 |
|    |                                     | PHY- 367  | Physics Laboratory-4A                                    | 2 |
|    |                                     | PHY- 368  | Physics Laboratory-4B                                    | 2 |
|    |                                     | PHY- 369  | Project                                                  | 2 |
|    | Skill Enhancement Course            | PHY-3610  | Maintenance and Repairing of Laboratory Equipment – II   | 2 |
|    |                                     | PHY- 3611 | Household Electrification, Maintenance and Repairing- II | 2 |

**SEMISTER-I****Course code and title: PHY-111 Mechanics and Properties of Matter****Lectures: 36 (Credits-02)****1. Motion: (9 Lectures)**

Introduction to motion, Types of motion, Displacement, Velocity, Acceleration, Inertia, Newton's laws of motion with their explanations, Various types of forces in nature, Frames of reference (Inertial and Non inertial), Laws of motion and its real life applications, Problems.

**2. Work and Energy: (7 Lectures)**

Kinetic energy, Work Energy Theorem, Work done with constant force, Work done with varying force (spring force), Conservative and Non conservative forces, Potential energy, Law of energy conservation, Gravitational potential energy, Problems.

**3. Fluid Mechanics: (8 Lectures)**

Concept of viscous force and viscosity, Coefficient of viscosity, Steady and Turbulent flow, Reynolds number, Equation of continuity, Bernoulli's Principle, Applications of Bernoulli's Principle (Ventury Meter, PitotTube), Applications of viscous fluids, Problems.

**4. Properties of Matter: (12 Lectures)**

Surface tension, Angle of contact, Factors affecting surface tension, Jaeger's method for determination of surface tension, Applications of surface tension.

Stress and Strain, Hook's law and Coefficient of elasticity, Young's modulus, Bulk modulus, Modulus of rigidity, Work done during longitudinal strain, Volume strain, Shearing strain, Poisson's ratio, Relation between three elastic moduli, ( $Y$ ,  $\eta$ ,  $K$ ), Applications of elasticity, Problems.

**Reference Books**

1. Physics: Resnick, Halliday & Walker 9/e, Wiley.
2. University Physics : Sears and Zeemansky, XIth/XIIth Edition, Pearson Education.
3. Mechanics: D. S. Mathur, S. Chand and Company, New Delhi.
4. Elements of Properties of Matter : D. S. Mathur, S. Chand, New Delhi.
5. Concepts of Physics: H. C. Verma, Bharati Bhavan Publisher.
6. Problems in Physics: P. K. Srivastava, Wiley Eastern Ltd.
7. Applied Fluid Mechanics: Mott Robert, Pearson Benjamin Cummir VI Edition. Pearson Education/Prentice Hall International, New Delhi.
8. Fundamentals of Mechanics: J C Upadhyaya, Himalaya Publishing House.
9. Mechanics: D. S. Mathur, Revised by P. S. Hemne, S. Chand and Company, New Delhi.
- 10.

**Course code and title: PHY-112 Physics Principles and Applications****Lectures: 36****(Credits-02)****Learning Outcomes:**

On successful completion of this course students will be able to do the following:

1. To understand the general structure of atom, spectrum of hydrogen atom.
2. To understand the atomic excitation and LASER principles.
3. To understand the bonding mechanism and its different types.
4. To demonstrate an understanding of electromagnetic waves and its spectrum.
5. Understand the types and sources of electromagnetic waves and applications.
6. To demonstrate quantitative problem solving skills in all the topics covered.

**1. Physics of Atoms****(08-Lectures)**

- 1.1 Introduction to Atom
- 1.2 Atomic Models:
  - 1.2.1 Thomson's Atomic Model
  - 1.2.2 Rutherford's Atomic Model
  - 1.2.3 Bohr's Atomic Model
- 1.3 Atomic Spectra:
  - 1.3.1 Emission line Spectrum
  - 1.3.2 Absorption line spectrum
  - 1.3.3 Uses of Atomic Spectra
- 1.4 Classical planetary model of Hydrogen Atom
- 1.5 The Bohr Theory of the Hydrogen Atom
- 1.6 The Hydrogen Spectrum
- 1.7 Frank-Hertz experiment
- Problems

**2. LASERS and Its Applications****(07-Lectures)**

- 2.1 Introduction to LASERS
- 2.2 Basic Principle of Lasers: Three Processes
- 2.3 Characteristics of Lasers: brief explanation
- 2.4 Boltzmann Distribution Law
- 2.5 Population Inversion and Pumping
- 2.6 Types of Lasers:
  - 2.5.1 He-Ne Laser
  - 2.5.2 Ruby Laser
- 2.7 Applications of Lasers
- Problems

**3. Physics of Molecules****(08-Lectures)**

- 3.1 Introduction to Bonding Mechanisms
- 3.2 Forces between Atoms
- 3.3 Types of Bonding:
  - 3.3.1 Ionic Bonds
  - 3.3.2 Covalent Bonds
  - 3.3.3 van der Waal's Bonds
  - 3.3.4 Hydrogen Bond
  - 3.3.5 Metallic Bond
- 3.4 Rotation energy levels of a diatomic molecule
- 3.5 Vibration energy levels of a diatomic molecule
- Problems

**4. Sources of Electromagnetic Waves****(06-Lectures)**

- 4.1 Introduction to Electromagnetic Waves: Historical Perspective
- 4.2 General properties of Electromagnetic radiations
- 4.3 Electromagnetic spectrums and its sources
- 4.4 Production of electromagnetic waves: Hertz experiment
- 4.5 Plank's hypothesis of Photons
- 4.6 Applications of various waves in electromagnetic spectrum

**5. Applications of Electromagnetic Waves****(07-Lectures)**

- 5.1 Microwave oven
- 5.2 RADAR
- 5.3 Pyroelectric thermometer
- 5.4 X-ray radiography
- 5.5 CT Scan
- 5.6 Solar cell and its types
- Problems

**Books/References**

1. Concepts of Modern Physics: A Beiser (6th ed., McGraw Hill, 2003
2. Modern Physics: Raymond A. Serway, Clement J. Moses, Curt A. Moyer
3. Sears and Zemansky's University Physics: H.D. Young R. A. Freedman, Sandin (11th Ed. Pearson Education)
4. LASERS: M. N. Avdhanulu, S. Chand Publications.

**Course code and title: PHY-113 Physics Laboratory 1A****Practical: 10****(Credits-1.5)****Section I- Mechanics and Properties of Matter**

| Sr. No | Title of the experiment                                                                                                  |
|--------|--------------------------------------------------------------------------------------------------------------------------|
| 1      | Study and use of various measuring Instruments.<br>1. Vernier caliper 2. Micrometer Screw Gauge 3. Travelling Microscope |
| 2      | Study of Modulus of Rigidity of wire using Torsional Oscillations                                                        |
| 3      | Determination of coefficient of Viscosity by Poiseuille's method                                                         |
| 4      | Determination of “Y” and “ $\eta$ ” by flat spiral spring                                                                |
| 5      | Determination of “Y” by bending method.                                                                                  |
| 6      | Study of surface tension by Jaeger's method                                                                              |
| 7      | Study of Poisson's ratio of rubber using rubber tube /rubber chord                                                       |
| 8      | Study of surface tension of liquid using Fergusson Method                                                                |

**Section II-Physics Principles and Applications**

| Sr. No | Title of the experiment                                                                       |
|--------|-----------------------------------------------------------------------------------------------|
| 1      | Study of Spectrometer and determination of angle of prism                                     |
| 2      | Study of Spectrometer calibration and determination of refractive indices of different colors |
| 3      | Study of divergence of LASER beam                                                             |
| 4      | Study of total internal reflection using LASER                                                |
| 5      | Determination of Plank's constant                                                             |
| 6      | Determination of wavelength of LASER light by plane diffraction grating                       |
| 7      | Study of I-V characteristics of solar cell                                                    |

Note: Any four experiments from each section be conducted during the semester, with a total of 10 experiments.

**SEMISTER-II****Course code and title: PHY-121 Heat and Thermodynamics****Lectures: 36****(Credits-02)****1. Fundamentals of Thermodynamics****(10 Lectures)**

Concept of thermodynamic state, Equation of state, Van der Waal's equation of state, Thermal equilibrium, Zeroth law of thermodynamics, Thermodynamic processes: Adiabatic, Isothermal, Isobaric and Isochoric changes, Indicator diagram, Work done during isothermal change, Adiabatic relations, Work done during adiabatic change, Internal energy, Internal energy as state function, First law of thermodynamics, Reversible and Irreversible changes, Problems.

**2. Applied Thermodynamics:****(9 Lectures)**

Conversion of heat into work and its converse, Second law of thermodynamics, Concept of entropy, Temperature - entropy diagram, T-dS equations, Clausius - Clapeyron latent heat equations, Problems.

**3. Heat Transfer Mechanisms****(9 Lectures)**

Carnot's cycle and Carnot's heat engine and its efficiency, Heat Engines: Otto cycle & its efficiency, Diesel cycle & its efficiency, Refrigerators: General principle and coefficient of performance of refrigerator, Simple structure of Vapour compression refrigerator, Air Conditioning: Principle and its applications, Problems.

**4. Thermometry:****(8 Lectures)**

Concept of heat & temperature, Principle of thermometry, Temperature scales & inter-conversions, Principle, Construction and Working: (Liquid thermometers, Liquid filled thermometers, Gas filled thermometers, Bimetallic thermometers, Platinum resistance thermometer, Thermocouple), Problems.

Reference Books:

1. Concept of Physics: H. C. Verma, Bharati Bhavan Publisher.
2. Heat and Thermodynamics: Brijlal, N. Subrahmanyam, S. Chand and Company Ltd.
3. Heat and Thermodynamics: Mark W. Zemansky, Richard H. Dittman, 7<sup>th</sup> Edition, Mc-Graw Hill International Edition.
4. Thermodynamics and Statistical Physics: J. K. Sharma, K. K. Sarkar, Himalaya Publishing House.
5. Thermal Physics (Heat and Thermodynamics): A. B. Gupta, H. P. Roy books and Allied (P) Ltd. Calcutta.
6. Instrumentation: Devices & Systems, Rangan, Mani, and Sarma.



**Course code and title: PHY-122 Electricity and Magnetism****Lectures: 36****(Credits-02)****Learning Outcomes:**

On successful completion of this course students will be able to do the following:

- 1) To understand the concept of the electric force, electric field and electric potential for stationary charges.
- 2) Able to calculate electrostatic field and potential of charge distributions using Coulomb's law and Gauss's law.
- 3) To understand the dielectric phenomenon and effect of electric field on dielectric.
- 4) To Study magnetic field for steady currents using Biot-Savart and Ampere's Circuital laws.
- 5) To study magnetic materials and its properties.
- 6) Demonstrate quantitative problem solving skills in all the topics covered.

**1. Electrostatics****(08-Lectures)**

- 1.1 Revision of Coulomb's law:
  - 1.1.1 Statement
  - 1.1.2 Variation of forces with distances
- 1.2 Superposition principle:
  - 1.2.1 Statement
  - 1.2.2 Explanation with illustration
- 1.3 Energy of system of charges
- 1.4 Concept of electric field
  - 1.4.1 Due to point charge
  - 1.4.2 Due to group charges
- 1.5 Concept of electric flux
- 1.6 Gauss's law in electrostatics

Problems

**2. Dielectrics****(08-Lectures)**

- 2.1 Introduction to dielectric materials
- 2.2 Electric Dipole
  - 2.2.1 Electric dipole
  - 2.2.2 Dipole moment
- 2.3 Electric potential and intensity at any point due to dipole
- 2.4 Torque on a dipole placed in an electric field
- 2.5 Polar and non-polar molecules
- 2.6 Electric polarization of dielectric material
- 2.7 Gauss' law in dielectric
- 2.8 Electric vectors and its relation

Problems

**3. Magnetization****(07-Lectures)**

- 3.1 Introduction to Magnetization
- 3.2 Magnetic materials
- 3.3 Types of Magnetic Materials
  - 3.3.1 Diamagnetic materials
  - 3.3.2 Paramagnetic materials
  - 3.3.3 Ferromagnetic materials
  - 3.3.4 Antiferromagnetic materials

3.4 Bohr magnetron  
Problems

**4. Magnetostatics****(07-Lectures)**

- 4.1 Introduction to magnetization,
  - 4.2 Magnetic Induction and Intensity of magnetization
  - 4.3 Biot-Savart's law:
    - 4.3.1 Statement
    - 4.3.2 Long straight conductor
    - 4.3.3 Circular Coil
  - 4.4 Ampere's circuital law:
    - 4.4.1 Statement
    - 4.4.2 Field of Solenoid
    - 4.4.3 Field of Toroid
  - 4.5 Gauss law for magnetism
- Problems

**5. Magnetic Properties of Materials****(06-Lectures)**

- 5.1 Definition
    - 5.1.1 Magnetization (M),
    - 5.1.2 Magnetic Intensity (H),
    - 5.1.3 Magnetic Induction (B),
    - 5.1.4 Magnetic Susceptibility
    - 5.1.5 Magnetic Permeability
  - 5.2 Relation between B, M and H
  - 5.3 Hysteresis and Hysteresis Curve
  - 5.4 Ferrite materials and its Applications
- Problems

**References:**

1. Fundamentals of Physics: Halliday Resnik and Walkar, 8<sup>th</sup> Edition.
2. Electromagnetics: B. B. Laud.
3. Foundations of Electromagnetic theory: Reitz, Milford, Christey.
4. Electricity and Electronics: D.C. Tayal, Himalaya Publishing House, Mumbai.
5. Introduction to Electrodynamics: D.G. Griffith.
6. Electricity and Magnetism: Brij Lal, Subramanyan, Ratan Prakashan (Revised edition, 1997).
7. Electricity and Magnetism: Khare, Shrivastav (Revised edition, 1997).

**Course code and title: PHY-123 Physics Laboratory 1B****Practical: 08****(Credits-1.5)****Section I- Heat and Thermodynamics**

| Sr No | Title of the experiment                                                                                                                                      |
|-------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1     | Interpretation of Isothermal and Adiabatic curve on P-V diagram and theoretical study of Carnot's cycle by drawing graphs of Isothermal and Adiabatic curves |
| 2     | Study of temperature coefficient of Thermistor.                                                                                                              |
| 3     | Study of Thermocouple and determination of inversion temperature                                                                                             |
| 4     | Study of thermal conductivity by Lee's method                                                                                                                |
| 5     | Study of specific heat of Graphite                                                                                                                           |
| 6     | Study of Solar constant                                                                                                                                      |
| 7     | Determination of calorific values of different fuels                                                                                                         |

**Section II- Electricity and Magnetism**

| Sr No | Title of the experiment                                                      |
|-------|------------------------------------------------------------------------------|
| 1     | Study of charging and discharging of capacitor                               |
| 2     | Study of LR circuit                                                          |
| 3     | Study of LCR circuit                                                         |
| 4     | Study of Kirchhoff's Laws                                                    |
| 5     | Study of Diode characteristics                                               |
| 6     | Study of Voltmeter, Ammeter and Multimeter ( AC, DC, ranges and least count) |
| 7     | Determination of frequency of AC mains                                       |
| 8     | Comparison of capacitor using DeSauty's method                               |

**Note: Any four experiments from each section be conducted during the semester.**



# Savitribai Phule Pune University

*(Formerly University of Pune)*

**Three Year B.Sc. Degree Program in Restructuring pattern**

**(Faculty of Science & Technology)**

**F.Y.B.Sc. (Restructuring pattern)**

**Choice Based Credit System Syllabus**

**To be implemented from Academic Year 2019-2020**

## **Title of the Course: B.Sc. (Restructuring pattern)**

### **Preamble:**

BSc Restructuring program is designed to serve the requirements of Choice Based Credit System as per the guidelines of University Grants Commission. In the proposed structure, due consideration is given to restructured courses along with the conventional courses (Regular Pattern).

The continuous assessment of Choice Based Credit System will facilitate systematic and through learning towards better understanding of the subject. The well planned curricula from 1<sup>st</sup> year to 3<sup>rd</sup> year comprising of six semesters will definitely motivate the students for inculcating enough skills required for becoming a successful entrepreneur as well as a researcher.

### **Objectives:**

- To foster value based education
- To enrich project based learning and create foundation for research
- To train the students in skill oriented courses
- To increase and improve self confidence, effective communication skills, perfect and proper presentation skill through personality development courses

### **Course Outcomes:**

- Through this pattern, skilled and technical human resources will be made available.
- It will develop self confident and knowledgeable personnel's.
- The course will motivate students in the field of research as well as guide to become a successful entrepreneur.
- It will develop self awareness to enrich decision making ability among the students.
- Personal development will increase the clarity and effectiveness in knowing themselves and their strengths.

**Restructuring Pattern**

Structure of Choice Based Credit System for Undergraduate Science Restructuring Pattern 2019-20.

|           | Discipline Specific Core Courses (CC)                                                                                                                                                                                     |                                        | Ability Enhancement Compulsory Courses (AECC) |                           | Discipline Specific Elective Courses (DSEC) |                                        | Skill Enhancement Courses (SEC) |                           | Total Credit |
|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|-----------------------------------------------|---------------------------|---------------------------------------------|----------------------------------------|---------------------------------|---------------------------|--------------|
| Sem-ester | Course                                                                                                                                                                                                                    | Theory 1 + Theory 2 + Practical Credit | Course                                        | Theory + Practical Credit | Course                                      | Theory 1 + Theory 2 + Practical Credit | Course                          | Theory + Practical Credit |              |
| FYBSc I   | CC-I<br>(‘B’ Component)                                                                                                                                                                                                   | 2+2+1.5= 5.5                           | -                                             | -                         | -                                           | -                                      | -                               | -                         | 22           |
|           | CC-II<br>(‘B’ Component)                                                                                                                                                                                                  | 2+2+1.5= 5.5                           | -                                             | -                         | -                                           | -                                      | -                               | -                         |              |
|           | CC-III<br>(‘B’ Component)                                                                                                                                                                                                 | 2+2+1.5= 5.5                           | -                                             | -                         | -                                           | -                                      | -                               | -                         |              |
|           | CC-IV (Part-A)<br>(‘A’ Component: Foundation Course-I)                                                                                                                                                                    | 2+1.5= 3.5                             | -                                             | -                         | -                                           | -                                      | -                               | -                         |              |
|           | CC-IV (Part-B)<br>‘E’ Component: Personality Development-<br>(1) National Service Scheme-I,<br>(2) National Cadet Corps-I,<br>(3) Population Education-I,<br>(4) Family planning and health education-I,<br>(5) Sports-I. | 2                                      | -                                             | -                         | -                                           | -                                      | -                               | -                         |              |
| FYBSc II  | CC-V<br>(‘B’ Component)                                                                                                                                                                                                   | 2+2+1.5= 5.5                           | -                                             | -                         | -                                           | -                                      | -                               | -                         | 22           |
|           | CC-VI<br>(‘B’ Component)                                                                                                                                                                                                  | 2+2+1.5= 5.5                           | -                                             | -                         | -                                           | -                                      | -                               | -                         |              |

|              |                                                                                                                                                                                                                                        |              |                                        |       |   |   |   |   |    |
|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|----------------------------------------|-------|---|---|---|---|----|
|              | CC-VII<br><b>(‘B’ Component)</b>                                                                                                                                                                                                       | 2+2+1.5= 5.5 | -                                      | -     | - | - | - | - |    |
|              | CC-VIII (Part-A)<br><b>(‘A’ Component: Foundation Course-II)</b>                                                                                                                                                                       | 2+1.5= 3.5   | -                                      | -     | - | - | - | - |    |
|              | CC-VIII (Part-B)<br><b>‘E’Component: Personality Development-</b><br>(1) National Service Scheme-II,<br>(2) National Cadet Corps-II,<br>(3) Population Education-II,<br>(4) Family planning and health education-II,<br>(5) Sports-II. | 2            | -                                      | -     | - | - | - | - |    |
|              |                                                                                                                                                                                                                                        |              |                                        |       |   |   |   |   |    |
| SYBSc<br>III | CC-IX<br><b>(‘B’ Component)</b>                                                                                                                                                                                                        | 2+2+2= 6     | AECC-I<br>(Environ<br>ment)            | 2+0=2 | - | - | - | - | 22 |
|              | CC-X<br><b>(‘B’ Component)</b>                                                                                                                                                                                                         | 2+2+2= 6     | AECC-I<br>(Language Communi<br>cation) | 2+0=2 | - | - | - | - |    |
|              | CC-XI<br><b>(‘C’ Component: Part A)</b><br>(1) Pharmaceutical Chemistry-I,<br>(2) Energy Studies-I,<br>(3) Horticulture and its management-I,<br>(4) Applied entomology-I,<br>(5) Dairy Science-I.                                     | 2+2=4        | -                                      | -     | - | - | - | - |    |
|              | CC-XI<br><b>(‘D’ Component: Part-B)</b><br>(1) Soap Manufacturing-I,                                                                                                                                                                   | 2            | -                                      | -     | - | - | - | - |    |

|             |                                                                                                                                                                                                             |          |                                            |       |                                         |         |        |       |    |
|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|--------------------------------------------|-------|-----------------------------------------|---------|--------|-------|----|
|             | (2) Radio Repairing-I,<br>(3) Nursery Development-I,<br>(4) Medical Lab Technician-I,<br>(5) Milk and Milk Products-I.                                                                                      |          |                                            |       |                                         |         |        |       |    |
| SYBSc<br>IV | CC-XII<br><b>(‘B’ Component)</b>                                                                                                                                                                            | 2+2+2= 6 | AECC-III<br>(Environment)                  | 2+0=2 | -                                       | -       | -      | -     | 22 |
|             | CC-XIII<br><b>(‘B’ Component)</b>                                                                                                                                                                           | 2+2+2= 6 | AECC-IV<br>(Language<br>Communicatio<br>n) | 2+0=2 | -                                       | -       | -      | -     |    |
|             | CC-XIV<br><b>(‘C’ Component: Part A)</b><br>(1) Pharmaceutical Chemistry-II,<br>(2) Energy Studies-II,<br>(3) Horticulture and its<br>management-II,<br>(4) Applied entomology-II,<br>(5) Dairy Science-II. | 2+2=4    | -                                          | -     | -                                       | -       | -      | -     |    |
|             | CC-XI V<br><b>(‘D’ Component: Part-B)</b><br>(1) Soap Manufacturing-II,<br>(2) Radio Repairing-II,<br>(3) Nursery Development-II,<br>(4) Medical Lab Technician-II,<br>(5) Milk and Milk Products-II.       | 2        | -                                          | -     | -                                       | -       | -      | -     |    |
| TYBSc<br>V  | -                                                                                                                                                                                                           | -        | -                                          | -     | DSEC-I                                  | 2+2+2=6 | SEC-I  | 2+0=2 | 22 |
|             |                                                                                                                                                                                                             |          |                                            |       | DSEC-II                                 | 2+2+2=6 | SEC-II | 2+0=2 |    |
|             |                                                                                                                                                                                                             |          |                                            |       | DSEC-III:<br><b>(‘C’<br/>Component:</b> | 2+2=4   | -      | -     |    |



|  |  |  |  |  |                                                                                                                                                                                                                                                         |       |  |  |  |
|--|--|--|--|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|--|--|--|
|  |  |  |  |  | <b>Part A)</b><br>(1) Pharmaceutic<br>al Chemistry-I,<br>(2) Energy<br>Studies-I,<br>(3) Horticulture<br>and its<br>management-I,<br>(4) Applied<br>entomology-I,<br>(5) Dairy<br>Science-I.                                                            |       |  |  |  |
|  |  |  |  |  | <b>(‘C’<br/>           Component:<br/>           Part B)<br/>           Project<br/>           Based on;</b><br>(1) Pharmaceutic<br>al Chemistry,<br>(2) Energy<br>Studies,<br>(3) Horticulture<br>and its<br>management,<br>(4) Applied<br>entomology, | 2+0=2 |  |  |  |

|          |  |  |  |  |                                                                                                                                                                                                 |         |         |       |    |
|----------|--|--|--|--|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|---------|-------|----|
|          |  |  |  |  | (5) Dairy Science                                                                                                                                                                               |         |         |       |    |
|          |  |  |  |  |                                                                                                                                                                                                 |         |         |       |    |
| TYBSc VI |  |  |  |  | DSEC-IV                                                                                                                                                                                         | 2+2+2=6 | SEC-III | 2+0=2 | 22 |
|          |  |  |  |  | DSEC-V                                                                                                                                                                                          | 2+2+2=6 | SEC-IV  | 2+0=2 |    |
|          |  |  |  |  | DSEC-VI<br>(‘C’<br>Component: Part A)                                                                                                                                                           | 2+2=4   | -       | -     |    |
|          |  |  |  |  | (1) Pharmace<br>utical<br>Chemistry<br>-II,<br>(2) Energy<br>Studies-II,<br>(3) Horticultu<br>re and its<br>manageme<br>nt-II,<br>(4) Applied<br>entomolog<br>y-II,<br>(5) Dairy<br>Science-II. |         |         |       |    |
|          |  |  |  |  | (‘C’<br>Component: Part B) Project Based on;                                                                                                                                                    | 2+0=2   |         |       |    |

|              |  |  |  |  |                                                                                                                                                                                       |  |  |  |     |
|--------------|--|--|--|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|-----|
|              |  |  |  |  | (1) Pharmace<br>utical<br>Chemistry<br>,<br>(2) Energy<br>Studies,<br>(3)<br>Horticultu<br>re and its<br>manageme<br>nt,<br>(4)<br>Applied<br>entomolog<br>y,<br>(5) Dairy<br>Science |  |  |  |     |
| Total Credit |  |  |  |  |                                                                                                                                                                                       |  |  |  | 132 |

- In F.Y.B.Sc. Restructuring pattern student offer three regular courses and one restructuring course. (In Regular F.Y.B.Sc. Pattern students offer four courses.)
- Over all credit remain same in regular and restructuring patterns.

|                       |                                    |           |
|-----------------------|------------------------------------|-----------|
| Examination Pattern = | Internal Exam:                     | 15 Marks  |
|                       | External Exam (Semester End Exam): | 35 Marks  |
|                       | Total :                            | 50 Marks. |

**Savitribai Phule Pune University**  
**Restructure Pattern 2019-20**  
**Science Faculty**

**Structure of F. Y. B. Sc. Restructuring pattern**

| Semester  | Paper Code    | Paper | Core course (Course Code)                                                         | Paper Title                             | Credits |
|-----------|---------------|-------|-----------------------------------------------------------------------------------|-----------------------------------------|---------|
| <b>I</b>  | RE-A-FC-101   | I     | <b>CC-IV (Part-A)</b><br>'A' Component<br>(Compulsory Course)                     | Foundation Course- I                    | 3.5     |
|           | RE-E-NSS-102  | I     | <b>CC-IV (Part-B)</b><br>( 'E' Component:<br><br>(Student opt any one subject).   | National Service Scheme-I,              | 02      |
|           | RE-E-NCC-103  | I     |                                                                                   | National Cadet Corps-I                  | 02      |
|           | RE-E-PE-104   | I     |                                                                                   | Population Education-I,                 | 02      |
|           | RE-E-FPHE-105 | I     |                                                                                   | Family planning and health education-I  | 02      |
|           | RE-E-SP-106   | I     |                                                                                   | Sports-I                                | 02      |
| <b>II</b> | RE-A-FC-111   | II    | <b>CC-VIII (Part-A)</b><br>'A' Component<br>(Compulsory Course)                   | Foundation Course- II                   | 3.5     |
|           | RE-E-NSS-112  | II    | <b>CC-VIII (Part-B)</b><br>( 'E' Component:<br><br>(Student opt any one subject). | National Service Scheme-II,             | 02      |
|           | RE-E-NCC-113  | II    |                                                                                   | National Cadet Corps-II,                | 02      |
|           | RE-E-PE-114   | II    |                                                                                   | Population Education-II,                | 02      |
|           | RE-E-FPHE-115 | II    |                                                                                   | Family planning and health education-II | 02      |
|           | RE-E-SP-116   | II    |                                                                                   | Sports-II.                              | 02      |

**SEMESTER-I****CC-IV (Part-A)****Course code - RE-A-FC-101****Paper Title: Foundation Course- I (Paper -1)****(‘A’ Component: Basic Knowledge Course.) (Credit.3.5)**

Objectives:

1. To Impart moral, Patriotic and Socio-cultural values in the students.
2. To aware the students about various problems emerged in India.
3. To helps the students to know the trends of National and Global development.
4. It helps to learn the concept and its practical application in human life.

| Semester – I Syllabus                                                        |                                         |                                                |                                                                                                                                                                                                                       |             |
|------------------------------------------------------------------------------|-----------------------------------------|------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| Paper I : 3.5 credit (Theory Credit 2 + Practical based Activity Credit 1.5) |                                         |                                                |                                                                                                                                                                                                                       |             |
| Theory                                                                       |                                         |                                                |                                                                                                                                                                                                                       |             |
| Unit No.                                                                     | Unit                                    | Sub Unit                                       |                                                                                                                                                                                                                       | Credit      |
| 1.                                                                           | A Study of Global and Indian Concepts   | a<br>b<br>c<br>d<br>e<br>f<br>g<br>h<br>i<br>j | Nationalism,<br>Economic Imperialism,<br>Socialism,<br>Humanity,<br>Liberty,<br>Democracy,<br>Globalization,<br>Liberalization,<br>Privatization,<br>Religion.                                                        | Credit- 1   |
| 2.                                                                           | Transformation Movements in Maharashtra | a<br>b<br>c                                    | Social and Religious movement in Maharashtra: - Prarthana Samaj, Satyashodhak Samaj.<br>Classified movements: -<br>Famine Movement,<br>Women's movements.<br>Educational movement in Maharashtra: - Nature and growth | Credit- 1   |
| Practical based Activity - Credit 1.5                                        |                                         |                                                |                                                                                                                                                                                                                       |             |
| 1.                                                                           | Recent trends in Indian economy         | a<br>b<br>c<br>d                               | Economy- Meaning and types, pattern of Indian economy<br>Financial inclusion<br>Inclusive growth<br>GST.                                                                                                              | Credit- 1   |
| 2.                                                                           | Science and Scientific Method           | a<br>b<br>c<br>d<br>e                          | Science- Definition,<br>Classification of science<br>Scientific Methods<br>Sources of data collection<br>Report writing                                                                                               | Credit- 0.5 |

**SEMESTER-II****CC-VIII (Part-A)****Course code - RE-A-FC-111****Paper Title: Foundation Course- II (Paper -II)****(‘A’ Component : Basic Knowledge Course.) (Credit.3.5)**

| Semester – II Syllabus                                                      |                                                      |          |                                                                                                        |             |
|-----------------------------------------------------------------------------|------------------------------------------------------|----------|--------------------------------------------------------------------------------------------------------|-------------|
| Paper -II Credit: 3.5 (Theory Credit 2 + (Activity) Practical's Credit 1.5) |                                                      |          |                                                                                                        |             |
| Theory                                                                      |                                                      |          |                                                                                                        |             |
| Unit No.                                                                    | Unit                                                 | Sub Unit |                                                                                                        | Credit      |
| 1.                                                                          | Basic Concept in Political Science, Political Issues | a        | Indian Constitution creation and importance                                                            | Credit- 1   |
|                                                                             |                                                      | b        | Democracy- Definition and Types, Merits and Demerits of Indian democracy                               |             |
|                                                                             |                                                      | c        | Human Rights and Responsibilities                                                                      |             |
|                                                                             |                                                      | d        | Right to Information Act (RTI-2005)                                                                    |             |
|                                                                             |                                                      | e        | Local Governments                                                                                      |             |
| 2.                                                                          | Value Education                                      | a        | National values - Democracy, socialism, secularism, equality, justice, liberty, Freedom and fraternity | Credit- 1   |
|                                                                             |                                                      | b        | Social Values - Pity and probity, self control, universal brotherhood. Professional Values -           |             |
|                                                                             |                                                      | c        | Knowledge thirst, sincerity, regularity, punctuality and faith.                                        |             |
|                                                                             |                                                      | d        | Religious Values – Personality, Tolerance, wisdom,                                                     |             |
|                                                                             |                                                      | e        | Aesthetic values – Love, appreciation, respect to literature and fine arts                             |             |
|                                                                             | Practical based Activity - Credit 1.5                |          |                                                                                                        |             |
| 1.                                                                          | Contemporary Social Issues in India                  | a        | Population-Characteristics, Causes and effects of growing population in India.                         | Credit- 1   |
|                                                                             |                                                      | b        | Urbanization-Concept and problems                                                                      |             |
|                                                                             |                                                      | c        | Gender Disparity-Concept, causes and measures to eliminate gender disparity.                           |             |
|                                                                             |                                                      | d        | Women Empowerment-Concept and Significance.                                                            |             |
| 2.                                                                          | Geography of India                                   | a        | Physiographical regions in India                                                                       | Credit- 0.5 |
|                                                                             |                                                      | b        | States and its capitals                                                                                |             |
|                                                                             |                                                      | c        | Rivers                                                                                                 |             |
|                                                                             |                                                      | d        | Dam                                                                                                    |             |
|                                                                             |                                                      | e        | Forests                                                                                                |             |
|                                                                             |                                                      | f        | Deserts                                                                                                |             |

**Semester Exam Pattern**

Credit: 3.5 (Theory- Credit 2 + Practical Based Activity- Credit 1.5)

- Internal Exam : 15 Marks
- Semester Exam : 35 Marks
- Total : 50 Marks

: 2 hours for Semester theory Examination

References:

- 1) Foundation Course- 1- Dr. Ashok Jain, sheth Publishers Pvt. Ltd., Mumbai
- 2) Indian Economy- Dr. Desai, Dr. Nirmal Bhalerao – Nirali Publications.
- 3) Transformation of Modern Maharashtra- Vasant Jadhav
- 4) Indian Economy- Rudra Dutt & K.P.M. Sundaram, S. Chand Publication, New Delhi
- 5) Indian Geography- H. K. Doiphode, Study circle Publication Pvt Ltd, Pune
- 6) Right to Information – Yashada Academy and Publication Pune
- 7) Science Technology & Social Transformation (Foundation course - 2) – S.A Chitanand- Dr. Ashok Jain, sheth Publishers Pvt. Ltd., Mumbai
- 8) Foundation Course- Dr. G.V. Kayande Patil, Prof. M.S. Nagbhide, Dr. K.R. Shimpi, Prof. S. D. Gite, Chaitnya publication, Nashik
- 9) Modern India – Gathal, K'sagar Publication, Pune
- 10) Local Self Government in India – Dr. Shantaram Bhogale Nirali Publication

**SEMESTER -I****CC-IV (Part-B)****Course code - RE-E-NSS-102****Paper Title: National Service Scheme-I, (Paper -1)****(‘E’ Component: Personality Development Course.) (Credit.02)****Theory****Credit-1:**

Chaper-1: Evaluation of N.S.S.- Brief history, aims, objectives, growth, organizational structure and present state. 04L

Chaper-2: Need of social work in human life:- Introduction to the work of social reformists like Mahatma Phule, Savitribai Phule, D.K. Karve, Bhaurao Patil, Mahatma Gandhi. An introduction to the life of saints like Tukaram, Dnyaneshwar, Eknath, Saint Gadagebaba etc. 07L

Chaper-3: Superstitions and modern Youth Emergence of superstitions, Factors responsible to superstitions & remedies to every can this problem. 04L

**Field Work & Project Work****Credit-1**

A) Field Work :- (10 Hours)

1) Sanitation

i) Cleaning of the slumps.

ii) Disposal of sewage in villages.

iii) Cleaning of the campus/area.

2) Repairs & Construction of roads.

3) Tree plantation.

4) Village survey referring Socio-economic / educating & religious aspects.

5) Eradication of Carrot Grass (Gajar grass) / Weeds.

B) Project Work:- (Any two Survey out of following) (05 Hours)

i) Cattle / as per local needs -Survey

ii) Survey of Child health nursing

iii) Survey of Public health.

iv) Survey of nutrition.



**SEMESTER –II****CC-VIII (Part-B)****Course code - RE-E-NSS-112****Paper Title: National Service Scheme-II, (Paper -I1)**  
(‘E’ Component: Personality Development Course) (Credit.02)**Credit-1**

Chapter- 1:- Haemoglobin, Normal Range, Symptom of high and low level, Diet for maintaining of Normal range of Haemoglobin. 04L

Chapter-2:- Blood groups, Blood donation, its importance and benefits, impact on health of blood donation. 06L

Chapter-3:- Cleanliness, need and importance of personal Hygiene 05L

**Field Work & Project Work****Credit-1****Field Work:- (10 Hours)**

- i) Preparation of school ground.
- ii) Enhancement of School ,College , Complex by organizing activities Like cultural, educational, sports, debating etc.
- iii) Enhancement of Hospital work by organizing camp of Blood (Donating service to the patients /spoons.)
- iv) Tree plantation ( follow up programmes)
- v) Survey of marginal farmers / workers.

**Project Work:- (Any two Survey out of following) (05 Hours)**

- i) Survey of Hb level in community
- ii) Survey of energy resources.
- iii) Survey of population regards the family planning.
- iv) Survey of backward/ Tribal /minority people.

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**Books**

1. National Service Scheme, The Youth Volunteers program. For Under Graduate Students by D.S.Panwar , Amit Kumar , J.N. Brijesh Kumar Rathi.Semester I & II. Astral Publication.

**SEMESTER -I****CC-IV (Part-B)****Course code - RE-E-NCC-103****Paper Title: National Cadet Corps-I (Paper -I)****(‘E’ Component: Personality Development Course) (Credit.02)****Credit : 1****1. Introduction of NCC and Drill 15 L**

- i. History of National Cadet Corps
- ii. Aims and Motto of National Cadet Corps
- iii. NCC Organization
- iv. NCC Song
- v. Introduction and Aims of drill
- vi. Advantages of drill

**Credit : 1****2. Civil and Self Defense 08L**

- i. Civil defense measures
- ii. Various civil defense services
- iii. Unarmed combat and its principles
- iv. Stroke on Enemy
- v. Vulnerable parts of the body
- vi. Attacking

**3. Map Reading 07L**

- i. Definition
- ii. Conventional sign
- iii. Grid time
- iv. Prismatic compass/ Service protector
- v. Setting of maps
- vi. Finding north and own position

**SEMESTER -II****CC-VIII (Part-B)****Course code - RE-E-NCC-113****Paper Title: National Cadet Corps-II, (Paper -II)****(‘E’ Component: Personality Development Course) (Credit.02)****Credit 01****1. First Aid****15 L**

- a. Definition and Aims of first aid
- b. Necessary material for first aid
- c. Artificial respiration and pressure points
- d. First aid for wounds and bleeding
- e. First aid for snake bite and dog bite.

**Credit 01****15 L****2. Hygiene and Sanitation**

- a. Definition and introduction
- b. Personal hygiene
- c. Harmful causes of impure water
- d. Purified water supply
- e. Malaria-Causes and Prevention
- f. Leadership Traits and Man Management
- g. Leadership and styles
- h. Principles of leadership
- i. Traits
- j. Man management (Suggested ways)

**Books:**

- NCC National Cadet Corps (Including Model Papers & Solved Questions) by R. Gupta's
- Handbook NCC: Kanti Publication, Itawa (U.P.)
- NCC Cadets Military Training by Vishnu Kant Sharma & Meena Sharma

**SEMESTER -I**

CC-IV (Part-B)

**Course code - RE-E-PE-104****Paper Title: Population Education-I, (Paper-I)****(‘E’ Component: Personality Development Course) (Credit.02)****Objectives:**

1. To develop awareness on the population Dynamics.
2. Provide necessary skill to evaluate the impact and consequence of population growth.
3. Inculcating in them rational attitude and responsible behavior towards population and development issues.
4. Making learners aware of interrelationships between population and sustainable Development.

Credit: 02

| Sr.no | Topic                                       | Subtopic                                                                                                                                                                                                                    | Credits |
|-------|---------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| 1     | <i>Concept of population Education</i>      | a. Definition, Nature and Scope of population Education<br>b. Objective of population Education<br>c. History of population Education<br>d. Population Education in India<br>e. Need and Importance of Population Education | 01      |
| 2     | <i>Population Structure And Composition</i> | a. Sex and Age Structure<br>b. Factor affecting on sex Ratio<br>c. Sex ratio in India<br>d. Age Structure of Indian Population<br>e. Aging of Population-Concept                                                            | 0.5     |
| 3     | <i>Population Explosion</i>                 | a. Definition of Population Explosion<br>b. Concept –Optimum Over and Under population<br>c. Over population in India-Cases and Consequence<br>d. Population Distribution in India                                          | 0.5     |

**SEMESTER -II****CC-VIII (Part-B),****Course code – RE-E-PE-114****Paper Title: Population Education-II, (Paper-II)****(‘E’ Component: Personality Development Course) (Credit.02)**

| Sr.no | Topic                      | Subtopic                                                                                                                                                                                        | Credits |
|-------|----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| 1     | Population Policies        | a. Population of India<br>b. population Policies o f India<br>c..Population education in India<br>d.Family welfare and Programme in India                                                       | 0.5     |
| 2     | Population Development     | a. Urbanization –Cases and Consequences<br>b. Population and Economic development<br>c. Population and Health<br>d. Population and Quality of Life<br>e. Population and Sustainable Development | 01      |
| 3     | Population and Environment | a. Population and Global Warming<br>b. Population and Air Pollution<br>c. Population and Water Pollution<br>d. Population and Soil Pollution<br>e .Population and deforestation                 | 0.5     |

## Reference books-

1. Population Education-M.V.Lakshmi Reddy
2. Population Education-V,, Pandey
3. *Population and Environment*-J.C.Aggarwal
4. Population Studies and Population Education.Dr.S.N.Kulkarni
5. Population Studies-Ahirrao

**SEMESTER -I****CC-IV (Part-B)****Course code - RE-E-FPHE-105****Paper Title: Family planning and health education-I,(Paper-I)**  
(‘E’ Component: Personality Development Course) (Credit.02)**Course Objectives:**

- i. To bring the health conciseness.
- ii. To control the population.
- iii. To generate awareness of health education.
- iv. To highlight importance of family planning in nation building

**Credit : 02**

- 1) Importance of health in life and its need.
- 2) Pesticide and food.
- 3) Food value in balance diet.
- 4) Types of exercise and their need.
- 5) Personal hygienic.
- 6) Bad habits and their drawbacks.
- 7) Pollution effect on health.
- 8) Study of following disease with ref to their symptoms and control measures
  - a. Viral disease -Aids , swine flue
  - b. Bacterial -T.B, Pneumonia
  - c. Parasitic disease- Ascarisis Taeniasis
  - d. Fungal disease- lamprey
  - e. Blood disorder- Hemophilia, Anemia

**SEMESTER -II****CC-VIII (Part-B)****Course code – RE-E-FPHE-115****Paper Title: Family planning and health education-II,(Paper-II)****(‘E’ Component: Personality Development Course) (Credit.02)****(Credit 02)**

- 1) Eyes, Skin, Hairs and Nails care.
- 2) Population control.
- 3) Family planning.
- 4) Contraceptives devices.
- 5) Human reproductive system.
- 6) Diet in pregnancy.
- 7) Parturition and child care.

**References:**

- Text book of Medical Physiology, Guyton and Hall.
- Text book of Parasitology, K.D. Chatterjee.
- Text book of Gynecobology, D.C. Datta.
- Text book of Microbiology Ananthanarayan and Paniker
- Text book of Nutrition, Viday & D.B. Rao.

**SEMESTER -I****CC-IV (Part-B)****Course code – RE-E-SP-106****Paper Title: Sports-I. (Paper-I)****(‘E’ Component: Personality Development Course) (Credit.02)****THEORY (Credit: 1)**

- A) Introduction to physical Education and Sports.
- B) Introduction to Asian Games and Olympic Games.
- C) Introduction to Health Education and Hygiene
- D) Brief study of the Game. (Any Two)

(With reference to History of the Game, Equipment of the Game, Dimensions of the ground, Rules and Regulations of the Game, Basic Skills of the game, Techniques and Tactics of the Game)

- 1. Cricket
- 2. Football
- 3. Table Tennis
- 4. Volley Ball

**Practicals. Activity** (Participation in Sports) Credit :01**A) Exercises :-**

- a) General and specific warming up exercises of the Game
- b) Skill development exercises

**B) General Introduction to Track and Field Events :-**

- a) Throwing events
- b) Jumping
- c) Running events



**SEMESTER -II****CC-VIII (Part-B)****Course code- RE-E-SP-116****Paper Title: Sports-II. (Paper-II)****(‘E’ Component: Personality Development Course) (Credit.02)****Theory Credit-01**

- A) Concept of Physical Education and Scope.
- B) Concept of Physical fitness.
- C) Intramural Organization.
- D) Brief study of the Game (Any Two)

(With reference to History of the Game, Equipment of the Game, Dimensions of the ground, Rules and Regulations of the Game, Basic Skills of the game, Techniques and Tactics of the Game)

- i. Basketball
- ii. Kho-Kho
- iii. Kabaddi
- iv. Badminton

**Practicals . Activity (Participation in Sports) Credit :01**

- 1. Sports Activity on Ground related to theory syllabus.  
Basketball
  - i. Kho-Kho
  - ii. Kabaddi
  - iii. Badminton.

- 2. Yoga Practicals.

Books:

- 1. Fundamental Elements of Physical Education. By Kamlesh M.L.
- 2. Principal & History of Physical Education and Sports By Singh D.K.
- 3. A Text Book of Applied measurement Evaluation & Sport Selection by Kansal D.K.
- 4. A Pioneer of Scientific and Physical Education by Swami Kuvalayananda
- 5. Patanjali Yog Darshan by Swami Anandrushi
- 6. Asanas by Swami Kuvalayananda.



# **Savitribai Phule Pune University**

*(Formerly University of Pune)*

**Three Year B.Sc. Degree Program in Statistics**

**(Faculty of Science & Technology)**

**F.Y.B.Sc. Statistics**

**Choice Based Credit System Syllabus**

**To be implemented from Academic Year 2019-2020**

**Title of the program:** F.Y.B.Sc. Statistics/ Statistical Techniques**Preamble of the syllabus:**

The word **Statistics** is used in different ways in different contexts. To a cricket fan, Statistics is the information about runs scored or wickets taken by a player. To the manager of a manufacturing unit, Statistics may be the information about the process control. To a medical researcher investigating the effects of a new drug, Statistics are evidence of research efforts. To a college student, Statistics are the grades or marks scored in a course. Thus, in all these illustrations Statistics word refers to quantitative data in the area under study. Statistics as a subject is an important branch of knowledge and is devoted to various techniques of collection, presentation, analysis and interpretation of data. It is a science of learning from data.

Statistics provides tools for making decisions when conditions of uncertainty prevail. Hence these tools and techniques are used in almost all fields. Statistics is indispensable for people working in fields like agriculture, business, management, economics, finance, insurance, education, biotechnology and medical science etc. Since last two decade, with the help of computers large amount of data can be handled and more sophisticated statistical techniques can be used in an effective manner. Knowledge of different aspects of Statistics has become crucial. There is a continuous demand for statisticians in every field – education, industry, software, insurance, clinical trials data and research. The syllabus of the three Year B. Sc. degree course in Statistics is framed in such a way that the students at the end of the course can apply judiciously the statistical tools to a variety of data sets to arrive at some conclusions.

Statistics can be divided into two broad categories, (1) exploratory statistics or descriptive statistics, which is concerned with summarizing data and describing these data, and (2) confirmatory statistics or inferential statistics, which is concerned with making decisions about the population based on the sample.

Up to higher secondary school, students are mostly exposed to descriptive statistics. These techniques are briefly reviewed but the emphasis in degree course is on inferential statistics. At the end of the degree course a student is expected to apply the statistical tools to real life data and analyze it.

Introduction: Choice based credit (semester) system:

B. Sc. in Statistics program is of three years duration, with semester pattern for all the three years. A student of three-year B.Sc. degree program will not be allowed to offer Statistics and Statistical Techniques simultaneously in any of the three years of the course. Students offering **Statistics** at the First year of the three-year B.Sc. course may be allowed to offer **Statistical Techniques** as one of their subjects in the second year of the three-year B.Sc. in place of Statistics. Students offering Statistical Techniques at the first year of the three-year B.Sc. course may be allowed to offer Statistics as one of their subjects in the second year of the three-year B.Sc. course in place of Statistical Techniques provided they satisfy other requirements regarding subject combinations, if any.

At **first year of under-graduation**, students will be given the basic information that includes – methods of data representation and summarization. Correlation and regression are the forecasting tools that are frequently used in statistical analysis. These topics are studied in one of the papers in each semester. Further they are introduced to probability and different discrete probability distributions along with applications in the other paper. Relevant experiments on these topics will be included in practical course. Further the students are expected start using some statistical software and verify the computations during practicals. It is a skill oriented part of the course.

At **second year of under-graduation**, students are expected to study various probability distributions and its applications to real life situations. It is a foundation for further theory. An important branch of Statistics, viz. testing of hypotheses related to mean, variance, proportion, correlation etc. will be introduced. Some topics related to applications of Statistics will be also introduced. Further the students are expected start using some statistical software and verify the computations during practicals. It is a skill oriented part of the course.

At **third year of under-graduation**, six theory papers deal with theoretical as well as applied aspect of statistics. Some papers such as distribution theory and parametric inference are core and mathematical in nature. Some papers such as sampling methods and Design of Experiments are core and applied but less mathematical. In Design of Experiments paper, various designs used in agriculture and industry are studied agriculture, clinical trials. Papers of applied nature, like medical statistics, actuarial statistics, time series, and optimization techniques (operations research), statistical quality control. There are some skill oriented courses C programming and R software. There are three practical courses based on core courses. In one of the practical courses, project component will be introduced to get hands on training or experiential learning.

### Structure of the Course

Structure of the course for three years and the pattern of examination and question papers are as specified below

#### Structure of F. Y. B. Sc. Statistics/ Statistical Techniques

| Semester | Paper code | Paper | Paper title                        | credits | Marks |     |       |
|----------|------------|-------|------------------------------------|---------|-------|-----|-------|
|          |            |       |                                    |         | CIA   | ESE | Total |
| 1        | ST 111     | I     | Descriptive Statistics I           | 2       | 15    | 35  | 50    |
|          | ST 112     | II    | Discrete Probability               | 2       | 15    | 35  | 50    |
|          | ST113      | III   | Statistics Practical PaperI        | 1.5     | 15    | 35  | 50    |
| 2        | ST121      | I     | Descriptive Statistics II          | 2       | 15    | 35  | 50    |
|          | ST122      | II    | Discrete Probability Distributions | 2       | 15    | 35  | 50    |
|          | ST123      | III   | Statistics Practical Paper II      | 1.5     | 15    | 35  | 50    |

#### Structure of S. Y. B. Sc. Statistics

| Semester | Paper code | Paper | Paper title                | credits | Marks |     |       |
|----------|------------|-------|----------------------------|---------|-------|-----|-------|
|          |            |       |                            |         | CIA   | ESE | Total |
| 3        | ST 231     | I     | Statistics theory paper 1  | 2       | 15    | 35  | 50    |
|          | ST 232     | II    | Statistics theory paper 2  | 2       | 15    | 35  | 50    |
|          | ST233      | III   | Statistics Practical Paper | 2       | 15    | 35  | 50    |
| 4        | ST241      | I     | Statistics theory paper 1  | 2       | 15    | 35  | 50    |
|          | ST242      | II    | Statistics theory paper 2  | 2       | 15    | 35  | 50    |
|          | ST243      | III   | Statistics Practical Paper | 2       | 15    | 35  | 50    |

**Structure of T. Y. B. Sc. Statistics**

| Semester | Paper code | Paper | Paper title                  | credits | Marks |     |       |
|----------|------------|-------|------------------------------|---------|-------|-----|-------|
|          |            |       |                              |         | CIA   | ESE | Total |
| 5        | ST 351     | I     | Statistics theory paper 1    | 2       | 15    | 35  | 50    |
|          | ST 352     | II    | Statistics theory paper 2    | 2       | 15    | 35  | 50    |
|          | ST 353     | III   | Statistics theory paper 3    | 2       | 15    | 35  | 50    |
|          | ST 354     | IV    | Statistics theory paper 4    | 2       | 15    | 35  | 50    |
|          | ST 355     | V     | Statistics theory paper 5    | 2       | 15    | 35  | 50    |
|          | ST 356     | VI    | Statistics theory paper 6    | 2       | 15    | 35  | 50    |
|          | ST 357     | VII   | Statistics Practical Paper 1 | 2       | 15    | 35  | 50    |
|          | ST 358     | VIII  | Statistics Practical Paper 2 | 2       | 15    | 35  | 50    |
|          | ST 358     | IX    | Statistics Practical Paper 3 | 2       | 15    | 35  | 50    |
|          | ST 359     | X     | Skill enhancement course 1   | 2       | 15    | 35  | 50    |
|          | ST 3510    | XI    | Skill enhancement course 2   | 2       | 15    | 35  | 50    |

|   |         |      |                              |   |    |    |    |
|---|---------|------|------------------------------|---|----|----|----|
| 6 | ST 361  | I    | Statistics theory paper 1    | 2 | 15 | 35 | 50 |
|   | ST 362  | II   | Statistics theory paper 2    | 2 | 15 | 35 | 50 |
|   | ST 363  | III  | Statistics theory paper 3    | 2 | 15 | 35 | 50 |
|   | ST 364  | IV   | Statistics theory paper 4    | 2 | 15 | 35 | 50 |
|   | ST 365  | V    | Statistics theory paper 5    | 2 | 15 | 35 | 50 |
|   | ST 366  | VI   | Statistics theory paper 6    | 2 | 15 | 35 | 50 |
|   | ST 367  | VII  | Statistics Practical Paper 1 | 2 | 15 | 35 | 50 |
|   | ST 368  | VIII | Statistics Practical Paper 2 | 2 | 15 | 35 | 50 |
|   | ST 369  | IX   | Statistics Practical Paper 3 | 2 | 15 | 35 | 50 |
|   | ST 3610 | X    | Skill enhancement course 1   | 2 | 15 | 35 | 50 |
|   | ST 3511 | XI   | Skill enhancement course 2   | 2 | 15 | 35 | 50 |

**SEMESTER – I****PAPER – I****ST – 111: Descriptive Statistics I**

**Objectives:** The main objective of this course is to acquaint students with some basic concepts in Statistics. They will be introduced to some elementary statistical methods of analysis of data. At the end of this course students are expected to be able,

- (i) to compute various measures of central tendency, dispersion, skewness and kurtosis.
- (ii) to analyze data pertaining to attributes and to interpret the results.

**Unit 1. Introduction to Statistics (2L) 2H**

1.1 Meaning of Statistics as a Science.

1.2 Importance of Statistics.

1.3 Scope of Statistics: In the field of Industry, Biological sciences, Medical sciences, Economics, Social Sciences, Management sciences, Agriculture, Insurance, Information technology, Education and Psychology.

1.4 Statistical organizations in India and their functions: CSO, ISI, NSSO, IIPS (Devnar, Mumbai), Bureau of Economics and Statistics.

1.5 Statistical Heritage (Indian Perspective: i) Dr. V. S. Huzurbazar, Dr. P.C. Mahalanobis, Dr. P. V. Sukhatme, Dr. C. R. Rao).

**Unit 2. Population and Sample (4L) 3H**

2.1 Types of characteristics:

Attributes: Nominal scale, ordinal scale,

Variables: Interval scale, ratio scale, discrete and continuous variables, difference between linear scale and circular scale

2.2 Types of data:

(a) Primary data, Secondary data

(b) Cross-sectional data, time series data, directional data.

2.3 Notion of a statistical population:

Finite population, infinite population, homogeneous population and heterogeneous population. Notion of a sample and a random sample. Methods of sampling (Description only): Simple random sampling with and without replacement (SRSWR and SRSWOR) stratified random sampling, systematic sampling, cluster sampling and two-stage sampling.

**Unit 3. Summary Statistics: (14 L) 12H**

3.1 Review/Revision of Presentation of Data.

Interpretation of Data from table and graph.  
data validation

3.2 Frequency Classification: Raw data and its classification, ungrouped frequency distribution, Sturges' rule, grouped frequency distribution, cumulative frequency distribution, inclusive and exclusive methods of classification, Open end classes, and relative frequency distribution.

3.3 Measures of Central Tendency:

Concept of central tendency of statistical data, Statistical averages, characteristics of a

good statistical average.

Arithmetic Mean (A.M.): Definition, effect of change of origin and scale, combined mean of a number of groups, merits and demerits, trimmed arithmetic mean.

Mode and Median: Definition, formulae (for ungrouped and grouped data), merits and demerits. Empirical relation between mean, median and mode.

Partition Values: Quartiles, Deciles and Percentiles (for ungrouped and grouped data), Box Plot.

Geometric Mean (G.M.): Definition, formula, merits and demerits.

Harmonic Mean (H.M.): Definition. Formula, merits and demerits.

Order relation between arithmetic mean, geometric mean, harmonic mean

Weighted Mean: weighted A.M., G.M. and H.M.

Situations where one kind of average is preferable to others.

### 3.4 Measures of Dispersion:

Concept of dispersion, characteristics of good measure of dispersion.

Range, Semi-interquartile range (Quartile deviation): Definition, merits and demerits,

Mean deviation: Definition, merits and demerits, minimality property (without proof),

Variance and standard deviation: Definition, merits and demerits, effect of change of origin and scale, combined variance for  $n$  groups (derivation for two groups).

Mean squared deviation: Definition, minimality property of mean squared

deviation (with proof), Measures of dispersion for comparison: coefficient of

range, coefficient of quartile deviation and coefficient of mean deviation,

coefficient of variation (C.V.)

## 2. Moments, Skewness and Kurtosis: (8 L) 7H

4.1 Raw moments ( $m'_r$ ) for ungrouped and grouped data.

Central moments ( $m_r$ ) for ungrouped and grouped data, Effect of change of origin

and scale. Relations between central moments and raw moments, upto 4-th order (without proof).

4.2 Concept of skewness of frequency distribution, positive skewness, negative skewness, symmetric frequency distribution.

Bowley's coefficient of skewness: Bowley's coefficient of skewness lies between  $-1$  to  $1$  (with proof), interpretation using Box plot.

Karl Pearson's coefficient of skewness.

Measures of skewness based on moments ( $\hat{\beta}_1, \hat{\gamma}_1$ ).

4.3 Concepts of kurtosis, leptokurtic, mesokurtic and platykurtic frequency distributions.

Measures of kurtosis based on moments ( $\hat{\beta}_2, \hat{\gamma}_2$ ).

## 5 Theory of Attributes: (8 L) 6H

5.1 Attributes: Concept of a Likert scale, classification, notion of manifold classification, dichotomy, class-frequency, order of a class, positive class-frequency, negative class frequency, ultimate class frequency, relationship among different class frequencies (up to three attributes), and dot operator to find the relation between frequencies, fundamental set of class frequencies.

5.2 Consistency of data up to 2 attributes.

5.3 Concepts of independence and association of two attributes.

Yule's coefficient of association ( $Q$ ),  $-1 \leq Q \leq 1$ , interpretation.



**Recommended Books:**

1. Agarwal, B. L. (2003). Programmed Statistics, Second Edition, New Age International Publishers, NewDelhi.
2. Ghosh, J. K. and Mitra, S. K., Parthsarathi, K. R. (1993). Glimpses of India's Statistics Heritage, Wiley publishing Co.
3. Goon, A. M., Gupta, M. K. and Dasgupta, B. (1983). Fundamentals of Statistics, Vol. 1, Sixth Revised Edition, The World Press Pvt. Ltd., Calcutta.
4. Gupta, S. C. and Kapoor, V. K. (1983). Fundamentals of Mathematical Statistics, Eighth Edition, Sultan Chand and Sons Publishers, NewDelhi.
5. Gupta, S. C. and Kapoor, V. K. (1997). Fundamentals of Applied Statistics, Third Edition, Sultan Chand and Sons Publishers, NewDelhi.
6. Neil A. Weiss, (2016). Introductory Statistics, Tenth Edition, Pearson.
7. Purohit, S. G., Gore S. D., Deshmukh S. R. (2008). Statistics Using R, Narosa Publishing House, NewDelhi.
8. Sarma, K. V. S. (2001). Statistics Made it Simple: Do it yourself on PC. Prentce Hall of India, NewDelhi.
9. Snedecor G. W. and Cochran W. G. (1989). Statistical Methods, Eighth Ed. East-West Press.

**SEMESTER – I****PAPER – II****ST – 112: Discrete Probability and Probability DistributionsI****Objectives**

The main objective of this course is to introduce to the students the basic concepts of probability, axiomatic theory of probability, concept of random variable, probability distribution (univariate and bivariate) discrete random variables, expectation and moments of probability distribution. By the end of the course students are expected to be able

- (i) to distinguish between random and non-random experiments.
- (ii) to find the probabilities of events.
- (iii) to obtain a probability distribution of random variable (one or two dimensional) in the given situation.

**1. Basics of Probability:(6L)4H**

**1.1** Experiments/Models, Ideas of deterministic and non-deterministic models. Random Experiment, concept of statistical regularity.

**1.2** Definitions of - (i) Sample space, (ii) Discrete sample space: finite and countably infinite, (iii) Event, (iv) Elementary event, (v) Complement of an event. (vi) Certain event (vii) Impossible event

Concept of occurrence of an event.

Algebra of events and its representation in set theory notation. Occurrence of following events.

- (i) at least one of the given events,
- (ii) none of the given events,
- (iii) all of the given events,
- (iv) mutually exclusive events,
- (v) mutually exhaustive events,
- (vi) exactly one event out of the given events.

**1.3** Classical definition of probability and its limitations.

Probability model, probability of an event, equiprobable and non-equiprobable sample space,

**1.4** Axiomatic definition of probability. Theorems and results on probability with proofs based on axiomatic definition such as  $P(A \cup B) = P(A) + P(B) - P(A \cap B)$ . Generalization

$P(A \cup B \cup C), 0 \leq P(A) \leq 1, P(A) + P(A^c) = 1, P(\Phi) = 0, P(A) \leq P(B)$  when  $A \subset B$

Boole's inequality.

**2. Conditional Probability and Bayes' Theorem:(5L)4H**

**2.1** Definition of conditional probability of an event. Results on conditional probability.

Definition of independence of two events  $P(A \cap B) = P(A) \cdot P(B)$

Pairwise independence and mutual independence for three events

Multiplication theorem

$P(A \cap B) = P(A) \cdot P(B|A)$ . Generalization to

$P(A \cap B \cap C)$ .

**2.2** Partition of the sample space, prior and posterior probabilities. Proof of Bayes' theorem.

Applications of Bayes' theorem in real life. True positive, false positive and sensitivity of test as application of Bayes' theorem.

### 3. Univariate Probability Distributions (Defined on Discrete Sample Space): (3L) 2H

Concept and definition of a discrete random variable.  
 Probability mass function (p.m.f.) and cumulative distribution function (c.d.f.),  $F(\cdot)$  of discrete random variable, properties of c.d.f..  
 Mode and median of a univariate discrete probability distribution.

### 4. Mathematical Expectation (Univariate Random Variable): (8L) 7H

- 4.1** Definition of expectation (Mean) of a random variable, expectation of a function of a random variable, m.g.f. and c.g.f. Properties of m.g.f. and c.g.f.  
**4.2** Definitions of variance, standard deviation (s.d.) and Coefficient of variation (c.v.) of univariate probability distribution, effect of change of origin and scale on mean, variance and s.d.  
**4.3** Definition of raw, central and factorial raw moments of univariate probability Distributions and their interrelations (without proof).  
**4.4** Coefficients of skewness and kurtosis based on moments.

### 5 Some Standard Discrete Probability Distributions: (15L) 13H

#### 5.1 Degenerate distribution (one point distribution):

$P(X=c)=1$ , mean and variance.

#### 5.2 Uniform discrete distribution on integers 1 to n:

p.m.f., c.d.f., mean, variance, real life situations, comments on mode and median.

#### 5.3 Bernoulli Distribution: p.m.f., mean, variance.

#### 5.4 Binomial Distribution : p.m.f.

$$P(x) = \binom{n}{x} p^x q^{n-x}, x = 0, 1, 2, \dots, n; 0 < p < 1, q = 1 - p \\ = 0, \text{ otherwise}$$

Notation:  $X \sim B(n, p)$ .

Recurrence relation for successive probabilities, computation of probabilities of different events, mode of the distribution, mean, variance, m.g.f. and c.g.f. moments, skewness (comments when  $p = 0.5$ ,  $p > 0.5$ ,  $p < 0.5$ ). Situations where this distribution is applicable. Additive property for binomial distribution.

Conditional distribution of  $X$  given  $(X+Y)$  for binomial distribution.

#### 5.5 Hypergeometric Distribution: Necessity and importance of Hypergeometric distribution, capture-recapture method.

p.m.f. of the distribution,

$$p(x) = \frac{\binom{M}{x} \binom{N-M}{n-x}}{\binom{N}{n}}, \quad x = 0, 1, \dots, \min(M, n) \\ = 0, \quad \text{otherwise}$$

Notation :  $X \sim H(N, M, n)$ .

Computation of probability, situations where this distribution is applicable, binomial approximation to hypergeometric probabilities, statement of mean and variance of the distribution (Derivation is not expected).

**Recommended Books:**

1. Agarwal B. L. (2003). Programmed Statistics, second edition, New Age International Publishers, NewDelhi.
2. Gupta, S.C. and Kapoor, V. K. (1983). Fundamentals of Mathematical Statistics, Eighth Edition, Sultan Chand and Sons Publishers, NewDelhi.
3. Hoel P. G. (1971). Introduction to Mathematical Statistics, John Wiley and Sons, New York.
4. Hogg, R. V. and Craig R. G. (1989). Introduction to Mathematical Statistics, Ed. MacMillan Publishing Co., New York.
5. Mayer, P. (1972). Introductory Probability and Statistical Applications, Addison Wesley Publishing Co., London.
6. Mood, A. M. and Graybill, F. A. and Boes D. C. (1974). Introduction to the Theory of Statistics, Ed. 3, McGraw Hill Book Company.
7. Rao, VLS Prakash (2008). First Course in Probability and Statistics, New Age International Publishers, NewDelhi.
8. Ross S. (2002). A First Course in Probability, Sixth Edition, Pearson Education, Inc. & Dorling Kindersley Publishing, Inc.

**SEMESTER I****Statistics Practical Paper III****ST – 113 : PRACTICALS**

**Pre-requisites:** Knowledge of the topics in theory papers I and II.

**Objectives:** At the end of this course students are expected to be able

- (i) to use various graphical and diagrammatic techniques and interpretation.
- (ii) to analyse data pertaining to discrete and continuous variables and to interpret the results,
- (iii) to compute various measures of central tendency, dispersion, skewness and kurtosis.
- (iv) to interpret summary statistics of computer output.
- (v) to summarize and analyze the data using computer.

| S. No. | Title of the experiment                                                                                                                                                                      | No. of Practicals |
|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|
| 1      | Diagrammatic representation of statistical data: simple and subdivided bar diagrams, multiple bar diagram, percentage bar diagram, pie diagram. Also using Ms-Excel/Any statistical software | 2                 |
| 2      | Graphical representation of statistical data: Histogram, frequency curve and ogive curves. Determination of mode and median graphically. Also using Ms-Excel/Any statistical software        | 2                 |
| 3      | Tabulation                                                                                                                                                                                   | 1                 |
| 4      | Data Interpretation form various graphs and diagrammes.                                                                                                                                      | 1                 |
| 5      | Use of random number tables to draw SRSWOR, SRSWR, stratified sample and systematic sample. Also using Ms-Excel/ Any statistical software                                                    | 2                 |
| 6      | Computation of measures of central tendency and dispersion (ungrouped data). Use of an appropriate measure and interpretation of results and computation of partition values.                | 1                 |
| 7      | Computation of measures of central tendency and dispersion (grouped data). Use of an appropriate measure and interpretation of results and computation of partition values.                  | 1                 |
| 8      | Measures of skewness and kurtosis, Box plot.                                                                                                                                                 | 1                 |
| 9      | Computation of summary statistics using Ms-Excel/ Any statistical software                                                                                                                   | 1                 |
| 10     | Project                                                                                                                                                                                      | 3                 |

**SEMESTER – II****PAPER – I**

**Objectives:** The main objective of this course is to acquaint students with bivariate data. They will be introduced to some methods of analysis of bivariate data. At the end of this course students are expected to be able,

- (i) to compute the correlation coefficient for bivariate data and interpret it.
- (ii) to fit linear, quadratic and exponential curves to the bivariate data to investigate relation between two variables.
- (iii) to compute and interpret various index numbers.

**ST - 121: Descriptive Statistics II****1 Correlation: (10L) 9H**

**1.1** Bivariate data, Scatter diagram and interpretation.

Concept of correlation between two variables, positive correlation, negative correlation, no correlation.

Covariance between two variables ( $m_{11}$ ): Definition, computation, effect of change of origin and scale.

**1.2** Karl Pearson's coefficient of correlation ( $r$ ): Definition, computation for ungrouped data and interpretation. Properties: (i)  $-1 \leq r \leq 1$  (with proof), (ii) Effect of change of origin and scale (with proof).

**1.3** Spearman's rank correlation coefficient: Definition, derivation of formula, computation and interpretation (without ties). In case of ties, compute Karl Pearson's correlation coefficient between ranks. (Spearman's rank correlation coefficient formula with correction for ties not expected.)

**2 Fitting of Line (Regression Line): (8L) 6H**

**2.1** Concept of dependent and independent variables.

**2.2** Identification of response and predictor variables and relation between them.

**2.3** Meaning of regression, difference between correlation and regression, Connection between correlation and regression. Fitting of line  $Y = a + bX$ .  $a$  and  $b$  are estimated using least square method. Regression coefficient. Explained and unexplained variation, coefficient of determination, standard error of an estimate of line of regression. Interchanging the role of  $X$  and  $Y$  we can study some more properties.

**3. Curve Fitting: (10L) 9H**

**3.1** Necessity and importance of drawing second degree curve.

**3.2** Fitting of second degree curve ( $Y = a + bX + cX^2$ ),

**3.3** Fitting of exponential curves of the type  $Y = ab^X$  and  $Y = aX^b$ .

In all these curves constants  $a$ ,  $b$ ,  $c$  are found out by the method of least squares.

(Justification via determinant of matrix of second derivative/second derivative test).

**4. Index Numbers: (8L) 6H**

**4.1** Introduction and scope of Index Numbers. Various types of Index Numbers like Human Development Index, Happiness Index BSE sensitivity Index.

**4.2** Definition and Meaning.

- 4.3 Problems/considerations in the construction of index numbers.
- 4.4 Simple and weighted price index numbers based on price relatives.
- 4.5 Simple and weighted price index numbers based on aggregates.
- 4.6 Laspeyre's, Paasche's and Fisher's Index numbers.
- 4.7 Consumer price index number: Considerations in its construction. Methods of construction of consumer price index number - (i) family budget method (ii) aggregate expenditure method
- 4.8 Shifting of base, splicing, deflating, purchasing power.

**Recommended Books:**

1. Agarwal, B. L. (2003). Programmed Statistics, Second Edition, New Age International Publishers, New Delhi.
2. Goon, A. M., Gupta, M. K. and Dasgupta, B. (1983). Fundamentals of Statistics, Vol. 1, Sixth Revised Edition, The World Press Pvt. Ltd., Calcutta.
3. Gupta, S. C. and Kapoor, V. K. (1983). Fundamentals of Mathematical Statistics, Eighth Edition, Sultan Chand and Sons Publishers, New Delhi.
4. Gupta, S. C. and Kapoor, V. K. (1997). Fundamentals of Applied Statistics, Third Edition, Sultan Chand and Sons Publishers, New Delhi.
5. Montgomery, D. C.; Peck, E. A.; Vining, G. G. (2006). Introduction to Linear Regression Analysis, John Wiley and Sons
6. Purohit, S. G., Gore S. D., Deshmukh S. R. (2008). Statistics Using R, Narosa Publishing House, New Delhi.
7. Sarma, K. V. S. (2001). Statistics Made it Simple: Do it yourself on PC. Prentice Hall of India, New Delhi.
8. Snedecor G. W. and Cochran W. G. (1989). Statistical Methods, Eighth Ed. East- West Press.

**SEMESTER – II****PAPER – II****ST – 112: Discrete Probability and Probability Distributions II**

**Objectives:** The main objective of this course is to introduce to the students some discrete Distributions and its application in real life.

- (i) to apply standard discrete probability distribution to different situations.
- (ii) to study properties of these distributions as well as interrelation between them.

**1. Some Standard Discrete Probability Distributions: ( 16 L ) 13 H****1.1 Poisson distribution:**

p.m.f. of the distribution

$$p(x) = \frac{e^{-m} m^x}{x!}, \quad x = 0, 1, 2, \dots, \quad m > 0$$

= 0, otherwise

Notation:  $X \sim P(m)$ .

m.g.f. and c.g.f. Moments, mean, ——— variance, skewness and kurtosis.

Situations where this distribution is applicable.

Additive property for Poisson distribution.

Conditional distribution of X given (X+Y) for Poisson distribution.

**1.2 Geometric distribution:**

Notation:  $X \sim G(p)$ ,

Geometric distribution on support (0, 1, 2, ...) with p.m.f.  $p(x) = pq^x$ .

Geometric distribution on support (1, 2, ...) with p.m.f.  $p(x) = pq^{x-1}$ .  $0 < p < 1, q = 1 - p$ .

Mean, variance, m.g.f. and c.g.f.

Situations where this distribution is applicable.

Lack of memory property.

**2. Bivariate Discrete Probability Distribution: (6L) 5H**

**2.1** Definition of two-dimensional discrete random variable, its joint p.m.f. and its distribution function and their properties.

**2.2** Concept of identically distributed r.v.s.

**2.3** Computation of probabilities of events in bivariate probability distribution.

**2.4** Concepts of marginal and conditional probability distributions.

**2.5** Independence of two discrete random variables based on joint and marginal p.m.f.s



**3 Mathematical Expectation (Bivariate Random Variable) (14L) 12H**

- 3.2 Definition of raw and central moments, m.g.f, c.g.f.
- 3.3 Theorems on expectations of sum and product of two jointly distributed random variables.
- 3.4 Conditional expectation.
- 3.5 Definitions of conditional mean and conditional variance.
- 3.6 Definition of covariance, coefficient of correlation, independence and uncorrelatedness of two variables.
- 3.7 Variance of linear combination of variables  $\text{Var}(aX + bY)$ .

**Recommended Books:**

1. Agarwal B. L. (2003). Programmed Statistics, second edition, New Age International Publishers, New Delhi.
2. Gupta, S.C. and Kapoor, V. K. (1983). Fundamentals of Mathematical Statistics, Eighth Edition, Sultan Chand and Sons Publishers, New Delhi.
3. Hoel P. G. (1971). Introduction to Mathematical Statistics, John Wiley and Sons, New York.
4. Hogg, R. V. and Craig R. G. (1989). Introduction to Mathematical Statistics, Ed. MacMillan Publishing Co., New York.
5. Mayer, P. (1972). Introductory Probability and Statistical Applications, Addison Wesley Publishing Co., London.
6. Mood, A. M. and Graybill, F. A. and Boes D. C. (1974). Introduction to the Theory of Statistics, Ed. 3, McGraw Hill Book Company.
7. Ross S. (2002). A First Course in Probability, Sixth Edition, Pearson Education, Inc. & Dorling Kindersley Publishing, Inc.

**Reference Websites for Paper I and Paper II:**

1. [www.stats.unipune.ac.in](http://www.stats.unipune.ac.in) (100 Data sets for Statistics Education by Dr. Anil P. Gore, Dr. Mrs. S. A. Paranjpe and Madhav B. Kulkarni available in ISPS folder).
2. [www.freeststatistics.tk](http://www.freeststatistics.tk) (National Statistical Agencies)
3. [www.psychstat.smsu.edu/sbk00.htm](http://www.psychstat.smsu.edu/sbk00.htm) (Online book)
4. [www.bmj.bmjournals.com/collections/statsbk/index.shtml](http://www.bmj.bmjournals.com/collections/statsbk/index.shtml)
5. [www.statweb.calpoly.edu/bchance/stat-stuff.html](http://www.statweb.calpoly.edu/bchance/stat-stuff.html)
6. [www.amstat.org/publications/jse/jse-data-archive.html](http://www.amstat.org/publications/jse/jse-data-archive.html) (International journal on teaching and learning of statistics)
7. [www.amstat.org/publications/chance](http://www.amstat.org/publications/chance) (Chance magazine)
8. [www.statsci.org/datasets.html](http://www.statsci.org/datasets.html) (Datasets)
9. [www.math.uah.edu/stat](http://www.math.uah.edu/stat) (Virtual laboratories in Statistics)
10. [www.amstat.org/publications/stats](http://www.amstat.org/publications/stats) (STATS : the magazine for students of Statistics)
11. [www.stat.ucla.edu/cases](http://www.stat.ucla.edu/cases) (Case studies in Statistics).
12. [www.statsoft.com](http://www.statsoft.com)
13. [www.statistics.com](http://www.statistics.com)
14. [www.indiastat.com](http://www.indiastat.com)
15. [www.unstat.un.org](http://www.unstat.un.org)
16. [www.stat.stanford.edu](http://www.stat.stanford.edu)
17. [www.statpages.net](http://www.statpages.net)
18. [www.wto.org](http://www.wto.org)
19. [www.censusindia.gov.in](http://www.censusindia.gov.in)
20. [www.mospi.nic.in](http://www.mospi.nic.in)
21. [www.statisticsofindia.in](http://www.statisticsofindia.in)

**SEMESTER II****Paper III****ST – 123 : PRACTICALS**

**Pre-requisites:** Knowledge of the topics in theory papers I and II.

**Objectives:** At the end of this course students are expected to be able

- (i) to compute correlation coefficient, regression coefficients,
- (ii) to compute probabilities of bivariate distributions,
- (iii) to fit binomial and Poisson distributions
- (iv) to compute probabilities of bivariate distributions.
- (v) to draw random samples from Poisson and binomial distributions.

| S. No. | Title of the experiment                                                                                                                                                     | No. of Practicals |
|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|
| 1      | Scatter diagram, correlation coefficient (ungrouped data). Fitting of line of regression.                                                                                   | 2                 |
| 2      | Fitting of second degree curve, exponential curve of type $Y = ab^x$ , $Y = ax^b$                                                                                           | 2                 |
| 3      | Fitting of Binomial distribution and computation of expected frequencies.                                                                                                   | 1                 |
| 4      | Fitting of Poisson distribution and computation of expected frequencies.                                                                                                    | 1                 |
| 5      | Applications of Binomial & hypergeometric distributions.                                                                                                                    | 1                 |
| 6      | Applications of Poisson & geometric distributions.                                                                                                                          | 1                 |
| 7      | Model sampling from Poisson and Binomial distributions.                                                                                                                     | 1                 |
| 8      | Index numbers.                                                                                                                                                              | 1                 |
| 9      | Scatter diagram, correlation coefficient, fitting of a line of regression, fitting of second degree curve <b>using</b> Ms-excel/ Any statistical software & interpretation. | 2                 |
| 10     | Project                                                                                                                                                                     | 3                 |

**Notes:**

1. For project, a group of maximum 8 students be made.
2. All the students in a group be given equal marks for project.
3. Different data sets from newspapers, internet, magazines may be collected and students will be asked to use Statistical techniques/tools which they have learnt.
4. Students must complete all the practicals to the satisfaction of the teacher concerned.
5. Students must produce at the time of practical examination, the laboratory journal along with the completion certificate signed by the Head of the Department.

# **Savitribai Phule Pune University**

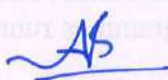
## **RULES AND REGULATIONS**

**for**

### **UG Choice Based Credit System Programme Under Faculty of Science**

**Effective from June 2019**

  
**Prof. S. D. Dhole**  
**Chairman**  
**UG/PG Rule & Regulation committee,**  
**SPPU, Pune**

  
**Prof. A. D. Shaligram**  
**Dean,**  
**Faculty of Science & Technology**  
**SPPU, Pune**



## 1. Background/Preamble:

Education plays enormously significant role in building of a nation. There are quite a large number of educational institutions, engaged in imparting education in our country. Majority of them have entered recently into semester system to match with international educational pattern. However, our present education system is churning out youth who have to compete locally, regionally, nationally as well as globally. The present alarming situation necessitates transformation and/or redesigning of system, not only by introducing innovations but developing learner-centric approach.

Majority of Indian higher education institutions have been following the system which obstructs the flexibility for the students to study the subjects/courses of their choice and their mobility to different institutions. There is need to allow the flexibility in education system, so that students depending upon their interests can choose inter-disciplinary, intra-disciplinary and skill-based courses. This can only be possible when choice based credit system (CBCS), an internationally acknowledged system, is adopted. The choice based credit system not only offers opportunities and avenues to learn core subjects but also explore additional avenues of learning beyond the core subjects for holistic development of an individual. The CBCS will undoubtedly facilitate benchmarking of our courses with best international academic practices.

### 1.1 Preface

In a bid to fine tune our scientific education system to the global standards & practices, the Credit-Grade based performance and assessment system will be implemented with effect from June 2019 onwards for all the Under Graduate Programmes (UG) under the Faculty of Science, Savitribai Phule Pune University, Pune, starting with First Year.

With the advent of frontier science, technology and ever-changing expectations from the Industry and Society, it has become imperative to relook at the structure and subject contents of various UG courses to make it contemporary and relevant.

As per the decision by the authorities of Savitribai Phule Pune University, the faculty of Science has prepared the choice based credit system and its structure. The revised course is of 132 credits and 1 credit is equivalent to 15 hours. Assessments in credit system consist of A) In-semester continuous assessment and B) End-semester assessment for the Theory head and Term Work/ Practical / Oral / Presentation at the end of the semester for Practical, Oral, Seminar and Project Head.

The faculty of Science has shouldered the idea of incorporating latest advances in Science and technology and equip the subject/syllabus contents with latest and relevant topics and know-hows. Accordingly the new structure and syllabi are being introduced, to be implemented from the academic year 2019-20 from First Year and it will continue for subsequent years.

1. All UG programmes, under Faculty of Science shall be offered with credit system.
2. All the B.Sc. programmes running under the Faculty of Science will be of three years duration.
3. The total no. of credits required for the completion of the programme is 132 credits.
4. One credit is equivalent to 15 hours.
5. A student is required to earn 132 credits in a minimum period of six semesters.
6. There are eight mandatory credits to be earned by the students for the award of degree.
7. Final CGPA will be calculated on the basis of 132 credits.
8. There is 15 weeks of teacher-student interaction during the semester.
9. The 15 week is divided into 12 weeks teaching and 3 weeks for continuous assessment including preparation time to students during the semester.



10. The workload will be calculated on the basis of 12 weeks teaching only.

### **1.2 Advantages of the choice based credit system:**

1. Shift in focus from the teacher-centric to student-centric education.
2. Student may undertake as many credits as they can cope with (without repeating all courses in a given semester if they fail in one/more courses).
3. CBCS allows students to choose inter-disciplinary, intra-disciplinary courses, skill oriented papers (even from other disciplines according to their learning needs, interests and aptitude) and more flexibility for students.
4. CBCS makes education broad-based and at par with global standards. One can take credits by combining unique combinations. For example, Physics with Economics, Microbiology with Chemistry or Environment Science etc.
5. CBCS offers flexibility for students to study at different times and at different institutions to complete one course (ease mobility of students). Credits earned at one institution can be transferred to another institution.

### **1.3 Implementation of UG course structure:**

1. For First year: Student has to select 4 different subject among the subjects offered by the College /Institute.
2. For Second year: Student has to select 3 different subject among 4 subject chosen in first year
3. For Third year: Student has to select only 1 subject among the 3 subject opted in second year
4. CGPA will be calculated on the basis of core 132 credits only
5. Each theory credit is equivalent to 15 clock hours of teaching and each practical credit is equivalent to 30 clock hours of teaching in a semester.
6. There is 15 weeks of teacher-student interaction during the semester.
7. The 15 week is divided into 12 weeks teaching and 3 weeks for continuous assessment including preparation time to students during the semester.
8. The workload will be calculated on the basis of 12 weeks teaching only.
9. For the purpose of computation of work-load the following mechanism may be adopted as per UGC guidelines:
  - i) 1 Credit = 1 Theory period of one hour fifteen minute duration per week
  - ii) 1 Credit = 1 Tutorial period of one hour fifteen minute duration per week
  - iii) 1 Credit = 1 Practical period of two hour ten minute duration per week
10. Each theory Lecture time for FY, SY, TY is of 50 min. (3 Lectures per week for 2 credit course)
11. Each practical session time for FY is of 3 hour 15 minutes = 195 min
12. Each practical session time for SY & TY is of 4 hour 20 minutes = 260 min
13. Exam pattern: University assessment 70 % and continuous internal assessment 30 %.
14. For Internal examination minimum two tests per paper of which one has to be written test of 10 marks.
15. Methods of assessment for Internal exams: Seminars, Viva-voce, Projects, Surveys, Field visits, Tutorials, Assignment, Group Discussion.



## 2. UG Programme Structure:

**2.1** Each B.Sc. programme is of 3 years duration. The minimum total no. of credits requirement for each programme is 132. In the structure, the credits are distributed over 6 semesters. The open elective included, gives the student a wide choice of subjects from other programmes. The Credit structure for B.Sc. programme is given below in Table 1.

### 1.3 Implementation of UG course structure

1. For first year: Student has to select 4 different subject among the subjects offered by the 7 college institutions.
2. For second year: Student has to select 3 different subject among 4 subject chosen in first year.
3. For third year: Student has to select only 1 subject among the 3 subject opted in second year.
4. EAP/A will be calculated on the basis of core 132 credits only.
5. Each theory credit is equivalent to 12 clock hours of teaching and each practical credit is equivalent to 30 clock hours of teaching in a semester.
6. There is 12 weeks of teacher-student interaction during the semester.
7. The 12 week is divided into 11 weeks teaching and 1 week for continuous assessment including preparation time to students during the semester.
8. The assessment will be calculated on the basis of 12 weeks teaching only.
9. For the purpose of computation of weight-age the following mechanism may be adopted as per CBCS guidelines:
  - (i) Credit = 1 Theory period of one hour fifteen minute duration per week
  - (ii) Credit = 1 Tutorial period of one hour fifteen minute duration per week
  - (iii) Credit = 1 Practical period of two hour ten minute duration per week
10. Each theory lecture time for T.Y./B.Y./T.Y. is of 50 min. (2 lectures per week for 2 credit course)
11. Each practical session time for P.Y. is of 3 hour 15 minutes = 195 min
12. Each practical session time for B.Y. & T.Y. is of 4 hour 30 minutes = 260 min
13. Exam pattern: End semestral assessment 30 % and continuous internal assessment 30 %
14. For internal examination minimum two test per paper of which one has to be written out of 10 marks.
15. Methods of assessment for internal exam: Seminars, VIVA voce, Project, Film clip, Debate, Assignment, Group Discussion.



**Table 1**  
**Savitribai Phule Pune University**  
**Faculty of Science and Technology**  
**Structure of Choice Based Credit System for Undergraduate Science Programme**

|           | Discipline Specific Core Courses (CC) |                                        | Ability Enhancement Compulsory Courses (AECC) |                           | Discipline specific Elective Courses (DSEC) |                                        | Skill Enhancement Courses (SEC) |                           |              |
|-----------|---------------------------------------|----------------------------------------|-----------------------------------------------|---------------------------|---------------------------------------------|----------------------------------------|---------------------------------|---------------------------|--------------|
| Sem ester | Course                                | Theory 1 + Theory 2 + Practical Credit | Course                                        | Theory + Practical Credit | Course                                      | Theory 1 + Theory 2 + Practical Credit | Course                          | Theory + Practical Credit | Total Credit |
| I         | CC - I                                | 2 + 2 + 1.5 = 5.5                      | -                                             | -                         | -                                           | -                                      | -                               | -                         | 22           |
|           | CC - II                               | 2 + 2 + 1.5 = 5.5                      |                                               |                           |                                             |                                        |                                 |                           |              |
|           | CC - III                              | 2 + 2 + 1.5 = 5.5                      |                                               |                           |                                             |                                        |                                 |                           |              |
|           | CC - IV                               | 2 + 2 + 1.5 = 5.5                      |                                               |                           |                                             |                                        |                                 |                           |              |
|           |                                       |                                        |                                               |                           |                                             |                                        |                                 |                           |              |
| II        | CC - V                                | 2 + 2 + 1.5 = 5.5                      | -                                             | -                         | -                                           | -                                      | -                               | -                         | 22           |
|           | CC - VI                               | 2 + 2 + 1.5 = 5.5                      |                                               |                           |                                             |                                        |                                 |                           |              |
|           | CC - VII                              | 2 + 2 + 1.5 = 5.5                      |                                               |                           |                                             |                                        |                                 |                           |              |
|           | CC - VIII                             | 2 + 2 + 1.5 = 5.5                      |                                               |                           |                                             |                                        |                                 |                           |              |
|           |                                       |                                        |                                               |                           |                                             |                                        |                                 |                           |              |
| III       | CC - IX                               | 2 + 2 + 2 = 6                          | AECC - I (Environment)                        | 2 + 0 = 2                 | -                                           | -                                      | -                               | -                         | 22           |
|           | CC - X                                | 2 + 2 + 2 = 6                          | AECC - II (Language communication)            | 2 + 0 = 2                 |                                             |                                        |                                 |                           |              |
|           | CC - XI                               | 2 + 2 + 2 = 6                          |                                               |                           |                                             |                                        |                                 |                           |              |
|           |                                       |                                        |                                               |                           |                                             |                                        |                                 |                           |              |



|              |           |               |                                       |           |            |               |           |           |     |
|--------------|-----------|---------------|---------------------------------------|-----------|------------|---------------|-----------|-----------|-----|
| IV           | CC - XII  | 2 + 2 + 2 = 6 | AECC - III<br>(Environment)           | 2 + 0 = 2 |            |               |           |           |     |
|              | CC - XIII | 2 + 2 + 2 = 6 | AECC - IV<br>(Language communication) | 2 + 0 = 2 | -          | -             | -         | -         |     |
|              | CC - XIV  | 2 + 2 + 2 = 6 |                                       |           |            |               |           |           | 22  |
| V            |           |               |                                       |           | DSEC - I   | 2 + 2 + 2 = 6 | SEC - I   | 2 + 0 = 2 |     |
|              | -         | -             | -                                     | -         | DSEC - II  | 2 + 2 + 2 = 6 | SEC - II  | 2 + 0 = 2 |     |
|              |           |               |                                       |           | DSEC - III | 2 + 2 + 2 = 6 | -         | -         | 22  |
| VI           |           |               |                                       |           | DSEC - IV  | 2 + 2 + 2 = 6 | SEC - III | 2 + 0 = 2 |     |
|              | -         | -             | -                                     | -         | DSEC - V   | 2 + 2 + 2 = 6 | SEC - IV  | 2 + 0 = 2 |     |
|              |           |               |                                       |           | DSEC - VI  | 2 + 2 + 2 = 6 | -         | -         | 22  |
| Total Credit |           |               |                                       |           |            |               |           |           | 132 |

## 2.2 Mandatory Credit courses for award of B.Sc. Degree:

In addition to the compulsory credits of 132, the student has to earn additional 8 credits from following groups by taking/participating/conducting respective activities.

**Courses in Group I are compulsory.**

The student can earn **maximum 04 credits from an individual group from Group 2 to Group -9.**

**These extra credits will not be considered for GPA calculation,** however these are mandatory for the completion and award of B. Sc. Degree.

- Group 1:** Physical Education (at F. Y. B. Sc. Sem. I) -01 credit  
Physical Education (at F. Y. B. Sc. Sem. II) - 01 credit

(Note: Group I is compulsory for all the students as stated above.)

- Group 2:** Sport representation at College level - 01 credit  
Sport representation at University/Statelevel - 02 credits

- Group 3:** National Social Service Scheme (participation in Camp): 01 credits  
N.C.C.(with participation in annual camp) -01 credit  
N. C. C. (with B certificate/C certificate award)- 02 credits  
N.S.S./N.C.C. Republic day parade participation - 04 credits

- Group 4:** Avishkar participation; Extension activity participation, Cultural activity participation -01 credit  
Avishkar selection at University level - 02 credits  
Avishkar winner at state level - 04 credits

- Group 5:** Research paper presentation at State/National level - 01credits  
Research paper presentation at International level - 02 credits

- Group 6:** Participation in Summer school/programme; Short term course (not less than 1-week duration) - 03 credit.

- Group 7:** Scientific Survey, Societal survey, - 02 credits.

- Group 8:** Field Visits; Study Tours; Industrial Visits; Participation in curricular/ cocurricular competitions- 01 Credit.

- Group 9:** Online certificate Courses /MOOC Courses/ Career Advancement Course up to 04 credits (Minimum 10 Hrs. / credit)





## 2.3 Outlines of Choice Based Credit System [Detailed description of the courses]:

- a) **Core Course**(14 for honours courses; 4 discipline specific papers each for regular courses and 2 papers each for English and Hindi/MIL in B.A./B.Com): The papers under this category are going to be taught uniformly across all universities with 30% deviation proposed in the draft. The purpose of fixing core papers is to ensure that all the institutions follow a minimum common curriculum so that each institution/university adheres to common minimum standard. Also the course designed for papers under this category aim to cover the basics that a student is expected to imbibe in that particular discipline. A course, which should compulsorily be studied by a candidate as a core requirement is termed as a Core course.
- b) **Elective Course:** Generally a course which can be chosen from a pool of courses and which may be very specific or specialized or advanced or supportive to the discipline/subject of study or which provides an extended scope or which enables an exposure to some other discipline/subject/domain or nurtures the candidate's proficiency/skill is called an Elective Course.
  - i. **Discipline Specific Elective (DSE) Course**(4 for honours courses and 2 each for regular courses): Elective courses offered under the main discipline/subject of study is referred to as Discipline Specific Elective. The list provided under this category are suggestive in nature and each University has complete freedom to suggest their own papers under this category based on their expertise, specialization, requirements, scope and need. The University/Institute may also offer discipline related Elective courses of interdisciplinary nature (to be offered by main discipline/subject of study).
  - ii. **Dissertation/Project\***: An elective course designed to acquire special/advanced knowledge, such as supplement study/support study to a project work, and a candidate studies such a course on his own with an advisory support by a teacher/faculty member is called dissertation/project.
  - iii. **Generic Elective (GE) Course**(4 for honours courses and 2 each for B.A./B.Com. regular courses): An elective course chosen from an unrelated discipline/subject, with an intention to seek exposure beyond discipline/s of choice is called a Generic Elective. The purpose of this category of papers is to offer the students the option to explore disciplines of interest beyond the choices they make in Core and Discipline Specific Elective papers. The list provided under this category are suggestive in nature and each University has complete freedom to suggest their own papers under this category based on their expertise, specialization, requirements, scope and need.

P.S.: A core course offered in a discipline/subject may be treated as an elective by other discipline/subject and vice versa and such electives may also be referred to as Generic Elective.
- c) **Ability Enhancement Courses (AEC):** The Ability Enhancement (AE) Courses may be of two kinds: Ability Enhancement Compulsory Courses (AECC) and Skill Enhancement Courses (SEC). "AECC" courses are the courses based upon the content that leads to Knowledge enhancement; i. Environmental Science and ii. English/MIL(Marathi/Hindi) Communication. These are mandatory for all disciplines. SEC courses are value-based and/or skill-based and are aimed at providing hands-on-training, competencies, skills, etc.



i. **Ability Enhancement Compulsory Courses (AECC):** Environmental Science, English Communication/Hindi Communication/MIL Communication.

ii. **Skill Enhancement Courses (SEC)**(minimum 2 for honours courses and 4 for regular courses): These courses may be chosen from a pool of courses designed to provide value-based and/or skill-based knowledge and should contain both theory and lab/hands-on/training/field work. The main purpose of these courses is to provide students life-skills in hands-on mode so as to increase their employability. The list provided under this category are suggestive in nature and each University has complete freedom to suggest their own papers under this category based on their expertise, specialization, requirements, scope and need.

**d) Practical/tutorials** (One each with every core and discipline/generic specific elective paper): The list of practical provided is suggestive in nature and each university has the freedom to add/subtract/edit practical from the list depending on their faculty and infrastructure available. Addition will however be of similar nature.

**e) Introducing Research Component in Under-Graduate Courses**

**Project work/Dissertation** is considered as a special course involving application of knowledge in solving / analyzing /exploring a real life situation / difficult problem. A Project/Dissertation work would be of 6 credits. A Project/Dissertation work may be given in lieu of a discipline specific elective paper.

### 3. Eligibility for Admission:

#### 3.1 First Year B.Sc.:

- A. Higher Secondary School Certificate (10+2) or its equivalent Examination with English and three science subjects such as Physics, Chemistry, Mathematics, Biology, Geography, Geology, etc. OR
- B. Three Years Diploma in Pharmacy Course of Board of Technical Education conducted by Government of Maharashtra or its equivalent. OR
- C. Higher Secondary School Certificate (10+2) Examination with English and vocational subject of + 2 level (MCVC) - Medical Lab. Technician (Subject Code = P1/P2/P3)

Admissions will be given as per the selection procedure / policies adopted by the respective college keeping in accordance with conditions laid down by the University of Pune.

Reservation and relaxation will be as per the Government rules.

#### 3.2 Medium of Instruction: English

#### 3.3 Award of Credits:

- Each course having 4 credits shall be evaluated out of 100 marks and student should secure at least 40 marks (40%) in continuous assessment as well as term end exam to earn full credits of that course.
- Each course having 3 credits shall be evaluated out of 75 marks as students should secure at least 30 marks (40%) in continuous assessment as well as term end exam to earn full credits of that course.





- Each course having 2 or 1.5 credits shall be evaluated out of 50 marks and student should secure at least 20 marks (40%) in continuous assessment as well as term end exam to earn full credits of that course.
- Each course having 1 credits shall be evaluated out of 25 marks as student shall secure 10 marks (40%) in continuous assessment as well as term end exam to earn full credits of that course.
- GPA shall be calculated based on the marks obtained in the respective subject provided that student should have obtained credits for that course. Structure of marks scheme for choice based credit system program is given in Table 2.

**Table 2**  
**Structure of Examination Mark Scheme of Choice Based Credit System for Undergraduate Science Programme**

| Sem                     | Course opted   | Course Name | Credit    | Internal Max Marks | External Max Marks | Total Max Marks |
|-------------------------|----------------|-------------|-----------|--------------------|--------------------|-----------------|
| I                       | CC-1           | Paper 1:    | 2         | 15                 | 35                 | 50              |
|                         |                | Paper 2:    | 2         | 15                 | 35                 | 50              |
|                         | CC-1 Practical | Practical   | 1.5       | 15                 | 35                 | 50              |
|                         | CC-2           | Paper 1:    | 2         | 15                 | 35                 | 50              |
|                         |                | Paper 2:    | 2         | 15                 | 35                 | 50              |
|                         | CC-2 Practical | Practical   | 1.5       | 15                 | 35                 | 50              |
|                         | CC-3           | Paper 1:    | 2         | 15                 | 35                 | 50              |
|                         |                | Paper 2:    | 2         | 15                 | 35                 | 50              |
|                         | CC-3 Practical | Practical   | 1.5       | 15                 | 35                 | 50              |
|                         | CC-4           | Paper 1:    | 2         | 15                 | 35                 | 50              |
|                         |                | Paper 2:    | 2         | 15                 | 35                 | 50              |
|                         | CC-4 Practical | Practical   | 1.5       | 15                 | 35                 | 50              |
|                         |                |             | <b>22</b> | <b>180</b>         | <b>420</b>         | <b>600</b>      |
| II                      | CC-5           | Paper 1:    | 2         | 15                 | 35                 | 50              |
|                         |                | Paper 2:    | 2         | 15                 | 35                 | 50              |
|                         | CC-5 Practical | Practical   | 1.5       | 15                 | 35                 | 50              |
|                         | CC-6           | Paper 1:    | 2         | 15                 | 35                 | 50              |
|                         |                | Paper 2:    | 2         | 15                 | 35                 | 50              |
|                         | CC-6 Practical | Practical   | 1.5       | 15                 | 35                 | 50              |
|                         | CC-7           | Paper 1:    | 2         | 15                 | 35                 | 50              |
|                         |                | Paper 2:    | 2         | 15                 | 35                 | 50              |
|                         | CC-7 Practical | Practical   | 1.5       | 15                 | 35                 | 50              |
|                         | CC-8           | Paper 1:    | 2         | 15                 | 35                 | 50              |
|                         |                | Paper 2:    | 2         | 15                 | 35                 | 50              |
|                         | CC-8 Practical | Practical   | 1.5       | 15                 | 35                 | 50              |
|                         |                |             | <b>22</b> | <b>180</b>         | <b>420</b>         | <b>600</b>      |
| <b>First Year Total</b> |                |             | <b>44</b> | <b>360</b>         | <b>840</b>         | <b>1200</b>     |



|                          |                 |                                                |           |            |            |             |
|--------------------------|-----------------|------------------------------------------------|-----------|------------|------------|-------------|
| III                      | CC-9            | Paper 1:                                       | 2         | 15         | 35         | 50          |
|                          |                 | Paper 2:                                       | 2         | 15         | 35         | 50          |
|                          | CC-9 Practical  | Practical                                      | 2         | 15         | 35         | 50          |
|                          | CC-10           | Paper 1:                                       | 2         | 15         | 35         | 50          |
|                          |                 | Paper 2:                                       | 2         | 15         | 35         | 50          |
|                          | CC-10 Practical | Practical                                      | 2         | 15         | 35         | 50          |
|                          | CC-11           | Paper 1:                                       | 2         | 15         | 35         | 50          |
|                          |                 | Paper 2:                                       | 2         | 15         | 35         | 50          |
|                          | CC-11 Practical | Practical                                      | 2         | 15         | 35         | 50          |
|                          | AECC -1A        | Environmental Science -1                       | 2         | 15         | 35         | 50          |
|                          | AECC -2A        | English MIL(Marathi/Hindi)<br>Communication -1 | 2         | 15         | 35         | 50          |
|                          |                 |                                                | <b>22</b> | <b>165</b> | <b>385</b> | <b>550</b>  |
| IV                       | CC-12           | Paper 1:                                       | 2         | 15         | 35         | 50          |
|                          |                 | Paper 2:                                       | 2         | 15         | 35         | 50          |
|                          | CC-12 Practical | Practical                                      | 2         | 15         | 35         | 50          |
|                          | CC-13           | Paper 1:                                       | 2         | 15         | 35         | 50          |
|                          |                 | Paper 2:                                       | 2         | 15         | 35         | 50          |
|                          | CC-13 Practical | Practical                                      | 2         | 15         | 35         | 50          |
|                          | CC-14           | Paper 1:                                       | 2         | 15         | 35         | 50          |
|                          |                 | Paper 2:                                       | 2         | 15         | 35         | 50          |
|                          | CC-14 Practical | Practical                                      | 2         | 15         | 35         | 50          |
|                          | AECC -1B        | Environmental Science -2                       | 2         | 15         | 35         | 50          |
|                          | AECC -2B        | English MIL(Marathi/Hindi)<br>Communication -2 | 2         | 15         | 35         | 50          |
|                          |                 |                                                | <b>22</b> | <b>165</b> | <b>385</b> | <b>550</b>  |
| <b>Second Year Total</b> |                 |                                                | <b>44</b> | <b>330</b> | <b>770</b> | <b>1100</b> |

|   |          |                       |           |            |            |            |
|---|----------|-----------------------|-----------|------------|------------|------------|
| V | DSE - 1A | Paper 1:              | 2         | 15         | 35         | 50         |
|   | DSE - 1B | Paper 2:              | 2         | 15         | 35         | 50         |
|   | DSE - 2A | Paper 3:              | 2         | 15         | 35         | 50         |
|   | DSE - 2B | Paper 4:              | 2         | 15         | 35         | 50         |
|   | DSE - 3A | Paper 5:              | 2         | 15         | 35         | 50         |
|   | DSE - 3B | Paper 6:              | 2         | 15         | 35         | 50         |
|   | DSE-1    | Practical Lab 1       | 2         | 15         | 35         | 50         |
|   | DSE -2   | Practical Lab 2       | 2         | 15         | 35         | 50         |
|   | DSE -3   | Practical Lab 3       | 2         | 15         | 35         | 50         |
|   | SEC-1    | Skill Based Course 1: | 2         | 15         | 35         | 50         |
|   | SEC-2    | Skill Based Course 2: | 2         | 15         | 35         | 50         |
|   |          |                       | <b>22</b> | <b>165</b> | <b>385</b> | <b>550</b> |

|                         |          |                      |            |            |            |             |
|-------------------------|----------|----------------------|------------|------------|------------|-------------|
| VI                      | DSE - 4A | Paper 1:             | 2          | 15         | 35         | 50          |
|                         | DSE - 4B | Paper 2:             | 2          | 15         | 35         | 50          |
|                         | DSE - 5A | Paper 3:             | 2          | 15         | 35         | 50          |
|                         | DSE - 5B | Paper 4:             | 2          | 15         | 35         | 50          |
|                         | DSE - 6A | Paper 5:             | 2          | 15         | 35         | 50          |
|                         | DSE - 6B | Paper 6:             | 2          | 15         | 35         | 50          |
|                         | DSE-4    | Practical Lab 1      | 2          | 15         | 35         | 50          |
|                         | DSE-5    | Practical Lab 2      | 2          | 15         | 35         | 50          |
|                         | DSE-6    | Project              | 2          | 15         | 35         | 50          |
|                         | SEC-2    | Skill Based Course 2 | 2          | 15         | 35         | 50          |
|                         | SEC-2    | Skill Based Course 2 | 2          | 15         | 35         | 50          |
|                         |          |                      | <b>22</b>  | <b>165</b> | <b>385</b> | <b>550</b>  |
| <b>Third Year Total</b> |          |                      | <b>44</b>  | <b>330</b> | <b>770</b> | <b>1100</b> |
| <b>Total</b>            |          |                      | <b>132</b> |            |            | <b>3400</b> |



#### 4. Evaluation Pattern:

- 4.1 The course carrying 100 marks shall be evaluated with Continuous Assessment (CA) and University Evaluation (UE) mechanism.
- 4.2 Continuous assessment shall be of 30 marks while University Evaluation shall be of 70 marks. To pass in a course of 4 credit, a student has to secure minimum 40 marks provided that he should secure minimum 28 marks in University Evaluation (UE) and 12 marks (40%) in continuous assessment.
- 4.3 The course carrying 50 marks shall be evaluated with Continuous Assessment (CA) and University Evaluation (UE) mechanism. Continuous assessment shall be of 15 marks while University Evaluation shall be of 35 marks.
- 4.4 To pass in a course of 2 or 1.5 credit, a student has to secure minimum 20 marks provided that he/she should secure minimum 14 marks in University Evaluation (UE) and 6 marks (40%) in continuous assessment..
- 4.5 For Internal examination minimum two tests per paper of which one has to be a written test 10 Marks
- 4.6 Methods of assessment for Internal exams: Seminars, Viva-voce, Projects, Surveys, Field visits, Tutorials, Assignment, Group Discussion, etc (on approval of the head of the centre)
- 4.7 There shall be revaluation of the answer scripts of semester-end examination of theory papers only but not of internal assessment papers as per Ordinance no 134 A and B.

#### 5. ATKT Rules:

- 5.1 Minimum number of credits required to take admission to Second Year of B. Sc.: 31 [70%]
- 5.2 Minimum number of credits required to take admission to Third Year of B.Sc.: 44 credits [100%] to be completed from F.Y. B.Sc. and at least 22 credits from S.Y. B.Sc.

#### 6. Completion of Degree Course:

- 6.1 A student who earns 140 credits, shall be considered to have completed the requirements of the B. Sc. degree program and CGPA will be calculated for such student. On the basis of only 132 credits. The following percentage to grade and grade point is given in Table-3 and respective example of CGPA calculation is given in Table-4.

**Table 3**  
**Percentage to Grades and Grade Points**

| Sr. No. | Grade Letter      | Grade Point | Marks                           |
|---------|-------------------|-------------|---------------------------------|
| 1       | O (Outstanding)   | 10          | $90 \leq \text{Marks} \leq 100$ |
| 2       | A+ (Excellent)    | 9           | $80 \leq \text{Marks} \leq 89$  |
| 3       | A (Very Good)     | 8           | $70 \leq \text{Marks} \leq 79$  |
| 4       | B+ (Good)         | 7           | $55 \leq \text{Marks} \leq 69$  |
| 5       | B (Above Average) | 6           | $50 \leq \text{Marks} \leq 54$  |
| 6       | C (Average)       | 5           | $45 \leq \text{Marks} \leq 49$  |
| 7       | D (Pass)          | 4           | $40 \leq \text{Marks} \leq 44$  |
| 8       | F (Fail)          | 0           | Marks < 40                      |
| 9       | Ab (Absent)       | 0           |                                 |



**Table 4**  
**Structure of CGPA and Mark Scheme of Choice Based Credit**  
**System for Undergraduate Science Programme to be**  
**implemented from Academic year 2019-20**

| Se<br>m                 | Course<br>opted   | Course<br>Name | Cre<br>dit | Interna<br>l Max<br>Marks | Extern<br>al Max<br>Marks | Total<br>Max<br>Marks                              | Grade<br>Letter<br>(F-O) | Grade<br>point<br>(0 - 10) | Credit Point<br>= (Credit x<br>Grade point) |
|-------------------------|-------------------|----------------|------------|---------------------------|---------------------------|----------------------------------------------------|--------------------------|----------------------------|---------------------------------------------|
| I                       | CC-1              | Paper 1:       | 2          | 15                        | 35                        | 50                                                 | O                        | 10                         | 20.00                                       |
|                         |                   | Paper 2:       | 2          | 15                        | 35                        | 50                                                 | A+                       | 9                          | 18.00                                       |
|                         | CC-1<br>Practical | Practical      | 1.5        | 15                        | 35                        | 50                                                 | A                        | 8                          | 12.00                                       |
|                         | CC-2              | Paper 1:       | 2          | 15                        | 35                        | 50                                                 | B+                       | 7                          | 14.00                                       |
|                         |                   | Paper 2:       | 2          | 15                        | 35                        | 50                                                 | B                        | 6                          | 12.00                                       |
|                         | CC-2<br>Practical | Practical      | 1.5        | 15                        | 35                        | 50                                                 | C                        | 5                          | 7.50                                        |
|                         | CC-3              | Paper 1:       | 2          | 15                        | 35                        | 50                                                 | D                        | 4                          | 8.00                                        |
|                         |                   | Paper 2:       | 2          | 15                        | 35                        | 50                                                 | A                        | 8                          | 16.00                                       |
|                         | CC-3<br>Practical | Practical      | 1.5        | 15                        | 35                        | 50                                                 | D                        | 4                          | 6.00                                        |
|                         | CC-4              | Paper 1:       | 2          | 15                        | 35                        | 50                                                 | O                        | 10                         | 20.00                                       |
|                         |                   | Paper 2:       | 2          | 15                        | 35                        | 50                                                 | A+                       | 9                          | 18.00                                       |
|                         | CC-4<br>Practical | Practical      | 1.5        | 15                        | 35                        | 50                                                 | A                        | 8                          | 12.00                                       |
|                         |                   |                | <b>22</b>  | <b>180</b>                | <b>420</b>                | <b>600</b>                                         |                          |                            | <b>163.50</b>                               |
| <b>SGPA</b>             |                   |                |            |                           |                           | Total Credit point / Total credit for the semester |                          |                            | <b>7.43</b>                                 |
| II                      | CC-5              | Paper 1:       | 2          | 15                        | 35                        | 50                                                 | O                        | 10                         | 20.00                                       |
|                         |                   | Paper 2:       | 2          | 15                        | 35                        | 50                                                 | A+                       | 9                          | 18.00                                       |
|                         | CC-5<br>Practical | Practical      | 1.5        | 15                        | 35                        | 50                                                 | A                        | 8                          | 12.00                                       |
|                         | CC-6              | Paper 1:       | 2          | 15                        | 35                        | 50                                                 | B+                       | 7                          | 14.00                                       |
|                         |                   | Paper 2:       | 2          | 15                        | 35                        | 50                                                 | B                        | 6                          | 12.00                                       |
|                         | CC-6<br>Practical | Practical      | 1.5        | 15                        | 35                        | 50                                                 | C                        | 5                          | 7.50                                        |
|                         | CC-7              | Paper 1:       | 2          | 15                        | 35                        | 50                                                 | D                        | 4                          | 8.00                                        |
|                         |                   | Paper 2:       | 2          | 15                        | 35                        | 50                                                 | C                        | 5                          | 10.00                                       |
|                         | CC-7<br>Practical | Practical      | 1.5        | 15                        | 35                        | 50                                                 | B                        | 6                          | 9.00                                        |
|                         | CC-8              | Paper 1:       | 2          | 15                        | 35                        | 50                                                 | O                        | 10                         | 20.00                                       |
|                         |                   | Paper 2:       | 2          | 15                        | 35                        | 50                                                 | A+                       | 9                          | 18.00                                       |
|                         | CC-8<br>Practical | Practical      | 1.5        | 15                        | 35                        | 50                                                 | A                        | 8                          | 12.00                                       |
|                         |                   |                | <b>22</b>  | <b>180</b>                | <b>420</b>                | <b>600</b>                                         | <b>0</b>                 |                            | <b>160.50</b>                               |
| <b>SGPA</b>             |                   |                |            |                           |                           | Total Credit point / Total credit for the semester |                          |                            | <b>7.30</b>                                 |
| <b>First Year Total</b> |                   |                | <b>44</b>  | <b>360</b>                | <b>840</b>                | <b>1200</b>                                        |                          |                            | <b>323.50</b>                               |
| <b>SGPA</b>             |                   |                |            |                           |                           | Total Credit point / Total credit for the year     |                          |                            | <b>7.35</b>                                 |



|          |                    |                                                                                                  |    |     |     |                                                    |    |       |        |
|----------|--------------------|--------------------------------------------------------------------------------------------------|----|-----|-----|----------------------------------------------------|----|-------|--------|
| III      | CC-9               | Paper 1:                                                                                         | 2  | 15  | 35  | 50                                                 | O  | 10    | 20.00  |
|          |                    | Paper 2:                                                                                         | 2  | 15  | 35  | 50                                                 | A+ | 9     | 18.00  |
|          | CC-9<br>Practical  | Practical                                                                                        | 2  | 15  | 35  | 50                                                 | A  | 8     | 16.00  |
|          | CC-10              | Paper 1:                                                                                         | 2  | 15  | 35  | 50                                                 | B+ | 7     | 14.00  |
|          |                    | Paper 2:                                                                                         | 2  | 15  | 35  | 50                                                 | B  | 6     | 12.00  |
|          | CC-10<br>Practical | Practical                                                                                        | 2  | 15  | 35  | 50                                                 | C  | 5     | 10.00  |
|          | CC-11              | Paper 1:                                                                                         | 2  | 15  | 35  | 50                                                 | B+ | 7     | 14.00  |
|          |                    | Paper 2:                                                                                         | 2  | 15  | 35  | 50                                                 | B  | 6     | 12.00  |
|          | CC-11<br>Practical | Practical                                                                                        | 2  | 15  | 35  | 50                                                 | C  | 5     | 10.00  |
|          | AECC -1A           | Environm<br>ental<br>Science -<br>1<br>English<br>MIL(Mara<br>thi/Hindi)<br>Commun<br>ication -1 | 2  | 15  | 35  | 50                                                 | B  | 6     | 12.00  |
| AECC -2A |                    | 2                                                                                                | 15 | 35  | 50  | A                                                  | 8  | 16.00 |        |
|          |                    |                                                                                                  | 22 | 165 | 385 | 550                                                |    |       | 154.00 |
| SGPA     |                    |                                                                                                  |    |     |     | Total Credit point / Total credit for the semester |    |       | 7.00   |

|                   |                    |                                                                                                   |    |     |     |                                                    |    |      |        |
|-------------------|--------------------|---------------------------------------------------------------------------------------------------|----|-----|-----|----------------------------------------------------|----|------|--------|
| IV                | CC-12              | Paper 1:                                                                                          | 2  | 15  | 35  | 50                                                 | O  | 10   | 20.00  |
|                   |                    | Paper 2:                                                                                          | 2  | 15  | 35  | 50                                                 | A+ | 9    | 18.00  |
|                   | CC-12<br>Practical | Practical                                                                                         | 2  | 15  | 35  | 50                                                 | A  | 8    | 16.00  |
|                   | CC-13              | Paper 1:                                                                                          | 2  | 15  | 35  | 50                                                 | B+ | 7    | 14.00  |
|                   |                    | Paper 2:                                                                                          | 2  | 15  | 35  | 50                                                 | B  | 6    | 12.00  |
|                   | CC-13<br>Practical | Practical                                                                                         | 2  | 15  | 35  | 50                                                 | C  | 5    | 10.00  |
|                   | CC-14              | Paper 1:                                                                                          | 2  | 15  | 35  | 50                                                 | B+ | 7    | 14.00  |
|                   |                    | Paper 2:                                                                                          | 2  | 15  | 35  | 50                                                 | B  | 6    | 12.00  |
|                   | CC-14<br>Practical | Practical                                                                                         | 2  | 15  | 35  | 50                                                 | C  | 5    | 10.00  |
|                   | AECC -1B           | Environm<br>ental<br>Science -<br>2<br>English/<br>MIL(Mara<br>thi/Hindi)<br>Commun<br>ication -2 | 2  | 15  | 35  | 50                                                 | D  | 4    | 8.00   |
|                   | AECC -2B           |                                                                                                   | 2  | 15  | 35  | 50                                                 | C  | 5    | 10.00  |
|                   |                    |                                                                                                   | 22 | 165 | 385 | 550                                                |    |      | 144.00 |
|                   |                    |                                                                                                   |    |     |     | Total Credit point / Total credit for the semester |    | 6.55 |        |
| Second Year Total |                    |                                                                                                   | 44 | 330 | 770 | 1100                                               |    |      | 298.00 |



| SGPA             |          |                       |     |     |     | Total Credit point / Total credit for the year     |    |    | 6.77   |
|------------------|----------|-----------------------|-----|-----|-----|----------------------------------------------------|----|----|--------|
| V                | DSE - 1A | Paper 1:              | 2   | 15  | 35  | 50                                                 | D  | 4  | 8.00   |
|                  | DSE - 1B | Paper 2:              | 2   | 15  | 35  | 50                                                 | C  | 5  | 10.00  |
|                  | DSE - 2A | Paper 3:              | 2   | 15  | 35  | 50                                                 | D  | 4  | 8.00   |
|                  | DSE - 2B | Paper 4:              | 2   | 15  | 35  | 50                                                 | C  | 5  | 10.00  |
|                  | DSE - 3A | Paper 5:              | 2   | 15  | 35  | 50                                                 | D  | 4  | 8.00   |
|                  | DSE - 3B | Paper 6:              | 2   | 15  | 35  | 50                                                 | C  | 5  | 10.00  |
|                  | DSE-1    | Practical Lab 1       | 2   | 15  | 35  | 50                                                 | O  | 10 | 20.00  |
|                  | DSE-2    | Practical Lab 2       | 2   | 15  | 35  | 50                                                 | A+ | 9  | 18.00  |
|                  | DSE-3    | Practical Lab 3       | 2   | 15  | 35  | 50                                                 | A  | 8  | 16.00  |
|                  | SEC-1    | Skill Based Course 1: | 2   | 15  | 35  | 50                                                 | D  | 4  | 8.00   |
|                  | SEC-2    | Skill Based Course 2: | 2   | 15  | 35  | 50                                                 | C  | 5  | 10.00  |
|                  |          |                       | 22  | 165 | 385 | 550                                                |    |    | 126.00 |
| SGPA             |          |                       |     |     |     | Total Credit point / Total credit for the semester |    |    | 5.73   |
| VI               | DSE - 4A | Paper 1:              | 2   | 15  | 35  | 50                                                 | D  | 4  | 8.00   |
|                  | DSE - 4B | Paper 2:              | 2   | 15  | 35  | 50                                                 | C  | 5  | 10.00  |
|                  | DSE - 5A | Paper 3:              | 2   | 15  | 35  | 50                                                 | D  | 4  | 8.00   |
|                  | DSE - 5B | Paper 4:              | 2   | 15  | 35  | 50                                                 | C  | 5  | 10.00  |
|                  | DSE - 6A | Paper 5:              | 2   | 15  | 35  | 50                                                 | D  | 4  | 8.00   |
|                  | DSE - 6B | Paper 6:              | 2   | 15  | 35  | 50                                                 | C  | 5  | 10.00  |
|                  | DSE-4    | Practical Lab 1       | 2   | 15  | 35  | 50                                                 | O  | 10 | 20.00  |
|                  | DSE-5    | Practical Lab 2       | 2   | 15  | 35  | 50                                                 | A+ | 9  | 18.00  |
|                  | DSE-6    | Project               | 2   | 15  | 35  | 50                                                 | A  | 8  | 16.00  |
|                  | SEC-2    | Skill Based Course 2  | 2   | 15  | 35  | 50                                                 | D  | 4  | 8.00   |
|                  | SEC-2    | Skill Based Course 2  | 2   | 15  | 35  | 50                                                 | C  | 5  | 10.00  |
|                  |          |                       | 22  | 165 | 385 | 550                                                |    |    | 126.00 |
| SGPA             |          |                       |     |     |     | Total Credit point / Total credit for the semester |    |    | 5.73   |
| Third Year Total |          |                       | 44  | 330 | 770 | 1100                                               |    |    | 252.00 |
| SGPA             |          |                       |     |     |     | Total Credit point / Total credit for the year     |    |    | 5.73   |
| Total            |          |                       | 132 |     |     | 3400                                               |    |    | 873.50 |
| CGPA             |          |                       |     |     |     | Total Credit point / Total credit for the course   |    |    | 6.62   |



## 7. PERFORMANCE INDICES:

The semester end grade sheet will contain grades for the courses along with titles and SGPA. Final grade sheet and transcript shall contain CGPA.

**7.1 Semester Grade Point Average (SGPA)** -The performance of a student in a semester is indicated by a number called the Semester Grade Point Average (SGPA). The SGPA is the weighted average of the grade points obtained in all the courses, seminars and projects registered by the student during the semester.

$$SGPA = \frac{\sum_{i=1}^p C_i G_i}{\sum_{i=1}^p C_i}$$

$$SGPA = \frac{\sum \text{Grade Points Earned} \times \text{Credits for each course}}{\text{Total Credits}}$$

For Example: suppose in a given semester a student has registered for five courses having credits C1, C2, C3, C4, C5 and his / her grade points in those courses are G1, G2, G3, G4, G5 respectively.

Then students

$$SGPA = \frac{C_1 G_1 + C_2 G_2 + C_3 G_3 + C_4 G_4 + C_5 G_5}{C_1 + C_2 + C_3 + C_4 + C_5}$$

SGPA is calculated up to two decimal places by rounding off.

**7.2 Course Grade Point Average (CGPA)**- The CGPA is the weighted average of the grade points obtained in all the courses (Theory/term work/practical/oral/presentation) of first semester to sixth semester for the students admitted in the First year and third to sixth semester for the students directly admitted at Second year. It is calculated in the same manner as the SGPA.

In case of a student passing a failed course or in case of improvement, the earlier grade would be replaced by the new grade in calculation of the SGPA and CGPA.

## 8. RESULT:

Based on the performance of the student in the semester examinations, the Savitribai Phule Pune University will declare the results and issue the Semester Grade sheets.

The class shall be awarded to a student on the CGPA calculated as mentioned in Rule no. 6.1. The award of the class shall be as per Table 5. and corresponding percentage calculation for the CGPA is given in Table 6. along with all details and examples.



**Table 5**  
**CGPA distribution and corresponding class of the degree awarded**

| Sr. No | CGPA                            | Class of the Degree awarded |
|--------|---------------------------------|-----------------------------|
| 1      | 9.50 or More than 9.50          | Outstanding (O)             |
| 2      | 8.50 or more but less than 9.50 | Excellent (A+)              |
| 3      | 7.50 or more but less than 8.50 | Very Good (A)               |
| 4      | 6.25 or more but less than 7.50 | Good (B+)                   |
| 5      | 5.25 or more but less than 6.25 | Above Average (B)           |
| 6      | 4.75 or more but less than 5.25 | Average (C)                 |
| 7      | 4.00 or more but less than 4.75 | Pass (D)                    |

**Table 6**  
**Percentage calculation of a corresponding CGPA**

For the calculation of Percentage from CGPA following equation can be used.

$$\% \text{ of Marks} = \begin{cases} \text{if O grade then } 20 \times \text{CGPA} - 100 \\ \text{if A+ grade then } 10 \times \text{CGPA} - 5 \\ \text{if A grade then } 10 \times \text{CGPA} - 5 \\ \text{if B+ grade then } 12 \times \text{CGPA} - 20 \\ \text{if B grade then } 5 \times \text{CGPA} + 23.75 \\ \text{if C grade then } 10 \times \text{CGPA} - 2.50 \\ \text{if D grade then } 6.6 \times \text{CGPA} + 13.6 \end{cases}$$

The factor considered in the above equations are evaluated from the grade point and marks distribution given in Table 3. The examples of the calculation of percentage are given in the Table 7.

**Table 7**  
**Some examples of CGPA to percentage calculations**

| Obtained CGPA | Equation                      | Percentage (%) | Grade |
|---------------|-------------------------------|----------------|-------|
| 10            | $20 \times 10 - 100 = 100$    | 100            | O     |
| 9.75          | $20 \times 9.75 - 100 = 95$   | 95             | O     |
| 9.5           | $20 \times 9.5 - 100 = 90$    | 90             | O     |
| 9.0           | $10 \times 9 - 5 = 85$        | 85             | A+    |
| 8.0           | $10 \times 8 - 5 = 75$        | 75             | A     |
| 7.0           | $12 \times 7 - 20 = 64$       | 64             | B+    |
| 6.67          | $12 \times 6.67 - 20 = 60.04$ | 60.04          | B+    |
| 6.25          | $12 \times 6.25 - 20 = 55$    | 55             | B+    |
| 5.25          | $5 \times 5.25 + 23.75 = 50$  | 50             | B     |
| 4.75          | $10 \times 4.75 - 2.50 = 45$  | 45             | C     |
| 4.0           | $6.6 \times 4.0 + 13.6 = 40$  | 40             | D     |

While declaring the result, the existing relevant ordinances are applicable. There is also a provision for verification and revaluation. In case of verification, the existing rules will be applicable. The revaluation result will be adopted if there is a change of at least 10% marks and in the grade of the course.

For grade improvement a student will have to take minimum 30% of the requisite number of credits for the concerned degree. These courses will be theory courses from the parent department. Grade improvement programme will be implemented at the end of the academic year. A student can opt for the grade improvement programme only after the declaration of the result for his/her final semester exam, i.e., at the end of the next academic year after passing the final examination and within two years of completion of the degree and only once.

|   |                                 |                   |
|---|---------------------------------|-------------------|
| 1 | 4.00 or more but less than 4.75 | Pass (P)          |
| 2 | 3.75 or more but less than 4.00 | Average (G)       |
| 3 | 3.50 or more but less than 3.75 | Above Average (B) |
| 4 | 3.25 or more but less than 3.50 | Good (B+)         |
| 5 | 3.00 or more but less than 3.25 | Very Good (A)     |
| 6 | 2.75 or more but less than 3.00 | Excellent (A+)    |

Table 5

For the calculation of Percentage from CGPA following equation can be used

For the calculation of Percentage from CGPA following equation can be used

$$\begin{aligned}
 \% \text{ of Marks} = & \left\{ \begin{array}{l} \text{If D grade then } 10 \times \text{CGPA} - 100 \\ \text{If C grade then } 10 \times \text{CGPA} - 5 \\ \text{If B grade then } 10 \times \text{CGPA} - 2 \\ \text{If A grade then } 10 \times \text{CGPA} - 1 \\ \text{If B grade then } 5 \times \text{CGPA} + 23.75 \\ \text{If C grade then } 10 \times \text{CGPA} - 2.50 \\ \text{If D grade then } 5.6 \times \text{CGPA} + 13.6 \end{array} \right.
 \end{aligned}$$

The grades considered in the above equation are evaluated from the grade point and marks distribution given in Table 5. The examples of the calculation of percentage are given in the Table 7.

Table 7

Some examples of CGPA to percentage calculation

| Grade | Percentage (%) | Equation                    | Obtained CGPA |
|-------|----------------|-----------------------------|---------------|
| O     | 100            | $10 \times 10 - 100 = 0$    | 10            |
| A     | 95             | $10 \times 9.5 - 100 = -5$  | 9.75          |
| B     | 90             | $10 \times 9 - 100 = -10$   | 9.2           |
| A+    | 85             | $10 \times 8.5 - 100 = -15$ | 9.0           |
| A     | 80             | $10 \times 8 - 100 = -20$   | 8.8           |
| B+    | 75             | $10 \times 7.5 - 100 = -25$ | 8.6           |
| B     | 70             | $10 \times 7 - 100 = -30$   | 8.4           |
| C     | 65             | $10 \times 6.5 - 100 = -35$ | 8.2           |
| D     | 60             | $10 \times 6 - 100 = -40$   | 8.0           |

While declaring the result the existing relevant ordinances are applicable. There is also a provision for verification and re-evaluation. In case of verification, the existing rules are applicable. The re-evaluation result will be adopted if there is a change of at least 10% marks and in the grade of the course.