



K.V.R.S.S.S

**Shivraj College of Arts, Commerce and D.S.Kadam
Science College, Gadhinglaj**

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CRITERION - 1

CURRICULAR ASPECTS

1.3.2 Project Work / Field Work / Internship

SHIVAJI UNIVERSITY, KOLHAPUR.



Accredited By NAAC with 'A' grade

2019-2020

Revised Syllabus For

M.Sc. Computer Science Part-I

(Subject to modifications to be made time to time)

Syllabus to be implemented from June 2019

The name of the programme shall be Master of Science (**M.Sc. Computer Science**)

Duration of the Program

- The M.Sc. programme will be a full-time two years i.e. 4 semesters. Pattern of examination will be Semester System.

Medium of Instruction

- The medium of Instruction will be English only.

Admission Procedure

- Eligibility: B.Sc. Computer Science (Entire/ optional) / B.Sc. IT/ BCS/BCA(under Science faculty), B.Sc. Mathematics, B.Sc. Statistics, B.Sc. Electronics
- Admission through University Entrance exam only.
- Only entrance marks should be considered for admission process.
- Reservation of Seats as per rules of Government of Maharashtra.

Project work

At the end of I, II & III semester student has to carry out a project work.

1. Projectwork at end of semester should be done in groups, each student must be given a responsibility for a distinct module and care should be taken to see the progress of individual modules is independent of others.
2. Students should take guidance from an internal guide and prepare a Project Report on "Project Work" to be submitted to the Department after evaluation.
3. The Project Report should contain an Introduction to Project, which should clearly explain the project scope in detail. Database/Webpage/ UI designs and a list of output reports should be included along with references.
4. The project Work should be of such a nature that it could prove useful or should be relevant from the societal/commercial/research angle.
5. The project report will be duly accessed by the internal guide of the project and internal marks will be communicated by the concerned guide.
6. Project viva-voce by the University panel will be conducted as part of Evaluation.

At the end of the Fourth semester of study, a student will be examined in the course

"Industrial / Research Project "

1. Fourth semester Project work can be carried out as industrial training of four months in the Industry or in the Institute as Research project with prior permission of the Institute.
2. Project viva-voce by the University panel will be conducted at the end of semester.
3. The project report should be prepared in a format prescribed by the University, which also specifies the contents and methods of presentation.
4. Project work may be done individually or in groups in case of bigger projects.

5. The major project work carry 50 marks for internal assessment and 150 marks for External viva. The external viva shall be conducted by a panel of external examiners.

OR

1. The student will be allowed to formulate a proposal for start-up and the same will be rated equivalent to an industrial project. A detailed problem statement showing innovation along with markability, business plan and cash flow will be part of the Evaluation criteria.

Research Seminar

At the end of fourth semester student shall deliver seminar on one of the advanced topic chosen in consultation with the guide after compiling the information from the latest literature and also internet. The concepts must be clearly understood and presented by student. Prior to presentation, he/she shall carry out the detailed literature survey from standard references such as International & National journals and periodicals recently published reference books etc. A hard copy of the report (A4 size, 12 fonts, Times New Roman, Single spacing both side printed) should be submitted to the Department before delivering the seminar. This seminar will be evaluated internally for 100 marks by the respective guides.

Assessment

The final total assessment of the candidate is made in terms of an internal assessment and an external assessment for each course.

1. For each theory paper, 20% marks will be based on internal assessment and 80% marks for semester examination (external assessment), unless otherwise stated.
2. Internal assessment of theory papers should be in the form of two internal tests of 10 marks each. Total 20 marks.
3. The projects will be evaluated by the university appointed panel.
4. The final practical examination will be conducted by the university appointed panel at the end of semester for each lab course and marks will be submitted to the university by the panel. The pattern of final Practical Examination will be as follows-

1	Coding and Execution of Program	60 Marks
2	Viva-voce	20 Marks
3	Journal	20 Marks
	Total	100 marks

6. The internal marks will be communicated to the University at the end of each semester, but before the semester end examinations. These marks will be considered for the declaration of the results.

Nature of question paper

Nature of question paper is as follows for University end semester examination

a. **Theory Examination:** There will be seven (7) questions of 16 Marks and out of which four (4) to be attempted from question no 2 to 6. Question No.1 is compulsory and is of multiple choice questions.

b. **Practical Examination:**

i. Duration of Practical Examination: 3 Hrs

ii. Nature of Question paper: There will be three questions out of which any two questions to be attempted and each question carries 30 Marks.

Standard of Passing

Internal as well as external examination will be held at the end of semester. The candidate must score 40% marks in each head of internal as well as external Examination.

Board of Paper Setters /Examiners

For each Semester and examination there will be one board of Paper setters and examiners for every course.

Award of Class

There will be numerical marking on each question. At the time of declaration of the result the marks obtained by the candidate is converted into classes as per University norms.

Course structure

M.Sc. Part I - Semester I

Course Code	Title of the Course	Credits	Teaching Scheme (h/w)		Evaluation Scheme (marks)		
			L	P	CIE	SE	Total
			CC-101	Design and Analysis of Algorithms	4	4	-
CC-102	Python Programming	4	4	-	20	80	100
CC-103	Database Management System	4	4	-	20	80	100
OE-104	Cyber Security	4	4	-	20	80	100
CCPR-105	Python Lab	4	-	6	20	80	100
CCPR-106	Database Lab	4	-	6	20	80	100
CCPR-107	Project	4	-	6	20	80	100
Total		28	16	18	140	560	700

M.Sc. Part I - Semester II

Course Code	Title of the Course	Credits	Teaching Scheme (h/w)		Evaluation Scheme (marks)		
			L	P	CIE	SE	Total
			CC-201	Web Technology	4	4	-
CC-202	Advanced Java	4	4	-	20	80	100
CC-203	Android Fundamentals Development	4	4	-	20	80	100
CE-204	Elective-I:	4	4	-	20	80	100
	CE-204.1: Software Project Management						
	CE-204.2: Data Science Foundations						
	CE-204.3: Application Security Analyst						
	CE-204.4: Cloud Computing						
CCPR-205	Web Technology Lab	4	-	6	20	80	100
CCPR-206	Advanced Java Lab	4	-	6	20	80	100
CCPR-207	Project	4	-	6	20	80	100
Total		28	16	18	140	560	700

Theory Lectures : 60 Minutes Each	Total Credits for M.Sc. -I (Semester I & II) : 56
CC-Core Course	
OE – Open Elective	
CCPR-Core Course Practical	
SWM- SWAYAM UGC online Courses	
CE – Core Elective (Within department) : Core elective papers shall be minimum 2 or more	
Practical Examination is Semester wise.	
Separate passing is mandatory for Theory, Internal, Practical and Project	

M.Sc. Part II - Semester III

Course Code	Title of the Course	Credits	Teaching Scheme (h/w)		Evaluation Scheme (Marks)		
			L	P	CIE	SE	Total
SWM -301	Artificial Intelligence	4	4	-	20	80	100
CC-302	Advanced Web Technology	4	4	-	20	80	100
CC-303	PHP	4	4	-	20	80	100
CE-304	Elective-II: CE-304.1: Software Quality Assurance CE-304.2: Advanced Data Science CE-304.3: Network Security Analyst CE-304.4: Internet of Things	4	4	-	20	80	100
CCPR-305	Advanced Web Technology Lab	4	-	6	20	80	100
CCPR-306	PHP Lab	4	-	6	20	80	100
CCPR-307	Project	4	-	6	20	80	100
Total		28	16	18	140	560	700

M.Sc. Part II - Semester IV

Course Code	Title of the Course	Credits	Teaching Scheme (h/w)		Evaluation Scheme (Marks)		
			L	P	CIE	SE	Total
CCPR - 401	Research Seminar	4	-	8	100	-	100
CCPR-402	Industrial / Research Project	8	-	4	50	150	200
Total		12	-	12	150	150	300

Student Contact hours per week : 16 Hours (Min)	Total Marks for M.Sc-II : 1000
Theory Lectures : 60 Minutes Each	Total Credits for M.Sc-II (Semester III & IV) : 40
CC-Core Course	
CE – Core Elective (Within department) : Core elective papers shall be minimum 2 or more	
OE – Open Elective	
SWM –SWAYAM UGC Online courses	
CCPR – Core Course Practical.	Total Credits for M.Sc. Course : 96
Separate passing is mandatory for Theory, Internal, practical and	Total Marks for M.Sc. Course : 2400

**MSc-I Semester-II(Computer Science)CCPR-207:
Project**

**To be implemented from the academic year 2019-2020
External Marks-80 Internal Marks -20 Practical -06 hrs. /week**

Course outcomes:

- 6) Gain skills as they apply knowledge effectively in diverse contexts.
- 7) Analyse and model requirements and constraints for the purpose of designing and implementing software artefacts and IT systems
- 8) Design and implement software solutions that accommodate specified requirements and constraints, based on analysis or modelling or requirements specification
- 9) Present a clear, coherent and independent exposition of software applications, alternative IT solutions, and decision recommendations to both IT and non-IT personnel via technical reports of professional standard and technical presentations.
- 10) Team work: Work effectively in different roles, to form, manage, and successfully produce outcomes from teams, whose members may have diverse cultural backgrounds and life circumstances, and differing levels of technical expertise.

A software module development should be carried out as part of Project work.

SHIVAJI UNIVERSITY, KOLHAPUR.



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CHOICE BASED CREDIT SYSTEM

Syllabus For

M. Sc. Part – II Computer Science

SEMESTER – III & IV

(Syllabus to be implemented from June, 2020 onwards)

Revised Syllabus For

M.Sc. Computer Science Part-II

(Subject to modifications to be made time to time) Syllabus to be implemented from June 2020

M.Sc. Part II - Semester III

Course Code	Title of the Course	Credits	Teaching Scheme (h/w)		Evaluation Scheme (Marks)		
			L	P	CIE	SE	Total
SWM -301	Artificial Intelligence	4	4	-	20	80	100
CC-302	Advanced Web Technology	4	4	-	20	80	100
CC-303	PHP	4	4	-	20	80	100
CE-304	Elective-II: CE-304.1: Software Quality Assurance CE-304.2: Advanced Data Science CE-304.3: Network Security Analyst CE-304.4: Internet of Things	4	4	-	20	80	100
CCPR-305	Advanced Web Technology Lab	4	-	6	20	80	100
CCPR-306	PHP Lab	4	-	6	20	80	100
CCPR-307	Project	4	-	6	20	80	100
Total		28	16	18	140	560	700

M.Sc. Part II - Semester IV

Course Code	Title of the Course	Credits	Teaching Scheme (h/w)		Evaluation Scheme (Marks)		
			L	P	CIE	SE	Total
CCPR -401	Research Seminar	4	-	8	100	-	100
CCPR-402	Industrial / Research Project	8	-	4	50	150	200
Total		12	-	12	150	150	300

Student Contact hours per week : 16 Hours (Min)	Total Marks for M.Sc-II : 1000
Theory Lectures : 60 Minutes Each	Total Credits for M.Sc -II (Semester III & IV) : 40
CC-Core Course	
CE – Core Elective (Within department) : Core elective papers shall be minimum 2 or more	
OE – Open Elective	
SWM –SWAYAM UGC Online courses	
CCPR – Core Course Practical.	Total Credits for M.Sc. Course : 96
Separate passing is mandatory for Theory, Internal, practical and Project	Total Marks for M.Sc. Course : 2400

MSc-II Semester-III (Computer Science)

CCPR-307: Project

To be implemented from the academic year 2020-2021

External Marks-80 Internal Marks -20 Practical-06 hrs. /week

Course outcomes:

- 1) Gain skills as they apply knowledge effectively in diverse contexts.
 - 2) Analyse and model requirements and constraints for the purpose of designing and implementing software artefacts and IT systems
 - 3) Design and implement software solutions that accommodate specified requirements and constraints, based on analysis or modelling or requirements specification
 - 4) Present a clear, coherent and independent exposition of software applications, alternative IT solutions, and decision recommendations to both IT and non-IT personnel via technical reports of professional standard and technical presentations.
 - 5) Team work: Work effectively in different roles, to form, manage, and successfully produce outcomes from teams, whose members may have diverse cultural backgrounds and life circumstances, and differing levels of technical expertise.
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MSc-II Semester-IV (Computer Science)

CCPR-401: Research Seminar

To be implemented from the academic year 2020-2021

Internal Marks -100 Practical-08 hrs. /week

At the end of fourth semester student shall deliver seminar on one of the advanced topic chosen in consultation with the guide after compiling the information from the latest literature and also internet. The concepts must be clearly understood and presented by student. Prior to presentation, he/she shall carry out the detailed literature survey from standard references such as International & National journals and periodicals recently published reference books etc. A hard copy of the report (A4 size, 12 fonts, Times New Roman, Single spacing both side printed) should be submitted to the Department before delivering the seminar. This seminar will be evaluated internally for 100 marks by the respective guides.

MSc-II Semester-IV (Computer Science)

CCPR-402: Industrial / Research Project

To be implemented from the academic year 2020-2021

External Marks-150 Internal Marks -50 Practical-04 hrs.

/week

1. Fourth semester Project work can be carried out as industrial training of four months in the Industry or in the Institute as Research project with prior permission of the Institute.
2. Project viva-voce by the University panel will be conducted at the end of semester.
3. The project report should be prepared in a format prescribed by the University, which also specifies the contents and methods of presentation.
4. Project work may be done individually or in groups in case of bigger projects.
5. The major project work carry 50 marks for internal assessment and 150 marks for External viva. The external viva shall be conducted by a panel of external examiners.

OR

1. The student will be allowed to formulate a proposal for start-up and the same will be rated equivalent to an industrial project. A detailed problem statement showing innovation along with markability, business plan and cash flow will be part of the Evaluation criteria.
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SHIVAJI UNIVERSITY, KOLHAPUR.



Estd. 1962

NAAC "A++" Grade.

Faculty of Commerce and Management

Syllabus For

BBA Part III (Sem V & VI) (CBCS)

(To be implemented from June 2021 onwards)

(Subject to the modifications that will be made from time to time)

BBA-Part-III

Semester V

DSE-A2/ DSE-B2/ DSE-C2

Mini-Project /Field Report

Discipline Specific Elective:

DSE-A2-Marketing
DSE-B2- Finance
DSE-C2- Human Resource Management

Objective: To expose the BBA students to practical application of Discipline Specific Elective through field studies, Case studies.

Course Outcomes:

1. To identify the research problem and formulate objectives.
2. To choose appropriate methodology with proper tools and techniques.
3. To analyze and interpret the data collected from different sources.
4. To make decision or find out conclusions on the basis of data analysis.

The student shall visit to respective firms/organizations/markets/companies/social organizations for whole semester and prepare a mini project on field visit/surveys. BBA being professional course, it is essential for each student to practically apply or understand theoretical concepts what he/she has learnt during the course. Project Work will be done by the student individually. Student can carry out the project work after college hours, holidays. Student has to prepare Project Report under the guidance of faculty appointed by concerned Institute.

During the field visit, student is expected to collect vital information through internal and external source so as to reach concrete conclusions on the given subject.

Since the practical has been introduced in the curriculum, every institution affiliated to Shivaji University, Kolhapur is expected to sign Memorandum of Understanding (MOU) with industrial units/SSIs, business houses, educational institutes, social organizations or NGOs, service industries such as Bank, Insurance etc.

Mini project report in the fifth semester carries 100 marks. **Student has to submit Two Project Work Spiral copy to the institute.**

Project Report	:	50 Marks
Internal Viva-Voce	:	50 Marks

The faculty shall organize and guide to the student regarding field visit and for preparing the report. The report shall evaluate by the faculty at the end of Semester V. It is mandatory that the student will make presentation in the presence of teachers and students. The student is expected to answer to the queries and questions raised in such a meeting. (Internal Viva-Voce). Internal Viva-Voce Committee

should be formed by Head of Department and Principal/Director which will include 3 faculty members-1 as a chair-person and 2 as committee members. A viva-voce examination will be conducted before the university examination for Semester V. Committee should submit the marks online as well as hard copy. The faculty should keep the record properly.

MINI PROJECT REPORT

A format of Field/Mini Project report shall be of the following nature:

- Cover Page- Title of the project, Name of the student, Name of Guide, Name of the Department and College, Year of Submission
- Declaration of Student
- Certificates-Certificate by Guide, Recommendation Certificate by Head of the Department and Principal, Certificate by Organization(mandatory for organization project only)
- Acknowledgement
- Contents/ Index
- List of Tables
- List of Graphs
- Headings of the chapter, sub-headings of the chapter

CHAPTER SCHEME:

Chapter-1: Introduction

- 1.1 Introduction
- 1.2 Review of Literature
- 1.3 Objectives of the study
- 1.4 Hypothesis of the study
- 1.5 Scope of the study
- 1.6 Importance of the study
- 1.7 Research Methodology (Data Sources, Sampling Design, Data Analysis Instrument)

Chapter-2: Theoretical Background

Necessary theoretical inputs may be added to support the research work.

- 2.1. Basic Concepts -Meaning, Definitions
- 2.2 Characteristics/Nature
- 2.3 Scope
- 2.4 Techniques/Types/Categories
- 2.5 Advantages, Disadvantages
- 2.6. Functions
- 2.7. Importance of Basic Concepts etc.

Chapter-3: Introduction to the Organization/Industry

- 3.1 Introduction to the Organization
- 3.2 Brief History of the Organization and present position
- 3.3 Organization Structure
- 3.4 Departments/Sections in Organization
- 3.5. Products/Services offered
- 3.6 Milestones achieved by company, awards, certifications etc
- 3.7. Human Resource Scenario of organization

- 3.8. Operations management of Organization
- 3.9. Marketing Scenario of organization
- 3.10. Important Statistical Information
- 3.11. Future Plans of organization

Chapter-4: Data Analysis and Interpretation

Chapter-5: Findings and Suggestions

Bibliography

Appendices

Bibliography

Bibliography means list of books, journals, published work actually referred to or used in the writing of the project report. This is not a separate chapter. The bibliography has to be written in a specific manner. So, the Bibliography may include-

- Books referred-Title of Book, Author Name, Publication ,Edition
- Articles-Name of Author, Title of paper, Name of Journal, ISSN No. Volume No., Page Number.
- Websites
- Other

Appendices

The document, charts, questionnaire, tables and schedule etc. which are actually referred to in the bodies of the project report are to be included under appendix or appendices.

So, the appendices may include-

Questionnaire / Schedule

Tables, Documents/forms etc.,

Maps, Diagrams, graphs etc. referred to in the body of the project report. Guide Student Meeting Record Form.

The above guidelines are not a prescription for writing the project report but can be used as a milestone, while writing the project report.

The guide has every discretion to change the Chapter as per requirements.

UNIVERSITY GUIDELINES FOR MINI PROJECT/SURVEY REPORT WORK

There should be a proper linkage between objectives, data and interpretation, findings and suggestions.

Header and Footer on project report pages shall consist of University name and Institute/College name, respectively. No other information should be included in the Header and Footer.

Use of colors in text matter, graphs and diagrams should be avoided. Page numbers are compulsory.

The average size of report ordinarily will be of minimum 100 pages .Layout of the project is-Paper A4 size, Font –Times New Roman, Font Size for regular text is 12, for headings 14 font size is allowed, for title of chapters upto 28 font size. Printing is to be done on both sides of

pages. Margin 1.5 inches at the left, mirror margin and 1 inch at rest sides. Chapter pages should not carry borders.

Declaration from the student that his/her research work is not copied from any other existing reports.

The report will have three certificates, one by the Head of the Department and Principal, another by the Faculty guide and third one from reporting officer of the organization where the student has undergone training. These three certificates should be attached in the beginning of the report

Certificate of the Faculty Guide: The guide should certify that the research work is original and completed satisfactorily under his guidance.

Index Page, List of Tables and List of Graphs should be added after certificates and Declaration.

Dates of Mini Project Report Submission

1. For regular students, the last date of Mini Project Report Spiral Copy submission to the institute is 30 Sept. of every year. In case 30th Sept is holiday then the next working day is the last date of project report submission.
2. For repeater students the last date of submission of project report to the institute is 1st March. In case 1st March is holiday then the next working day is the last date of project report submission.

Note:

- Students should learn MS Excel and SPSS for Data Analysis and Google Form Questionnaire preparation
- Faculty should encourage students for Research Paper Writing on Major Project and its publication in UGC Care Listed Journals.
- Students should be encouraged for participation in at Conferences /Seminars/Webinars/Workshops related to their course, specialization, Research etc.
- Students should be encouraged for completion of Online Certification Courses available on Online Platforms such as NPTEL/Swayam /Coursera during academic year.

	B.B.A. Part-III Sem-VI BUSINESS ETHICS CC C5	
Course Objectives	1. To familiarize students with values and ethics in business. 2. To motivate students to think and behave ethically in all situations of life.	
Course Outcomes: Students will be able to	1. Apply those skills to the real and current challenges of Business and professions. 2. Differentiate between ethical and unethical behavior of Managers, employers and employees. 3. Adopt ethical practices in their field of work and life.	
Unit – I	Concept of Ethics, Nature and Characteristics of Business Ethics, Ethical Principles, Process of Ethical Judgment , Doctrine of Karma, Causes of Unethical Behaviour , Work Ethics, Code of conduct for Business Organizations. Ethical Decision Making	15 Hours
Unit – II	Ethical theories: Rights Theories, Justice Theories, Utilitarianism, The Virtue Approach, The Common Good Approach. Gandhian approach to business and ethics. Indian Philosophy of ethics and work life: Indian ethos for work life, Indian values for the work place. Values of Indian Managers	15 Hours
Unit – III	Ethical Dilemma, Resolution of ethical dilemma, Fostering ethics, Whistle blowing concept and policy, Corruption, Bribery. Ethical Issues in Global Business. Ethics in Business and Political, cultural and religious values of society.	15 Hours
Unit - IV	Ethical Issues related with Advertisement and Marketing; Secular versus Spiritual Values in Management, Ethics in Human Resource Management, Ethical financial practices in organizations. Social media, ethics and Privacy paradox. Case studies like Cambridge Analytica, Corporate Frauds in India like Kingfisher airlines, PNB and other similar cases.	15 Hours

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	Reference books: 1. Shukla M.B. Business Ethics: Text and cases, Himalaya Publishing House 2. B.N.Ghosh Business Ethics and Corporate Governance: TataMcgraw Hill 3. Business ethics and corporate Governance by Sorab Sadri and Jayashree Sadri Current Publication Agra, UP 4. Daniel Albuquerque Business Ethics Principles and Practices, Oxford University Press.	
Websites	https://bioinfopublication.org/files/articles/3_1_2_IJHSS.pdf https://www.business-standard.com/article/companies/india-s-top-5-corporate-scams-stuck-in-judicial-quagmire-113103000230_1.html https://www.bkconnection.com/static/Business_Ethics_EXCERPT.pdf	
Practical Component	Interviews of Managers with respect to ethical practices in their organizations.	

Major Project

Objective: To expose the BBA students for practical application of theoretical concepts which they have

learnt during the BBA course

Outcomes:

1. To identify the research problem and formulate objectives.
2. To choose appropriate methodology with proper tools and techniques.
3. To analyze and interpret the data collected from different sources.
4. To make decision or find out conclusions on the basis of data analysis.

Student has to undergo a practical training of minimum 30 days. Students can opt for any subject/problem for major project work and not necessarily from Discipline Specific Electives. BBA being professional course, it is essential for each student to practically apply or understand theoretical concepts what he/she learn during the course. Student should decide the topic for the project under the guidance of a teacher in the first month of the academic year of B.B.A.-III and finalize organization with date of joining for training in Sem-V.

During the training programme, student is expected to collect vital information through internal and external source so as to reach concrete conclusions on the given subject.

Project Work will be done by the student individually.

The student will have the following options for selecting the project:

(a) Field Work

(b) Library Work

(c) Placement with an Organization.

Student can carry out the project work after college hours, holidays/Diwali vacation. The student should take regular guidance from the teacher while carrying out project work.

All students should submit the Two neatly typed (two sided) Black Bound Copies Project Report in the concerned college upto 1st March of the year concerned.

Major project report in the Semester -VI carries 100 marks. The project work will carry 50 internal marks and 50 marks for external viva-voce.

Internal Marks(Internal Viva-Voce and Project Report)	50 Marks
External Viva-Voce	50 Marks

A viva-voce examination will be conducted before the university examination for Semester VI.

Viva-Voce Examination

- A) Internal Project Viva-Voce should be arranged upto 15th March for evaluation of **project report for 50 marks**. The internal committee of three faculties should be appointed by Principal/Director. The committee should chaired by senior faculty preferably having doctorate as an educational qualification. Student has to prepare PPT of project work done and present it before the committee and audience consists at least BBA-I and BBA-II year students of institute. The invitees are welcome to attend the presentation by students. After presentation, participants/ audiences are free to ask the questions followed by the questions by the committee members. The record of said internal viva-voce should be shown to the chairman of university viva-voce committee. The project report shall evaluate by the Internal Viva Committee and submit the Project Work marks online as well as hard copy. The faculty should keep the record properly.
- B) University Project Viva-Voce will be arranged by University for 50 marks. The viva-voce will be conducted before the annual examination. University will appoint Project Viva-Voce committee, consisting of 3 members, 2 members being external and 1 member being internal. Name of Internal Examiner should be communicated to University in advance. The Chairman has to submit viva-voce marks to the University immediately after the viva-voce.

All Examiners are expected to undertake viva-voce examination with the help of following points:

1. Appropriateness of the title of study with respect to management to research problem understudy.
2. Appropriateness of research methodology adopted for study.
3. Appropriateness of sample design i.e. sample size and sampling method compared to population for the study.
4. In case sample study appropriateness of analysis, tools used for analysis.
5. In case of study based on secondary data, scope and depth of analysis.
6. Findings drawn on the basis of analysis.
7. Suggestions with its plan of implementation in the organization in given business

UNIVERSITY GUIDELINES FOR PROJECT WORK

There should be a proper linkage between objectives, data and interpretation, findings and suggestions.

Header and Footer on project report pages shall consist of University name and Institute/College name, respectively. No other information should be included in the Header and Footer.

Use of colors in text matter, graphs and diagrams should be avoided. Page numbers are compulsory.

The average size of report ordinarily will be of minimum 100 pages .Layout of the project is- Paper A4 size, Font –Times New Roman, Font Size for regular text is 12, for headings 14 font size is allowed, for title of chapters upto 28 font size. Printing is to be done on both sides of pages. Margin 1.5 inches at the left, mirror margin and 1 inch at rest sides. Chapter pages should not carry borders.

Declaration from the student that his/her research work is not copied from any other existing reports.

The report will have three certificates, one by the Head of the Department and Principal, another by the Faculty guide and third one from reporting officer of the organization where the student has undergone training. These three certificates should be attached in the beginning of the report

Certificate of the Faculty Guide: The guide should certify that the research work is original and completed satisfactorily under his guidance.

Index Page, List of Tables and List of Graphs should be added after certificates and Declaration.

DATES OF PROJECT REPORT SUBMISSION

3. For regular students, the last date of project report hard bound copies with synopsis submission to the institute is 1st March of every year. In case 1st March is holiday then the next working day is the last date of project report submission.
4. For repeater students, the last date of submission of project report to the institute is 1st October. In case 1st October is holiday then the next working day is the last date of project report submission.

DETAILS OF PROJECT REPORT

TITLE

Title of research should be specific in nature, it should be short, and should reflect management problem.

In short, the form of project report is as given below:

- Cover Page- Title of the project, Name of the student, Name of Guide, Name of the college and Department, Year of Submission
- Declaration of Student
- Certificates-Certificate by Guide, Recommendation Certificate by Head of the Department and Principal, Certificate by Organization(mandatory for organization project only)
- Acknowledgement
- Contents/ Index
- List of Tables
- List of Graphs
- Headings of the chapter, sub-headings of the chapter

The Project Report contents at least following aspects

Chapter-1: Introduction to the Study

- 1.1 Introduction
- 1.2 Management Problem
- 1.3 Statement of research problem
- 1.4 Hypothesis of the study
- 1.5 Objectives of the study
- 1.6 Scope of the study
- 1.7 Importance of the study
- 1.8 Research Methodology (Data Sources, Sampling Design, Data Analysis Instrument)
- 1.9. Review of Literature
- 1.10 Chapter scheme.

Chapter-2: Theoretical Background

2.1. Basic Concepts -Meaning, Definitions

2.2 Characteristics/Nature

2.3 Advantages-Disadvantages

2.4 Techniques/Types/Categories

2.5. Scope

2.6. Functions

2.7. Importance etc. of Basic Concepts

(Necessary theoretical inputs may be added to support the research work.)

Chapter-3: Introduction to the

Organization/Industry 3.1 Introduction to the Organization

3.2 Brief History of the Organization and present position

3.3 Organization Structure

3.4 Departments/Sections in Organization

3.5 Products/Services offered

3.6 Milestones achieved by company, awards, certifications etc

3.7 Human Resource Scenario of organization

3.8 Operations management of Organization

3.9 Marketing Scenario of organization

3.10 Important Statistical Information

3.11 Future Plans of organization

Chapter-4: Data Analysis and Interpretation

Chapter-5: Findings and Observations

Chapter-6: Suggestions and Conclusions

The guide has every discretion to change the Chapter as per requirements.

Note:

- Students should learn MS Excel and SPSS for Data Analysis and Google Form Questionnaire preparation
- Faculty should encourage students for Research Paper Writing on Major Project and its publication in UGC Care Listed Journals.
- Students should be encouraged for participation in at Conferences /Seminars/Webinars/Workshops related to their course, specialization, research etc.
- Students should be encouraged for completion of Online Certification Courses available on Online Platforms such as NPTEL/Swayam /Coursera during academic year.

SHIVAJI UNIVERSITY, KOLHAPUR.



Accredited By NAAC with 'A' Grade

Revised Syllabus For

B.A. Part-III

English

Syllabus to be implemented from

June, 2020 onwards.

Shivaji University, Kolhapur
B. A.III
Compulsory English
Ability Enhancement Compulsory Course (CBCS)
ENGLISH FOR COMMUNICATION
From June 2020 Onwards

Course Objectives:

- To enhance students' communication skills
- To impart employability skills to students
- To prepare students for competitive examinations
- To enable students to acquire professional skills such as media writing
- To enable students to learn manners and etiquettes required at workplace
- To enhance students' reading comprehension skills
- To create interest in English literature among students
- To inculcate human values and ethics in order to enable students' to become good citizens of the country

Course Outcomes: After the completion of the course, the students will be able to:

- Communicate in English, in oral and written modes, in their day-to-day lives as well as at workplaces.
- Face job interviews confidently and efficiently.
- Acquire soft skills required at workplaces and in real life.
- Learn group behavior and team work.
- Learn to value and respect others' opinions and views and develop democratic attitude.
- Face competitive examinations confidently and efficiently with adequate linguistic confidence.
- Acquire professional skills required in media writing such as writing editorials.
- Learn to appreciate and enjoy reading poetry and prose passages.
- Acquire human values and develop cultured outlook.

SEMESTER V AECC 5

MODULE I

- A. Interview Skills
- B. The Interview - V.V. John

MODULE II

- A. Grammar for Competitive Examinations
- B. The Lottery - Shirley Jackson

MODULE III

- A. Writing Skills for Competitive Examinations
- B. After Twenty Years - O' Henry

MODULE IV

- A. I Shall Return To This Bengal - Jibananda DasB.(i)
- Song of Youth - A. P. J. Abdul Kalam
- (ii) The Orphan Girl - Henry Derezio

***Note: Semester V: 10 Marks for Internal Evaluation: STUDENTS' SEMINAR**

SEMESTER VI

AECC 6

MODULE V

- A. Group Discussion
- B. The Lighthouse Keeper of Aspinwall - Henry Sienkiewicz

MODULE VI

- A. Note Making and Note Taking
- B. Three Questions - Leo Tolstoy

MODULE VII

- A. Media Writing
- B. Eight Rupees - Murli Das Melwani

MODULE VII

- A. The Mystic Drum - Gabriel Okara
- B. (i) Two Dead Soldiers- Jean Arasanayagam
(ii) Bora Ring - Judith Wright

***Note: Semester VI: 10 Marks for Internal Evaluation: STUDENTS' GROUP PROJECT**

Shivaji University, Kolhapur
B. A.III
English Special
ENGLISH POETRY (CBCS)

Discipline Specific Elective

Semester V (Paper VIII) (DSE – E12) and Semester VI (Paper XIII) (DSE – E137)(From June 2020 Onwards)

Course Objectives:

- To make students engaged and curious readers of poetry
- To introduce students to poetry from various cultures and traditions
- To make students understand that poetry gives intellectual, moral and linguistic pleasures
- To make students hear and read poems aloud and to memorize lines

Course Outcomes:

- Students will be able to trace the development of the poetry in English from the days of Shakespeare to the contemporary India.
- Students will be able to appreciate and analyze the poems properly.
- Students will have a fairly comprehensive view of the Western and Eastern poetic tradition and they will be able to relate it to various literary movements.
- Students will have an insight into poetry and they will be able to make lively and interesting reading.

SEMESTER V (Paper VIII) (DSE – E12)		
MODULE NO.	TITLE OF THE MODULE	NAME OF THE POET
I. Topics For Background Readings:		
1.	Elizabethan Poetry	
2.	Metaphysical Poetry	
3.	Romantic Poetry	
II. Selections from Elizabethan Poetry:		
1.	Sweet Warrior (Sonnet 57)	Edmund Spenser
2.	Sonnet To The Moon	Sir Philip Sydney
3.	Full Many A Glorious Morning... (Sonnet 33)	William Shakespeare
III. Selections from Metaphysical Poetry:		
1.	The Sun Rising	John Donne
2.	The Retreat	Henry Vaughan
3.	The Collar	George Herbert
IV. Selections from Romantic Poetry:		
1.	My Heart Leaps Up	William Wordsworth
2.	The Rime of the Ancient Mariner	S. T. Coleridge
3.	Ozymandias	P. B. Shelley
4.	When We Two Parted	Lord Byron
*Note: Semester V: 10 Marks for Internal Evaluation: STUDENTS' SEMINAR		

**SEMESTER VI (Paper XIII) (DSE
– E137)**

MODULE NO.	TITLE OF THE MODULE	NAME OF THE POET
V. Topics For Background Readings:		
1.	Victorian Poetry	
2.	Modern English Poetry	
3.	Modern Indian English Poetry	
VI. Selections from Victorian Poetry:		
1.	The Lady Of Shallot	Alfred Lord Tennyson
2.	My Last Duchess	Robert Browning
3.	Love Came Down At Christmas	Christiana Rossetti
VII. Selections from Modern English Poetry:		
1.	No Second Troy	W. B. Yeats
2.	The Hollow Men	T. S. Eliot
3.	Tonight I Can Write	Pablo Neruda
VIII. Selections from Modern Indian English Poetry:		
1.	The Professor	Nissim Ezekiel
2.	A Hot Noon in Malabar	Kamala Das
3.	A River	A. K. Ramanujan
4.	A Kind of Happiness	Jayanta Mahapatra
*Note: Semester VI: 10 Marks for internal Evaluation: STUDENTS' GROUP PROJECT		

Shivaji University, Kolhapur
B. A. Part III
Special English

ENGLISH DRAMA (CBCS)

Discipline Specific Elective

Semester V (Paper IX) ((DSE – E13) & Semester VI (Paper XIV) (DSE – E138)

From June 2020 onwards

Course Objectives:

- To make students understand different forms of drama
- To enable students to relate drama to their ideological or socio-political contexts
- To help students improve their creative and imaginative faculties through the reading of drama

Course Outcomes:

- Students are able to understand different forms of drama.
- Students are able to relate drama to their ideological or socio-political contexts.
- Students are able to improve their creative and imaginative faculties through the reading of drama.

Semester V (Paper IX) ((DSE – E13)

MODULE I

Definition and Elements of Drama

MODULE II

Tragedy as a Form

MODULE III

The Importance of Being Earnest - Oscar Wilde

MODULE IV

Hamlet – William Shakespeare

Division of Teaching Hours: 4 Modules X 15 Periods = 60 Periods

Prescribed Texts:

Wilde, Oscar. *The Importance of Being Earnest*. New Delhi: General Press, 2018.

***Note: Semester V: 10 Marks for Internal Evaluation: STUDENTS' SEMINAR**

Shakespeare, William. *Hamlet*. Penguin Books, 1980.

Semester VI (Paper XIV) (DSE – E138)

MODULE V

Types of Drama

MODULE VI

Comedy as a Form

MODULE VII

Nagmandala – Girish Karnad

MODULE VIII

Harvest – Manjula Padmanabhan

Prescribed Texts:

Karnad, Girish. *Nagmandala*. Oxford University Press, 1990.

Padmanabhan, Manjula. *Harvest*. Delhi: Penguin, 1997.

***Note: Semester VI: 10 Marks for Internal Evaluation: STUDENTS' GROUP PROJECT**

Shivaji University, Kolhapur
B. A. Part III Special English
ENGLISH NOVEL (CBCS)

Discipline Specific Elective

Semester V (Paper X) ((DSE – E14) & Semester VI (Paper XV) (DSE – E139)

From June 2020 onwards

Course Objectives:

- To make students understand different forms of novel.
- To enable students to relate novels to their ideological or socio-political contexts.
- To help students to improve their creative and imaginative faculties through the reading of novels.
- To enable students to know about various aspects of the novel.

Course Outcomes:

- Students are able to understand different forms of novel.
- Students are able to relate novels to their ideological or socio-political contexts.
- Students are able to improve their creative and imaginative faculties through the reading of novels.
- Students are able to know about various aspects of the novel.

SEMESTER VI (Paper XV) (DSE – E139)

MODULE V

Historical and Psychological Novel

MODULE VI

Satirical Novel and Epistolary novel

MODULE VII

Animal Farm: A Fairy Tale - George Orwell

MODULE VIII

The Guide - R. K. Narayan

Division of Teaching Hours: 4 Modules X 15 Periods = 60 Periods

Prescribed Texts:

Orwell, George. *Animal Farm: A Fairy Tale*. New York: Signet Classic, 1996.

Narayan, R. K. *The Guide*. US: Viking Press, 1958.

***Note: Semester VI: 10 Marks for internal Evaluation: STUDENTS' GROUP PROJECT**

SEMESTER VI (Paper XV) (DSE – E139)

MODULE V

Historical and Psychological Novel

MODULE VI

Satirical Novel and Epistolary novel

MODULE VII

Animal Farm: A Fairy Tale - George Orwell

MODULE VIII

The Guide - R. K. Narayan

Division of Teaching Hours: 4 Modules X 15 Periods = 60 Periods

Prescribed Texts:

Orwell, George. *Animal Farm: A Fairy Tale*. New York: Signet Classic, 1996.

Narayan, R. K. *The Guide*. US: Viking Press, 1958.

***Note: Semester VI: 10 Marks for internal Evaluation: STUDENTS' GROUP PROJECT**

Shivaji University, Kolhapur
B.A. III
English Special
LANGUAGE AND LINGUISTICS (CBCS)
Discipline Specific Elective
Semester V –Paper XI (DSE - E15) & Semester VI – Paper XVI (DSE - E140) From June
2020 onwards

LANGUAGE AND LINGUISTICS

Semester V –Paper XI (DSE -E 15)

Course Objectives:

- To orient students to the concept of communication.
- To make the students familiar with varieties of the English language.
- To acquaint students with different levels of the study of language.
- To study the basic units of grammar.

Course Outcomes:

- Students know the concept of communication.
- Students are familiar with varieties of the English language.
- Students know different levels of study of the English language.
- Students know basic units of grammar.

Semester V –Paper XI

DSE - E 15

MODULE

I

Language and Communication

- i. Definitions and characteristics of language
- ii. Human and Animal communication systems (Special reference to Hockett's 7 characteristics of language)

MODULE II

Phonology

MODULE III

Morphology

MODULE IV

Words

***Note: Semester V: 10 Marks for Internal Evaluation: STUDENTS' SEMINAR**

Shivaji University, Kolhapur.

REVISED SYLLABUS OF B.A.III SOCIOLOGY

Choice Based Credit System

(CBCS) Semester – V, DSE – E66

SOCIOLOGY –VII

WESTERN SOCIOLOGICAL THINKERS

(June,2020 onwards)

A) Course Objectives

Objective of teaching sociological Thinkers to undergraduate students is to enable them to apply theory to their own every day life experiences.

This requires that students develop their sociological imagination and the capacity to read each situations sociologically and then to think about it theoretically.

To this end, it is imperative that sociological theory courses demonstrate the applicability of theory to students.

B) Course Learning Outcomes:

1. Understanding the grand foundational themes of sociology.
2. Application of theories and concepts from classical sociological theories to develop intellectual openness and curiosity.
3. Appreciation of the classical concepts and theories to develop awareness of the limits of current knowledge.

C) Course Content:

Module	Topic and Sub-Topic	Teaching Hours	Credits
Module-I	AUGUSTE COMTE A) Law of Three Stages B) Concept of Positivism. C) Social Statics and Social Dynamics.	15	1
Module-II	KARL MARX A) Dialectical Materialism B) Theory of Class Conflict C) Theory of Alienation	15	1

Module-III	EMILEDURKHEIM A) The Study of Social Facts B) Theory of Division of Labour C) Theory of Suicide	15	1
Module-IV	MAXWEBER A) The Ideal Type B) Theory of Social Action C) Types of Authority.	15	1

D) Teaching Learning Process:

E) Assessment Methods:

1. Class assignments/term papers, theme(s) of which are chosen following teacher student discussion, is one of the ways of assessing the subject and writing skill of the students.
2. Tutorial discussion oral presentations and viva-voce, short individual/team led field studies/projects and seminars/workshops are other modes of assessment. These are included in the Internal Assessment (IA) system.
3. Mid-semester examination is another mode of assessment. Here again, the topic(s) on which the students are to be examined are chosen through teacher-student consultation. Mid-semester examination tests the students on the grasp of the topic(s) in particular and the discipline in general.
4. The end-semester examination is conducted by the university and the student is tested and evaluated on the basis of the entire paper (syllabus). S/he is expected to have a full knowledge of the paper and prescribed readings.

NOTE: Visit to University Library

SHIVAJI UNIVERSITY, KOLHAPUR.



Accredited By NAAC with 'A' Grade

Revised Syllabus For

B.Sc Part- III

Physics

Syllabus to be implemented from

June, 2020 onwards.

- **Group – V-B**

1. Radius of Capillary bore using mercury thread
2. Determination of lattice constant using given XRD powder pattern
3. Estimation of errors
4. Measurement of phase shift of RC network using CRO
5. Study of Half and Full adder
6. Simplification of digital circuit using Boolean laws (paper-work).
7. Measurement of resistance of galvanometer (Kelvin's method)
8. Electrical wiring of bulb, switch and plug.
9. Tracing of given electronic circuit/ build the given circuit using breadboard
10. Assembling of given electronic circuit(soldering method)

- **Group VI: Assessment of Annual Work of a Student**

1. Certified Laboratory Journal.
2. Study Tour Report.
3. Seminar Report (2 Seminars) / Project work.

- **Reference Books for practical**

1. Advanced Practical Physics for students, B.L. Flint & H.T. Worsnop, 1971, Asia Publishing House.
2. Advanced level Physics Practical, Michael Nelson and Jon M. Ogborn, 4th Edition, reprinted 1985, Heinemann Educational Publishers
3. A Text Book of Practical Physics, Indu Prakash and Ramakrishna, 11th Edition, 2011, Kitab Mahal, New Delhi.
4. B.Sc. Practical Physics, C.L.Arora, S.Chand & Company Pvt.Ltd., New Delhi
5. B.Sc. Practical Physics, Harman Singh, Hemane, 2012 Edition.

- **Revised Scheme of Practical Examination for B. Sc. Part – III**

1. Practical examination will be conducted annually.
2. Practical examination will be conducted for three days per batch.
3. The examination will be conducted in two sessions per day and each session will be of three hours duration.

4. Every candidate should perform one experiment each from Groups I to IV and one experiment each from Group V-A and Group V-B (total 6 experiments).
5. Study tour anywhere in India is compulsory.
6. At least eighty percent practical should be completed by the student.
7. The marks distribution for practical is as below.

Practical groups	Marks
Group I	30
Group II	30
Group III	30
Group IV	30
Group VA-15, Group VB-15	30
Group VI	
I) Certified laboratory journal (certified Journal- 10 marks, neatness-5 marks, punctuality- 5 marks)	20
II) Study Tour Report	10
III) Seminar Report / Project Report	20
Total Marks	200

Nature of Question Paper

Theory: Time -2 hours, Marks-50

Question 1: Select the correct alternative (Compulsory 10 questions) 10 marks

(Four alternatives for each question)

Question 2: (Attempt any Two out of three) 20 marks

(Long answer type)

Question 3: (Attempt any four out of six) 20 marks

(Short answer type)

- **Note:** Equal weightage should be given to each unit.

SHIVAJI UNIVERSITY, KOLHAPUR.



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Revised Syllabus For

B.Sc Part- III

Chemistry

Syllabus to be implemented from

June, 2020 onwards.

SHIVAJI UNIVERSITY, KOLHAPUR
B.O.S. in Chemistry
B.Sc. Part – III
Semester CBCS Syllabus
To be implemented from June – 2020

General Structure

Theory Examination:

There will be four theory papers of 40 marks each for each semester. Their titles and distribution of marks are as follows.

Semester V : Papers IX-DSE-E5, X-DSE-E6, XI- DSE-E7, XII- DSE-E8,

Semester VI: Papers XIII- DSE-F5, XIV-DSE-F6, XV-DSE-F7 and XVI- DSE-F8

Paper – **IX** DSE-E5, & **XIII** DSE-F5: Inorganic Chemistry – 40 marks

Paper – **X** DSE-E6 & **XIV** DSE-F6: Organic Chemistry – 40 marks

Paper – **XI** DSE-E7 & **XV** DSE-F7: Physical Chemistry – 40 marks

Paper – **XII** DSE-E8 & **XVI** DSE-F8: Analytical and Industrial Chemistry – 40 marks

The duration of each theory paper for examination will be of 2 hours

Internal examination (Oral/Seminar/test/home assignment) will be conducted for 10 marks for each paper.

Practical Examination:

Practical examination will be of 200 marks. The distribution of marks will be as follows:

1. Physical Section : 60 marks
2. Inorganic Section : 65 marks
3. Organic Section : 60 marks
4. Project : 15 marks

Total: 200 marks

The duration of practical examination will be of three days – six and half hours per day.

Laboratory Course (Practicals)

N. B. (i) Use of Digital/Analytical/Chainometric/Single pan balance is allowed.

(ii) Use of Scientific calculator is allowed.

(iii) Use of Chart/Text book/Hand book of practical is allowed.

(iv) There will be a project having weightage of 15 marks.

Project should be in the following areas but focused on applications of Chemistry.

a) Society oriented

b) Daily use

c) Industry based

d) Analysis based

The project will be assessed by all the three examiners with equal weightage at the time of practical examinations.

The project may be completed individually or by a group of students not exceeding number three.

One copy of the project should be submitted at the time of examination. After assessment this copy will remain in the department.

INORGANIC CHEMISTRY

I) Gravimetric Estimations (G).

N. B. Any **two** experiments from G1 to G3 and any **two** experiment from G4 & G6.

G1. Gravimetric estimation of iron as ferric oxide (Fe_2O_3) from the given solution containing ferrous ammonium sulphate, copper sulphate and free sulphuric acid.

G2. Gravimetric estimation of zinc as zinc pyrophosphate from the given solution

carbon tetrachloride and calculate the refraction equivalents of C, H and Cl atoms.

D. Colorimetry (Any Two).

1. To verify Lambert – Beer's law using CuSO_4 solution.
2. To estimate of Fe^{+++} ions by thiocyanate method.
3. To estimate Fe^{+++} ions using salicylic acid by colorimetric titration.
4. To determine the order of reaction for the oxidation of alcohol by potassium dichromate and potassium permanganate in acidic medium colorimetrically.

E. pH – metry (Any One).

1. To determine the dissociation constant of monobasic acid (Acetic acid).
2. To determine the dissociation constant of dibasic acid (Malonic acid).
3. To determine hydrolysis constant of aniline hydrochloride.

Reference Books:

1. Findlay's Practical Physical Chemistry (Longman)
2. Advanced Practical Physical Chemistry by J. B. Yadav, Goel publishing house.
3. Practical Physical Chemistry by B. D. Khosla, V. C. Garg (R. Chand and Co.)
4. Systematic experimental Physical Chemistry by Rajbhoj, Chandekar (Anjali Publicaiton) Aurangabad.
5. Practical Physical Chemistry: Nandkumari, Kothari and Lavande.
6. Practical Physical Chemistry by Gurtu (S. Chand).
7. Text Book of Qualitative Inorganic Analysis by A. I. Vogel (ELBS Longman).

Nature of Practical Examination

- 1) The practical examination will be of **200** marks.
- 2) The duration of practical examination will be of **three days - six and half hour per day.**
- 3) Questions related to the practical exercise/project report/industrial visit carried out by the student should be asked in viva.
- 4) Use of scientific calculator is allowed.

- 5) S.I. units should be used wherever possible.
- 6) Use of Chart / Hand book / Text book of practical is allowed.
- 7) A student is expected to submit a journal certified by the Head of the Department.
- 8) A student not be permitted to appear at the practical examination unless he/she produces a certified journal. If the journal is lost, the student should produce a certificate from the Head of the Department stating that he/she has satisfactory completed the practical work but his / her journal is lost.
- 9) Use of Digital / Analytical / Chainometric / Single pan balance is allowed.

10) A student should submit one copy of project at the time of examination.

Each examiner should asses the project work for Five marks and sign the same. If any student will not submit project work, he/she will be given Zero mark for the project.

11) The distribution of marks for practical examination will be as follows:

A) Physical Chemistry 60 marks

- i) Non-instrumental experiment 25 marks
- ii) Instrumental experiment 25 marks
- iii) Viva 05 marks
- iv) Journal 05 marks

B) Inorganic Chemistry 65 marks

- i) Gravimetric analysis 25 marks
- ii) Preparation 15 marks
- iii) Volumetric estimation 15 marks
- iv) Viva 05 marks
- v) Journal 05 marks

C) Organic Chemistry 60 marks

- i) Mixture separation and identification of compounds 25 marks
- ii) Estimation/Preparation 20 marks
- iii) Derivative 05 marks
- iv) Viva 05 marks
- v) Journal 05 marks

D) Project 15 marks

Total:- 200 marks

SHIVAJI UNIVERSITY, KOLHAPUR.



Accredited By NAAC with 'A' Grade

Revised Syllabus For

Bachelor of Science (B.Sc.) Part III

Botany

CBCS PATTERN

Syllabus to be implemented from

June, 2020 onwards

Paper -IX, X, XI, XII - (Semester- V)

and

Paper -XIII, XIV, XV, XVI - (Semester-VI)

Shivaji University, Kolhapur

B.Sc. III Botany (CBCS Syllabus)

Practical-I (Based on Paper No. X and XV)

- 1 Preparation of culture media –PDA (slants and Plates) and sterilization.
- 2 Methods of inoculation- on slants and plates
- 3 Isolation of soil fungi by serial dilution method.
- 4 Study of different types of stains in biological studies.
- 5 Method of control of seed borne diseases (Dipping/Seed dressing)
- 6 and 7 Plant diseases as per theory
- 8 and 9 Demonstration of Mushroom Cultivation and Harvesting
- 10 Isolation of plant genomic DNA and its spooling.
- 11 Calorimetric estimation of DNA using di-phenyl amine.
- 12 Preparation of plant tissue culture medium (M.S.).
- 13 Demonstration of techniques of *In Vitro* culture using suitable ex-plant.
- 14 Demonstration of inoculation of explants on suitable medium (M.S.)
- 15 Isolation of Protoplast.
- 16 Study of steps in genetic engineering for the production of Golden rice with the help of photographs.
- 17 Identification of types of fossils – i) Impression ii) Compression iii) Petrification IV) Coal.
- 18 Identification of – i) *Lyginopteris*
- 19 Identification of *Enigmocarpon*
- 20 **Submission of plant diseases**

Shivaji University, Kolhapur
B.Sc. III Botany (CBCS Syllabus)
Practical-III (Based on Paper No. XI and XVI)

1. To study prokaryotic cells (bacteria), eukaryotic cells with the help of electron micrograph / photographs.
- 2 and 3 Study of the photomicrography technique.
- 4 Study of cell structure in Onion, *Hydrilla* leaf and *Spirogyra* filament.
- 5 Study of mitosis.
- 6 Study of meiosis.
7. Use of dialysis to separate smaller molecules from larger molecules.
- 8 Micrometry technique.
- 9 Study of DNA packaging by micrographs.
- 10 Study of Beer and Lambert's Law.
- 11 Preparation of permanent cytological slides.
- 12 Submission of photomicrograph.
- 13 Application of Biofertilizers - i) *Nostoc* ii) *Azotobacter* iii) *Rhizobium* iv) *Trichoderma*
- 14 Identification of organic manure – i) Green manure (*Crotolaria juncea*),
ii) Vermicompost iii) Vermiwash
- 15 and Herbal Preparations of
- 16 i) Churn (Triphalachurna) ii) Kadha /Decoction (Adulsa)
iii) Hair oil (Maka)iv) Shampoo (Ritha, Shikakai).
- 17 Biochemical test for drug adulteration of
i) Haladi (*Curcuma longa*) ii) Hing (*Ferulaaassa-foetida*)
iii) Camphor (*Cinnamomum camphora*) iv) Saffron (*Crocus sativus*)
- 18 Macroscopic (Organoleptic) study of – i) Tulsi ii) Ginger iii) Methii v) Avala.
- 19 Determination of Vein-islet Number by Camera Lucida.
20. Phytochemical analysis- Qualitative tests for Tannins, Alkaloids, Saponins, Steroids, Terpenoids, Flavonoids, reducing sugars, carbohydrates. (Any four).
- 21 **Visit to Herbal cosmetics industry/Pharma industry (Separate handwritten report to be submitted by student).**

Shivaji University, Kolhapur
B.Sc. III Botany (CBCS Syllabus)
Practical-IV (Based on Paper No. XII and XIII)

1. Study of budding technique – Patch and T-budding
2. Study of Layering technique – Air layering
3. Study of Grafting technique – Whip and Approach
4. Technique of Potting and Repotting
5. Demonstration of Bonsai
6. Demonstration of Bottle garden and hanging baskets.
7. Floral arrangement – Flower pot, Floral bouquet, Floral Rangoli
8. Garden implements (Any five) – Garden shear, sickle, cutter, shovel, budding knife, secateur, water can, pruning scissors, sprayer, spade
9. Study of ornamental plants – Rose, Gerbera, Marigold
10. Study of hedge and edge plants.
11. Study of indoor plants.
12. Qualitative test for sugar in plant material
13. Qualitative tests for starch and cellulose in plant material
14. Qualitative test for proteins.
15. Qualitative test for lipids.
16. Identification of sugars by ascending paper chromatography.
17. Determination of fatty acid value of oil sample.
18. Separation and identification of amino acids by TLC (Thin Layer Chromatography).
19. Determination of iso-electric point of plant protein.
20. Visit to nursery/ Aesthetic garden / Exhibition / Food industry (Separate handwritten report to be submitted by student)

Bioinformatics

- 1) Introduction to Bioinformatics – S. Sundara Rajan, R. Balaji; Himalaya Publishing House.

Plant Biotechnology

1. Elements Of Biotechnology- P. K. Gupta (Second Edition); Rastogi Publications
2. Plant Tissue Culture - Kalyan Kumar De; New Central Book Agency (P) Ltd.
3. Introduction to Plant Tissue Culture - M. K. Razdan (Second Edition); Oxford & IBH Publishing Co. Pvt. Ltd.
4. Practical Biotechnology and Plant Tissue Culture - Prof. Santosh Nagar, Dr. Madhuri Adhav; S. Chand & Co. Ltd.
5. Arnold C.A.1972. An Introduction to PalaeobotanyTata McGraw-Hill,
6. Andrews H.N. Studies in Palaeobotany 1961. John Wiley & Sons Canada, Limited,
7. Shukla A.C. and S.P . Mishra. Essentials of Palaeobotany.
8. Wilson, N. S. and Rothwell,G.W.1983. Palaeobotany and the Evolution of Plants (2ndEdition).Cambridge University Press U.K.
9. Dubey, R.C., 2005 A Text book of Biotechnology S.Chand& Co, New Delhi.
10. Kumaresan, V. 2005, Biotechnology, Saras Publications, New Delhi.
11. John JothiPrakash, E. 2004. Outlines of Plant Biotechnology. Emkay →Publication, NewDelhi.

Biofertilizers and Herbal Technology

1. Sathe, T.V. 2004 Vermiculture and Organic Farming. Daya publishers.
2. SubhaRao, N.S. 2000, Soil Microbiology, Oxford & IBH Publishers, New →Delhi.
3. Vayas,S.C, Vayas, S. and Modi, H.A. 1998 Bio-fertilizers and organic →Farming Akta Prakashan, Nadiad
4. Chopra R.N., S.L.Nayar and I.C.Chopra, 1956.Glossary of Indian medicinal plants C.S.I.R, New Delhi.
5. Dey and Raj Bahadur,1984. The indigenous drugs of India, Kanny, Lall,. International Book Distributors.

Details of Practical Examination

A) Every candidate must produce a certificate from Head of the Dept. in his /her college, stating that he / she has completed practical course in satisfactory manner as per guidelines laid down by Academic Council on the recommendations of Board of Studies in Botany. The student should record his / her observations and report of each experiment should be written in the journal. The journal is to be signed periodically by teacher in charge and certified by the Head of the Department at the end of year. **Candidates have to produce their certificated journal and tour report at the time of practical examination.** Candidate is not "allowed to appear" for the practical examination without a certified journal / a certificate from Head of the Botany Dept. regarding the same.

B) Practical Examination shall be of Five hours duration and shall test a candidate in respect of the following.

1. Practical study of external and internal structures of different plant types and their classification.
Making temporary stained preparations and identification.
2. Identification and setting of experiments as per syllabus.
4. Spotting of the specimens as per syllabus.

Botanical Excursions

One teacher along with a batch not more than 20 students be taken for botanical excursion to places of Botanical interest, one in each term. If there are female students in a batch of 20 students, one additional lady teacher is permissible for excursion. Each excursion will not be more than SEVEN days during college working days. T.A. and D.A. for teachers and non-teaching staff participating in excursions should be paid as per rules. Tour report duly certified by tour in charge teacher and Head of the Department should be submitted at the time of practical examination. For every study tour take the prior permission of the head of the department and Principal.

Practical Course

B. Sc. III Botany Practical course covered in four practical numbers (Practical no.1 , Practical no.2, practical no.3 and practical no. 4 with total 80 practicals). These practicals are to be performed by the students. Each practical is to be supplemented by permanent slides, preserved / fresh specimens / materials, charts, herbarium sheets, etc. wherever necessary.

C] OTHER FEATURES:

1. INTAKE CAPACITY / NUMBER OF STUDENTS:-

As per university rules.

2. TEACHERS QUALIFICATIONS:-

- As prescribed by norms.
- However required number of core faculty should be given for particular course along with paper wise and Specialization wise work load allocation.
- Work load details should be as per Apex body/UGC/State Govt./University norms.

2 The Board of studies should clearly mention the required Books, Journals and specific Equipments necessary for the Course.

(A) LIBRARY: Library be equipped with the required Reference and Text Books, Journals and Periodicals for higher and advanced studies as per stated in revised syllabus and approved by BOS.

(B) SPECIFIC EQUIPMENTS:

T.V., V.C.R. V.C.P., L.C.D., Overhead Projector, Computers and necessary software and operating systems etc. are necessary to run the course.

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CHOICE BASED CREDIT SYSTEM

Syllabus For

B.Sc. Part -III Mathematics

SEMESTER V AND VI

(Syllabus to be implemented from June, 2020 onwards.)

B.Sc.Part-III [Semester V] (Credit - 8]

Course code	Title o the course	Instructio ns Lectures /Week	Duration of term end exam	Marks of Term end exam	Marks (Internal) Of Continuous Assessment	Credit
DSE E9	Mathematical Analysis	3	2 hours	40	10	2
DSE E10	Abstract Algebra	3	2 hours	40	10	2
DSE E11	Optimization Techniques	3	2 hours	40	10	2
DSE E12	Integral Transforms	3	2 hours	40	10	2

B.Sc.Part-III [Semester VI] (Credit - 8]

Course code	Title o the course	Instructions Lectures/Week	Duration of term end exam	Marks Term end exam	Marks (Internal) Of Continuous Assessment	Credit
DSE F9	Metric Spaces	3	2 hours	40	10	2
DSE F10	Linear Algebra	3	2 hours	40	10	2
DSE F11	Complex Analysis	3	2 hours	40	10	2
DSE F12	Discrete Mathematics	3	2 hours	40	10	2

Core Course Practical in Mathematics [CCPM IV to VII]

The practical examination will be conducted at the end of second term that is annual pattern

Total Credit 16

Course code	Title o the course	Instructions Lectures/Week	Duration of term end exam	Marks [End of academic year]	Credit
CCPM IV	Operations Research	5	6 hours	50	4
CCPM V	Laplace and Fourier Transforms	5	6 hours	50	4
CCPM VI	Mathematical Computation Using Python	5	6 hours	50	4
CCPM VII	Project, sturdy tour, viva.	5	6 hours	50	4

EQUIVALENCE IN ACCORDANCE WITH TITLES AND CONTENTS OF PAPERS (FOR REVISED SYLLABUS)

Sem - V

Old Paper number	Equivalence	New Course code	Title of the course
IX	Real Analysis	DSE E9	Mathematical Analysis
X	Abstract Algebra	DSE E10	Abstract Algebra
XII	Numerical Methods - I	DSE E11	Optimization Techniques
XI	Partial Differential Equations	DSE E12	Integral Transforms

Sem - VI

Old Paper number	Equivalence	New Course code	Title of the course
XIII	Metric spaces	DSE F9	Metric Spaces
XIV	Linear Algebra	DSE F10	Linear Algebra
XV	Complex Analysis	DSE F11	Complex Analysis
XVI	Numerical Methods	DSE F12	Discrete Mathematics

CCPM

Old course code	Equivalence	New Course code	Title of the course
CML – IV	Operations Research Techniques	CCPM IV	Operations Research
CML – V	Numerical Methods	CCPM V	Laplace and Fourier Transforms
CML – VI	Numerical Recipes in C++, SciLab	CCPM VI	Mathematical Computation Using Python
CML – VII	Project, study tour, viva.	CCPM VII	Project, study tour, Seminar, viva.

B.Sc. (Mathematics) (Part-III) (Semester–V & VI)
(Choice Based Credit System)
(Introduced from June 2020)

Course Code: CCPM VII

Title of Course: Project, Study- Tour, Viva – Voce

A :PROJECT [30 Marks]

Each student of B.Sc. III is expected to read, collect, understand the culture of Mathematics, its historic development. He is expected to get acquainted with Mathematical concepts, innovations, relevance of Mathematics. Report of the projectwork should be submitted through the respective Department of Mathematics. Evaluation of the project report will be done by the external examiners at the time of annual examination.

B. STUDY TOUR [05 Marks] :

It is expected that the tour should contain at least renown academic institution so that the visiting students will be inspired to go for higher studies in Mathematics.

C. SEMINARS: [05 Marks]

Students should present a seminar before the B.Sc.III class on some topic in Mathematics.

D. VIVA-VOCE (on the project report). [10 Marks]

Nature of Question papers (Theory)

Common nature of question for theory paper mentioned separately:

There will be practical at the end of second term that is annual pattern,

Nature of Practical Question Paper

(1) Core Course Mathematics Practicals - IV

This carries 50 marks.

Examination : 40 Marks

Journal : 10 Marks

(2) Core Course Mathematics Practicals - V

This carries 50 marks.

Examination : 40 Marks

Journal : 10 Marks

(3) Core Course Mathematics Practicals - VI

This carries 50 marks.

Examination : 40 Marks

Journal : 10 Marks

(4) Core Course Mathematics Practicals - VII

This carries 50 marks.

Project : 30 Marks (External Examiner)

Study Tour : 05 Marks (External Examiner)

Seminar : 05 Marks (External Examiner)

Viva Voce : 10 Marks (External Examiner)

Note : Each student of a class will select separate topic for project work. He/ She should submit the reports of his / her project work , Study tour report to the department and get the same certified.

Teaching Periods :

(i) Total teaching periods for Paper –DSE E-9, E-10,E-11,E-12, F-9,F-10, F-11,F-12 are 12 (Twelve) per week. 3 (Three) periods per paper per week.

(ii) Total teaching periods for CCPM-IV, V,VI,VII for the whole class are 20 (Twenty) per week. 5 (Five) periods per Lab. Perweek.

SHIVAJI UNIVERSITY, KOLHAPUR.



Estd. 1962

NAAC 'A' Grade

Faculty of Commerce and Management

Syllabus For

BCA Part – I (Sem I & II) (CBCS)

(To be implemented from June 2020 onwards)

(Subject to the modifications that will be made from time to time)

Program Outcomes (PO's):- After completion of program Students / graduates will be able to:

- PO1:** Apply knowledge of ICT in solving business problems.
- PO2:** Learn various programming languages and custom software.
- PO3:** Design component, or processes to meet the needs within realistic constraints.
- PO4:** Identify, formulate, and solve problems using computational temperaments.
- PO5:** Comprehend professional and ethical responsibility in computing profession.
- PO6:** Express effective communication skills.
- PO7:** Recognize the need for interdisciplinary, and an ability to engage in life-long learning.
- PO8:** Knowledge of contemporary issues and emerging developments in computing profession.
- PO9:** Utilize the techniques, skills and modern tools, for actual development process.

Course Outcome(s): Every individual course under this program has course outcomes (CO). The course outcomes rationally match with program educational objectives. The mapping of PEO, PO and CO is as illustrated below:

Program Educational Objectives	Thrust Area	Program Outcome	Course Outcome
PEO I	Technical Expertise	PO1,PO2,PO3,PO9	All Core and Lab courses
PEO II	Successful Career	PO4,PO5,PO6	All AEC courses
PEO III	Interdisciplinary and Life Long Learning	PO7,PO8	All Electives

5. Workload (Period/Lectures for each Course): For every semester 60 periods (60 minutes per period) are allotted to complete the syllabus of each Course (Subject).

6. Standard of Passing:

- I. A candidate must obtain minimum 40% of the marks in each University, internal examination paper, lab course as well as mini and major project.
- II. There shall be a separate head of passing in Theory, Internal, Lab Course and Project examination. However, ATKT rules shall be made applicable in respect of theory and lab courses (University Examination) only.
- III. A candidate who fails in any number of subjects during semester – I & II shall admitted to B.C.A.-II (appear for semester –III & Semester IV examination).
- IV. However the candidate shall not be admitted to B.C.A- III (Semester-V) unless he/she passed in all the subjects at B.C.A.-I (Semester-I & Semester-II).
- V. A candidate who fails in any number of subjects during Semester-III & IV shall be admitted for B.C.A.-III & allowed to appear for Semester –V & VI examinations.
- VI. For environmental studies the candidate shall have to score 28 marks out of 70 marks theory paper and 12 marks out of 30 for project work.
- VII. CCC 108 is noncredit course as per notification of university i.e. Democracy, Elections and Good Governance (Non Credit).

10. Teachers Qualification: As per rules and regulations of Shivaji University, Kolhapur and Govt. of Maharashtra.

11. Internal Marks Distribution:

- 1 Five Marks for Mid Tests.
- 2 Ten Marks for presentation or activity based learning or Group exercise(Number of students in Group are not more than six).
- 3 Five Marks for Assignments.
- 4 Five Marks for library activity/ designing apps or software or working model/ Field Work/online learning activity etc.
- 5 Five Marks for Attendance.(75% to 80%- 02 marks, 81% to 85 %- 03 marks, 86% to 90 %- 04 ,marks 91% to 100% - 5 mark)

12. Mini- Project

The Objective of mini project is, to make aware student with current technology to be used in IT industry. The language/platform of the mini-project to be selected from the subject studied in previous and present semester. The Group size of maximum four students can undertake mini project. Project Viva-Voce Examination will be conducted by the University appointed examiner panel of two members. The panel members have more than five years' experience as full time teacher.

13. Major Software Development Project:

The Objective of major project is to design and develop the live application with current technology to be used in various industries. The Group size of maximum three students can undertake major project. Project Viva-Voce Examination will be conducted by the University appointed examiner panel of two members. The panel members have more than five years' experience as full time teacher. The chairman for viva voce committee will be doctorate or faculty having more than ten years experience as full time faculty.

14. Fee Structure: As per University norms.

15. Requirements:

- i) Core Faculty:
For First Year Sem I & Sem II - 1 Full Time Faculty and 1 Lab Assistant.
For Second Year Sem III & Sem IV - 1 Full Time Faculty.
For Third Year Sem V & Sem VI - 1 Full Time Faculty and 1 Lab Assistant.
Total – 3 Full Time Faculties and
Two Lab Assistants having qualification BCA/BCS/Diploma in
Computer Engineering/PG DCA.

In addition there shall be visiting/CHB faculty drawn from academicians /professionals from different fields for AEC/DSE/GE Courses and AEC/DSE based lab courses.

- ii) Non-Teaching Staff: One Clerk and 2 Peons.
- iii) Computer Lab: Well-equipped networked Lab with backup facility, Application and system software's as per syllabi and internet facility.
- iv) Library: The entire library fees collected from the students shall be invested on library.
- v) Class Room: At least 3 classrooms of seating capacity 80 students with LCD in which at least one Digital Classroom.

CC 403	DOT NET Technology	4	30	70	100
AEC 404	Entrepreneurship Development	4	30	70	100
CCL 405	PHP	2	50	-	50
CCL 406	Lab Course-VII Based on CC401	2	-	50	50
CCL 407	Lab Course-VIII Based on CC403	2	-	50	50
CCL 408	Mini Project	2	-	50	50
		24	170	430	600

BCA-III (Sem-V)

Course Code	Title of Paper	Credit	Internal	External	Total
CC 501	Java Programming	4	30	70	100
CC 502	Data Warehousing and Data Mining	4	30	70	100
CC 503	IT Security	4	30	70	100
DSE 504	Elective-I 1. Python Programming 2. Emerging Trends in Data Base and Web Technology. 3. Ethical Hacking	4	30	70	100
GE 505	Elective-II 1. Digital Marketing 2. Management Information System 3. Knowledge Management	4	30	70	100
CCL 506	Lab Course-IX Based on CC501	2	-	50	50
CCL 507	Lab Course-X Based on DSE504	2	-	50	50
		24	150	450	600

BCA-III (Sem-VI)

Course Code	Title of Paper	Credit	Internal	External	Total
CC 601	Cloud Computing	4	30	70	100
DSE 602	Elective-I 1. Internet of Things (IoT) 2. Android Programming 3. R Programming	4	30	70	100
GE603	Elective-II 1. IT Management 2. ERP 3. M - Commerce	4	30	70	100
AEC 604	Soft Skills & Personality Development	2	50	-	50
AEC 605	Industrial Visit	1	25	-	25
CCL 606	Lab Course XI Based on DSE 602	4	-	100	100
CCL 607	Major Project	5	25	100	125
		24	190	410	600

**Note: Students has to select any one course from the respective electives. CC- Compulsory Courses DSE- Domain Specific Electives
GE- General Electives AEC- Ability Enhancement Compulsory
Courses CCL – Compulsory Courses Lab.**

Credit Distribution Chart for BCA Program

Sr.	Particulars	Number of Courses	Total Credits	Percentage of Credits
1	CC- Compulsory Courses	29	93	65
2	GE- General Electives	02	08	5

SHIVAJI UNIVERSITY, KOLHAPUR.



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CHOICE BASED CREDIT SYSTEM

Syllabus For

B.Sc. Part - III

Computer Science (Entire)

SEMESTER V AND VI

(Syllabus to be implemented from June, 2020 onwards)

B. Sc. Part – III Computer Science Entire CBCS PATTERN (2020-21)

SEMESTER – V																
Sr. No.	Subject Title	TEACHING SCHEME						EXAMINATION SCHEME								
		THEORY			PRACTICAL			THEORY					PRACTICAL			
		No. of lectures	Hours	Credits	No. of lectures	Hours	Credits	University			Internal		Hours	Max Marks	Min	
								Hours	Max Marks	Min Marks	Max Marks	Min Marks				
1	DSE-501	4	3.2	3	5	4	2	2	40	16	10	4	PRACTICAL EXAMINATION IS ANNUAL			
2	DSE-502	4	3.2	3	5	4	2	2	40	16	10	4				
3	DSE-503	4	3.2	3	--	--	--	2	40	16	10	4				
4	DSE-504 / DSE-505	4	3.2	3	--	--	--	2	40	16	10	4				
5	SEC-III	--	--	--	5	4	2	--	--	--	--	--				
6	PW	--	--	--	5	4	2	--	--	--	--	--				
7	AECC-E	4	3.2	2	---	---	---	2	40	16	10	4				
	TOTAL	20	16	14	20	16	8		200			50				

SEMESTER – VI															
1	DSE-601	4	3.2	3	5	4	2	2	40	16	10	4	As per BOS Guide lines	100	40
2	DSE-602	4	3.2	3	5	4	2	2	40	16	10	4		100	40
3	DSE-603	4	3.2	3	--	--	--	2	40	16	10	4		100	40
4	DSE-604 / DSE-605	4	3.2	3	--	--	--	2	40	16	10	4		PW	40
5	SEC-IV	--	--	--	5	4	2	--	--	--	--	--	SEC III	50	20
6	PW	--	--	--	5	4	2	--	--	--	--	--	SEC IV	50	20
7	AECC-F	4	3.2	2	---	---	---	2	40	16	10	4			
	TOTAL	16	16	14	20	16	8		200			50	Theory	Practical	
		32	32	28	40	32	16						250+250= 500	400	

- Student contact hours per week : 32 Hours (Min)
- Theory and Practical Lectures : 48 Min. Each
- Total Marks for B.Sc.-III (Including English.) : 900
- Total Credits for B.Sc.-III (Semester V & VI) : 44

- CC- Core Course, DSE: Discipline Specific Elective Course, SEC: Skill Enhancement Course,
- AECC- Ability Enhancement Compulsory Course (E & F): English for communication.

- *Separate passing for each theory paper of 50 marks. Minimum 20 (16+4) marks out of 50 are required for passing.*
- *Practical Examination will be conducted annually for 200 marks. Out of which 100 marks for DSE-501 & DSE-601 combined and 100 marks for DSE-502 & DSE-602 combined. Minimum 40 (40%) marks are required for passing in each case.*
- *Project Work will be evaluated for 100 marks and minimum 40 (40%) out of 100 are required for passing.*
- *There will be no theory examination for SEC courses. The practical examination for SEC will be conducted annually of 100 marks and 40 (40%) marks are required for passing.*
- *The practical examination for SEC shall be conducted internally.*
- *Separate passing for theory, practical and project.*

B.Sc. Computer Science Entire Part-III

Year of Implementation: Revised Syllabus will be implemented from June 2020

Duration : Part- III shall be of one academic year consisting of two semesters.

Pattern : Semester Pattern.

B.Sc. Part – III Computer Science Entire (2020-21)

Code	Course	Course Title
SEMESTER – V		
DSE-501	Computer Science Paper – IX	Core Java
DSE-502	Computer Science Paper – X	C# Programming
DSE-503	Computer Science Paper – XI	Software Engineering
Elective Course		
I : DSE-504 OR DSE-505		
DSE-504	Computer Science Paper – XII	Machine Learning Part-I
DSE-505	Computer Science Paper – XII	Data Communication
SEC-III	Skill Enhancement Course – III	PHP Part-I
AECC-E	English Paper – III	English for communication- III
SEMESTER – VI		
DSE-601	Computer Science Paper – XIII	Advanced Java
DSE-602	Computer Science Paper – XIV	ASP.Net
DSE-603	Computer Science Paper – XV	Software Project Management
Elective Course II : DSE-604 OR DSE-605		
DSE-604	Computer Science Paper – XVI	Machine Learning Part-II
DSE-605	Computer Science Paper – XVI	Computer Network
SEC-IV	Skill Enhancement Course – IV	PHP Part-II
AECC-F	English Paper – IV	English for communication- IV
LAB-9	Lab Course Based on DSE-501& 601	
LAB-10	Lab Course based on DSE-502 & 602	
LAB-11	Lab Course based on SEC- III & SEC-IV	
PW	Project Work	

DSE	Discipline Specific Elective	SEC	Skill Enhancement Course
AECC	Ability Enhancement Core Course	PW	Project Work

Code	Name of Paper	Marks
LAB-9	Lab Course Based on DSE-501 & 601	100
LAB-10	Lab Course based on DSE-502 & 602	100
LAB-11	Lab Course based on SEC- III & SEC-IV	100
PW	Project Work	100

Note- Four Lectures per theory course per week.
Lab Course five periods (four hours)-per week per 20 students batch.

SCHEME OF EXAMINATION :-

- The Theory examination shall be conducted at the end of each semester.
- The Theory paper shall carry 40 Marks and internal evaluation carry 10 marks.
- There shall be no theory exam on SEC –I & SEC –II.
- The practical examination shall be conducted at the end of each year.
- The Practical paper shall carry 100 marks.

STANDARD OF PASSING:-

- A student will have to secure **40%** of marks in theory and practical examinations each..
- Nature of Practical Question Paper and scheme of marking (ANNUAL)

Nature of theory question paper

- As per regular B.Sc. Program.

Nature of Practical Question Paper For LAB-9, LAB-10 and LAB- 11

- 1.The practical paper shall carry 100 marks.
- 2.There shall be two Sections.
- 3.For **LAB-9**,Section I shall be based on Paper-IX(DSC-501) and Section II basedon Paper-XIV(DSC-601)
4. For **LAB-10**,Section I shall be based on Paper-X(DSC-502) and Section II based on Paper-XV(DSC-602).
- 5.For **LAB-11**,Section I shall be based on SEC-III and Section II based on SEC-IV
6. Each Section shall be of three questions out of which one question is compulsory from each section.
7. Student has to solve total three questions.
8. Each Question carries **25** marks.
- 9.**10** marks for Certified Journal and **15** marks for Viva.
10. The total time duration of the practical examination should be 4 hours.
11. **PW** is project work of 100 marks.

CHOICE BASED CREDIT SYSTEM

SEMESTER - V

B.Sc.Computer Science Entire Part-III

Course Code:DSE-501: Computer Science Paper- IX

Nature of PW (Project Work)

Project work guidelines:

1. Institute is expected to conduct Industrial visit to any computerized industry and students are supposed to submit the report based on same.
2. Project report has to be prepared with every aspects of software engineering.
3. Student has to present the demonstration of project concerned at the time of project viva-voce.
4. Project will have internal guide to supervise and monitor the progress of the project. The internal guide may assign the project to the student or within the group of student (maximum 2 students in a group) using MySQL as a back end and Visual Programming Using C# or Java Programming as front end.
5. There will be online demonstration of project work in the presence of the external examiner and it will be considered for the evaluation.

The distribution of 100 marks shall be as follows:

Project documentation	:	30 marks
On-line Presentation	:	20 marks
Project Based Viva-voce	:	30 marks
Industrial Visit Report	:	20 marks
Total Marks	:	100 marks

Project Work

Guidelines for Project:

Number of Copies: The student should submit two Hard-bound copies of the Project Report. (one copy for institute and one copy for student)

Acceptance/Rejection of Project Report:

The student must submit an outline of the project report to the college for approval. The college holds the right to accept the project or suggest modifications for resubmission.

Format of the Project Report:

SHIVAJI UNIVERSITY, KOLHAPUR



Revised syllabus for
Bachelor of Arts (Part – III)

SEMESTER V & VI

ECONOMICS

Syllabus to be implemented from June 2020 onwards

Structure of Course
Revised syllabus of B.A. Part III (Economics)

Sr. No.	Semester	Title of the Paper	Discipline	Distribution of Credit	Workload	Total Credits	Theory Marks	Term work seminar
1	V	Principles of Micro Economics- I	Economics Course- 7	4	4 Lectures / week	20	40	10
2	V	Economics of Development	Economics Course- 8	4	4 Lectures / week		40	10
3	V	International Economics- I	Economics Course- 9	4	4 Lectures / week		40	10
4	V	Research Methodology in Economics- I	Economics Course- 10	4	4 Lectures / week		40	10
5	V	History of Economic Thoughts- I	Economics Course- 11	4	4 Lectures / week		40	10
Sr. No.	Semester	Title of the Paper	Discipline	Distribution of Credit	Workload	Total Credits	Theory Marks	Term work Group Project
6	VI	Principles of Micro Economics- II	Economics Course- 12	4	4 Lectures / week	20	40	10
7	VI	Economics of Planning	Economics Course- 13	4	4 Lectures / week		40	10
8	VI	International Economics- II	Economics Course- 14	4	4 Lectures / week		40	10
9	VI	Research Methodology in Economics- II	Economics Course- 15	4	4 Lectures / week		40	10
10	VI	History of Economic Thoughts- II	Economics Course- 16	4	4 Lectures / week		40	10

SHIVAJI UNIVERSITY, KOLHAPUR.



Estd. 1962

NAAC 'A' Grade

Faculty of Commerce and Management

Syllabus For

M. Com. Part – II (Sem III & IV)

(To be implemented from June 2020 onwards)

(Subject to the modifications that will be made from time to time)

M.Com. (CBCS) Part-II (Semester-III)
Paper-VI : DSE-A-VI Advanced Accountancy
(Project Work and Viva-Voce)

4 Credits

Course Outcomes:

1. To identify the research problem and formulate objectives.
2. To choose appropriate methodology with proper tools and techniques.
3. To analyze and interpret the data collected from different sources.
4. To make decision or find out conclusions on the basis of data analysis.

Project Work and Viva-Voce:

100 Marks

Project Work

60 Marks

Viva-Voce

40 Marks

Project Work:

- 1) Project report can be prepared on any compulsory or respective optional subject based on field work. However, it is better to select any topic from their own specialization because it should be their worthwhile experience in their own specialized subject.
- 2) Students are required to prepare the Project Report based on the field work and studying the current trends in commerce & Management under the guidance of the Project Guide. Project Report should not be based on only secondary data.
- 3) The Project Report contents at least following aspects:
 - (a) Chapter-I Introduction: It will include Statement of the Problem, Objectives of the Project, methodology, scope and limitations, chapter scheme etc.
 - (b) Chapter-II Review of Literature/Theoretical Background/Conceptual Framework Chapter-III Profile of the Organization/Area
 - (c) Chapter-IV Analysis and Interpretation of the Data
 - (d) Chapter-V Conclusion: It will include observations, findings, suggestions, and conclusions.
- 4) Project Work will be done by the student individually.
- 5) The Project report shall consist of at least typed 50 Pages.
- 6) Two Copies of typed Project Report should be submitted through the concerned college up to 1st March of the year concerned.
- 7) All recognized P.G. Teachers under the Faculty of Commerce and Management are eligible to work as Project Guide.
- 8) The Responsibility of guiding the projects will be shared by all recognized and P.G. Teachers in proportion.
- 9) All students should submit the Project report on or before 30th September.

Viva-voce:

- 1) The panel of experts should try to verify that the candidate has done the project on his own and also identify his/her insight in the research problem concerned. The quality of the work should be evaluated on the basis of novelty, contribution to the society or business and developing critical thinking, analytical thinking and decision-making skills towards students.
- 2) Panel of viva-voce examination will consist of three experts (one expert is internal and two are external, the chairman will be senior most from external experts. The university will appoint these experts and the remuneration as well as TA/DA will be paid by the university to all three experts as per the university rules.
- 3) The evaluation of Project Work-Viva Voce for 100 marks will be made collectively by Internal & External Examiners and the average of these marks will be taken as final marks. The Chairman has to submit final marks to the university.

SHIVAJI UNIVERSITY, KOLHAPUR.



Estd. 1962

NAAC 'A' Grade

Faculty of Commerce and Management

Syllabus For

M. Com. Part – II (Sem III & IV)

(To be implemented from June 2020 onwards)

(Subject to the modifications that will be made from time to time)

M.Com. (CBCS) Part-II (Semester-III)
Paper-VI : DSE-A-VI Advanced Accountancy
(Project Work and Viva-Voce)

4 Credits

Course Outcomes:

1. To identify the research problem and formulate objectives.
2. To choose appropriate methodology with proper tools and techniques.
3. To analyze and interpret the data collected from different sources.
4. To make decision or find out conclusions on the basis of data analysis.

Project Work and Viva-Voce:

100 Marks

Project Work

60 Marks

Viva-Voce

40 Marks

Project Work:

- 1) Project report can be prepared on any compulsory or respective optional subject based on field work. However, it is better to select any topic from their own specialization because it should be their worthwhile experience in their own specialized subject.
- 2) Students are required to prepare the Project Report based on the field work and studying the current trends in commerce & Management under the guidance of the Project Guide. Project Report should not be based on only secondary data.
- 3) The Project Report contents at least following aspects:
 - (a) Chapter-I Introduction: It will include Statement of the Problem, Objectives of the Project, methodology, scope and limitations, chapter scheme etc.
 - (b) Chapter-II Review of Literature/Theoretical Background/Conceptual Framework Chapter-III Profile of the Organization/Area
 - (c) Chapter-IV Analysis and Interpretation of the Data
 - (d) Chapter-V Conclusion: It will include observations, findings, suggestions, and conclusions.
- 4) Project Work will be done by the student individually.
- 5) The Project report shall consist of at least typed 50 Pages.
- 6) Two Copies of typed Project Report should be submitted through the concerned college up to 1st March of the year concerned.
- 7) All recognized P.G. Teachers under the Faculty of Commerce and Management are eligible to work as Project Guide.
- 8) The Responsibility of guiding the projects will be shared by all recognized and P.G. Teachers in proportion.
- 9) All students should submit the Project report on or before 30th September.

Viva-voce:

- 1) The panel of experts should try to verify that the candidate has done the project on his own and also identify his/her insight in the research problem concerned. The quality of the work should be evaluated on the basis of novelty, contribution to the society or business and developing critical thinking, analytical thinking and decision-making skills towards students.
- 2) Panel of viva-voce examination will consist of three experts (one expert is internal and two are external, the chairman will be senior most from external experts. The university will appoint these experts and the remuneration as well as TA/DA will be paid by the university to all three experts as per the university rules.
- 3) The evaluation of Project Work-Viva Voce for 100 marks will be made collectively by Internal & External Examiners and the average of these marks will be taken as final marks. The Chairman has to submit final marks to the university.



Shivaji University, Kolhapur

Department of Chemistry

M.Sc. Part-II Chemistry Syllabus as Per New CBCS PATTERN

(Inorganic, Organic, Physical and Analytical)

To be implemented from June- 2020-2021

Applicable for University Department and Affiliated Colleges PG Center

Structure and biological functions of glucosaminoglycans or mucopolysaccharides. Carbohydrates of glycoproteins and glycolipids. Role of sugars in biological recognition. Blood group substances. Ascorbic acid.

Carbohydrate metabolism- Krebs's cycle, glycolysis, glycogenesis and glycogenolysis, pentose phosphate pathway.

UNIT-III: Lipids

(15)

Fatty acids, essential fatty acids, structures and function of triglycerides, glycerophospholipids, sphingolipids, cholesterol, bile acids, prostaglandins. Lipoproteins- composition and function, role in atherosclerosis. Properties of lipid aggregates – micelles, bilayers, liposomes and their possible biological functions. Biological membrane's fluid mosaic model of membrane structure. Lipid metabolism - β -oxidation of fatty acids

UNIT-IV: a) Amino acids, Peptides and Proteins

(10)

Chemical and enzymatic hydrolysis of proteins to peptides, amino acid sequencing. Secondary structure of protein, forces responsible for holding of secondary structures. α - helix, β -sheets, super secondary structure, triple helix structure of collagen. Tertiary structure of protein- folding and domain structure. Quaternary structure. Amino acid metabolism- degradation and biosynthesis of amino acids, sequence determination: chemical/ enzymatic/ mass spectral, racemization / detection. Chemistry of oxytocin and tryptophan releasing hormone (TRH).

b) Nucleic Acids

(5)

Purine and pyrimidine of nucleic acids, base pairing via H – bonding. Structure of ribonucleic acids (RNA) and deoxyribonucleic acid (DNA), double helix model of DNA and forces responsible for holding it. Chemical and enzymatic hydrolysis of nucleic acids. The chemical basis for heredity, an overview of replication of DNA, transcription, translation and genetic code. Chemical synthesis of mono and poly nucleosides.

RECOMMENDED BOOKS:

1. Principles of Biochemistry, A. L. Lehinger, Worth Publications.
2. Biochemistry, L. Stryer, W. H. Freeman
3. Biochemistry, J. David Rawn, Neil Patterson.
4. Biochemistry, Voet and Voet, John Wiley.
5. Outlines of Biochemistry, E. E. Conn and P. K. Stumpf, John Wiley.

M.Sc. Part-II (Semester-IV)

Organic Chemistry Practical Course OCHP-VII and OCHP-VIII

Two or three stage preparations starting with 5g or less and TLC.

1. Estimation of Sulphur and Nitrogen.

3. Organic preparations (Any Five)

1. Preparation of Anthranilic acid.
2. Preparation of p- Amino benzoic acid.
3. Preparation of p- Chloro nitrobenzene by Sandmeyer reaction.
4. Preparation of p- Iodonitrobenzene by Sandmeyer reaction.
5. Preparation of Benzylamine
6. Preparation of Benzimidazole
7. Preparation of 2-acetyl cyclohexanone
8. Multicomponent synthesis.

4. Project: Literature survey. Study of reactions, synthesis, mechanism, isolation of natural products, standardization of reaction conditions, use of new methods etc. Identification of organic compounds by spectroscopic methods. External and internal examiners will examine the project (50 Marks) jointly at the time of practical examination.

5. Any other suitable experiments may be added.

6. Study tour may arrange for M.Sc. Part- II Students to visit Chemical Industries in nearby areas.

REFERENCE BOOKS:

1. A Textbook of Practical Organic Chemistry – A. I. Vogel.
2. Practical Organic Chemistry – Mann & Saunders
3. A Handbook of Quantitative & Qualitative Analysis- H. T. Clarke
4. Organic Synthesis Collective Volumes.

- ii) Poisoning due to cyanide dioxines & asbestos.
- iii) Physiological effects of natural poisons such as Col Chicine, Morphine, Hashish ,Nicotinoids.
- iv) Health hazards and Remedial measures.

Unit III: Analytical Microbiology (15)

Morphological structure and characteristics nutrition and physiology classification of microorganisms, Taxonomy and nomenclature Nutritional requirements, Phathoseas and Spoilage organics Microscopy, Staining techniques, Aspartic Techniques, isolation and use of differential media, sterilization and disinfection.

UNIT-IV: Applied Microbiology (15)

Air Microbiology with respect contamination control, Food Microbiology, Water microbiology, Industrial microbiology with respect to quality control.

Recommended Books:

- 1) Allan Cury,Irvins Sunshine,Forensic Analysis, Academic Press Publications.
- 2) E.G.J.Clarics, Isolation and Identification of drugs, Pharmaceutical Press.
- 3) C.J.Creswell, C.A.Runquist and M.M.Campbell, Spectral Analysis of Organic
- 4) Compounds.
- 5) F.J.Welcher, Robert E, Standard Methods of Chemical Analysis, A series of volumes.
- 6) Hawk's Physiological Chemistry.
- 7) D.J.Holme and H. Pack, Analytical Biochemistry, Longman.
- 8) G. Keleti and W H Liederer, Hand book of micro methods for the biological science-VNR.
- 9) C H Collins, Microbiological Methods, Butterworths.

M.Sc. Part-II (Sem-IV)

Analytical Chemistry Practical Course ACHP-VII and ACHP -VIII

List of Experiments:

Major

1. Cement analysis
2. Analysis of Chrome steel alloy for Cr and Ni content
3. Analysis of bauxite ore to estimate the amount of silica, aluminium and iron.
4. Estimation of salicylic acid and zinc oxide from medicated powder
5. Determination of saponification value and iodine value of oil
6. Estimation of amount of copper (II) with EDTA spectrophotometrically.
7. Simultaneous spectrophotometric determination of Cr and Mn
8. Analysis of milk.
9. Analysis of some common pesticides, insecticides , plastics and detergents.
10. Estimation of Urea, Uric acid and creathinine in Urine.
11. Estimation of blood sugar, calcium and total nitrogen and non-protein nitrogen in blood.
12. Studies on the effect of substituent at ortho position of benzoic acid on its equilibrium constant pH metrically.
13. Agricultural analysis of soil sample, animal feeds, soil micronutrients, milk powder for Ca, Fe and P content.

Minor

1. Estimation of Fe from soil sample

2. Analysis of Na and K from soil sample
3. Determination of chemical oxygen demand of water sample (dye solution)
4. Estimation of lactose from milk sample
5. Determination of flash point of oil/fuel
6. To estimate the amount of glycine from amino acid
7. To determine the amount of alkali content of antacid tablet titrimetrically
8. Determination of dissociation constant of weak acid pH-metrically.
9. Estimation of Zn in the given solution fluorimetrically.
10. Determination of pK of tribasic acid, by potentiometry.
11. Determination of critical micelle concentration of given surfactants conductometrically
12. Estimation of acetyl salicylic acid in the given aspirin tablet by titrating against 0.1N alcoholic KOH potentiometrically.
13. To determine the acid base dissociation constant and isoelectric point of amino acid pH metrically
14. (Any other experiments may be added when required.)

(At least 6 major and 6 minor experiments should be carried out. More time should be given to project work)

B) Project:

Projects on contemporary issues of societal significance which should include literature survey, synthesis, reaction mechanism and kinetics, analysis of air, water and soil samples, solid state materials, energy generation and storage materials, nanochemistry, green chemistry, organic materials, organo-metallic, bioinorganic materials, novel materials etc. The Project/Review work (50 Marks) will be examined jointly by internal and external examiners at the time of practical examination.

(Any other experiments may be added when required.)

Study tour is compulsory for M.Sc. Part- II Students to visit Chemical Industries in India.

15. Equivalence in Accordance with titles and contents of the papers

SHIVAJI UNIVERSITY KOLHAPUR.



Accredited By NAAC with 'A' Grade

Syllabus of Environmental Studies

**As a Compulsory Paper for all
Undergraduate Programme**

(To be implemented from academic year 2019)

Unit 8. Field Work :**(10 lectures)**

Visit to a local area to document environmental assets-

River/forest/grassland/hill/mountain.

or

Visit to a local polluted site – Urban/Rural/Industrial/Agricultural

or

Study of common plants, insects, birds.

or

Study of simple ecosystems - ponds, river, hill slopes, etc.

(Field work is equal to 10 lecture hours)

References :

- 1) Agarwal, K.C.2001, Environmental Biology, Nidi Pubi. Ltd., Bikaner.
- 2) Bharucha Erach, The Biodiversity of India, Mapin Publishing pvt. Ltd.,Ahmedabad 380013, India, Email:mapin@icenet.net (R)
- 3) Brunner R.C.,1989, Hazardous Waste Incineration, McGraw Hill Inc., 480p
- 4) Clank R.S. Marine Pollution, Clanderson Press Oxford (TB)
- 5) Cunningham, W.P. Cooper, T.H.Gorhani, E. & Hepworth, M.T.2001,
- 6) Environmental Encyclopedia, Jaico Publ. Hpise, Mumbai, 1196p
- 7) De A.K., Environmental Chemistry, Wiley Wastern Ltd.
- 8) Down to Earth , Cebtre fir Scuebce and Environment (R)
- 9) Gleick, H.,1993, Water in crisis, Pacific Institute for studies in Dev.,Environment & Security. Stockholm Env. Institute. Oxford Univ. Press 473p
- 10) Hawkins R.e., Encyclopedia of Indian Natural History, Bombay Natural History Society, Bombay (R)
- 11) Heywood, V.H.& Watson, R.T.1995, Global Biodiversity Assessment,Cambridge Univ. Press 1140p.
- 12) Jadhav, H.& Bhosale, V.M.1995, Environmental Protection and Laws, Himalaya Pub. Hcuse, Delhi 284p.
- 13) Mickinney, M.L.& School. R.M.1196, Environmental Science Systems & Solutions, Web enhanced edition, 639p.
- 14) Mhaskar A.K., Mastter Hazardous, Techno-Science Publications (TB)
- 15) Miller T.G.Jr., Environmental Science. Wadsworth Publications Co. (TB)
- 16) Odum, E.P.1971, Fundamentals of Ecology, W.B.Saunders Co. USA, 574p.
- 17) Rao M.N.& Datta, A.K.1987, Waste Water Treatment, Oxford & IBH Publ. Co. Pvt. Ltd., 345p
- 18) Sharma B.K., 2001, Environmental Chemistry, Gokel Publ. Hkouse, Meerut
- 19) Survey of the Environment, The Hindu (M)
- 20) Townsend C., Harper, J. and Michael Begon, Essentials of Ecology, Blackwell Science (TB)
- 21) Trivedi R.K. Handbook of Environmental Laws, Rules, Guidelines, Compliances and Standards, vol. I anfd II, Environmental Media (R)
- 22) Trivedi R.K. and P.K. Gokel, Intriduction to air pollution, Tecgbi-Science Publications (TB)
- 23) Wagner K.D.,1998, Environmental management, W.B. Saunders Co.Philadelphia, USA 499p.
- 24) Paryavaran shastra – Gholap T.N.
- 25) Paryavaran Sahastra – Gharapure
M) Magazine (R) Reference (TB) Textbook

SHIVAJI UNIVERSITY, KOLHAPUR.



******* A**

Accredited By NAAC

Revised Syllabus For

Master of Arts [M. A. Economics]

Faculty of Humanities

(M. A. Part - I (Sem. I to II)

(Subject to the modifications to be made from time to time)

Syllabus to be implemented from June 2018 Onwards.

EC-7	International Economics	04	--	---	04	80	20	100
EC-8	Economics of Growth and Development	04	--	---	04	80	20	100
(II) Elective / Optional Papers :								
EO-32	Co-operative Thoughts and Administration	04	--	---	04	80	20	100
EO-33	Computer Application in Economics	04	--	12*	28	50	50**	100
EO-34	Global Business Logistics	04	--	---	04	80	20	100
EO-35	Health Economics	04	--	---	04	80	20	100
EO-36	Advanced Banking	04	--	---	04	80	20	100
EO-37	Welfare Economics	04	--	---	04	80	20	100
EO-38	Econometrics	04	--	---	04	80	20	100
EO-39	Economic Thoughts of Chh. Shahu	04	--	04 #	08	80	20	100
EO-40	Computer Application in Economics-II	04	--	6*2	80	20	100	04
EO-41	Economics and Law	04	--	--	80	20	100	04
EO-42	Econometrics-II	04	--	--	20	100	04	04

* Each Batch of 10 students will be 6 Practical hours per week (4 Batch x 6 Hrs. = 24)

** CIE 50 Marks (30 Marks for Practical Examination and 20 Marks for Journal)

#Each paper has four Hours Practical for a batch of 10 students which covers, Project Report / Journal / Field Survey / Industry Visit / Visits to Banks & Financial Institutions / Lab Work

13. SCHEME OF EXAMINATION:

1. The Entire M. A. [Economics] Course shall have 16 papers [Every semester shall have four papers] each carrying 100 marks. Thus, entire M. A. examination shall be of 1600 total marks.
2. The system of examination would be Semester with choice based credit system (CBCS) and Continuous Internal Evaluation (CIE). The examination shall be conducted at the end of each semester.
3. There shall be Continuous Internal Evaluation (CIE) System within the Semester System. In this System, for every paper, 20 marks are allotted for Internal Assessment and 80 Marks for the Semester Examination of three hours duration that will be held by the end of each term.
4. **Allocation and Division of CIE Marks:** For every paper, CIE component shall carry 20 marks.
 - (i) During every Semester, every student shall have to submit home assignments or present seminar papers or book review or internal examination carrying 20 marks for each paper, on the topics given by the respective course teachers.
 - (ii) For papers having Practical component, students shall have to submit Project Report / Journal / Field Survey / Industry Visit / Visits to Bank & Financial Institutions / Lab Work carrying 20 marks. For these papers, students shall be exempted from home assignments/seminars and written internal test.
 - (iv) For papers having project reports carrying 20 marks, students shall be exempted from home assignments/seminars and written test.
 - (v) CIE will be conducted only once before the commencement of semester examination.
- 5) **CIE - Re-examination:** The CIE re-examination shall be conducted by the Head of the Department
- 6) **Semester-Re-Examination:** In case candidates who fail in any of the papers in any semester examination, they can appear for the re-examination as per the University rules.

14. Standard of Passing

- 1) To pass in each paper 40 marks out of 100 are required.
- 2) Semester Examination: In every paper a candidate should obtain a minimum of 40 % of total marks i.e. 32 marks out of 80 marks.
- 3) CIE – For every CIE component, a candidate should obtain a minimum of 40 % of the total marks, i.e. 4 out of 10 and/or 08 out of total 20 marks.
- 4) A candidate must obtain minimum marks as mentioned above in both the Heads of Passing. In other words, he/she must pass in both the Semester examination as well as

- CIE examination separately.
- 5) The details regarding Standard of Passing are given under credit system.

15. Credit System:

EXAMINATION BY CHOICE BASED CREDIT SYSTEM APPLICABLE TO
M.A. SEMESTER COURSE FROM JUNE 2017 IN ECONOMICS, DEPARTMENT
OF ECONOMICS, SHIVAJI UNIVERSITY, KOLHAPUR.

Introduction: -

Students can earn credit towards their post-graduation by way of credit allotted to the papers or to the course. Credit system permits to follow horizontal mobility towards the graduation courses irrespective of the boundaries of the faculties or within the boundaries of the faculties. Besides it provides a cafeteria approach towards the higher education. But the course curriculum with a permission of horizontal mobility should be structured accordingly. It requires uniformity in the system. An institution has to develop the credit transfer mechanism for worldwide recognition and acceptability. In normal case, an institute has to register for European Credit Transfer System with the proper design of the structure. A scheme has been worked out to put the credit system within the framework of the present education system in the University.

What is Credit?

Credits are a value allocated to course units to describe the student's workload (i.e. Lectures, Practical work, Seminars, private work in the library or at home and examinations or other assessment activities) required to complete them. They reflect the quantity of work each course requires, in relation to the total quantity of work required to complete during a full year of academic study in the Department. Credit thus expresses a relative value.

Students will receive credit through a variety of testing programmes if they have studied a subject independently or have successfully completed department level regular course work. The objective of credit system is to guarantee the academic recognition of studies throughout the world, enabling the students to have access to regular vertical and or horizontal course in any Institutions or the Universities in the world.

Types of Credits:

There shall be two types of credits viz. a) Credit by Examination and b) Credit by Non-Examination.

- a) **Credit by Examination**: - Students can earn credit towards his/her Graduation and Post-graduation upon the successful completion of the tests in the credit by examination programme.
- b) **Credit by Non-examination**:- Students can also earn credit by non-examination by proving his/her proficiency in State, National and International sports' achievements, Social Service (NSS), Military Services (NCC), Colloquium & debate, Cultural programme as shown below during the study period.

Sports Achievements /Participation (Any one event	Credits	NSS Recognitio n /Achievement (Any one event	Credits	NCC Achievements (Any one event during	Credits
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during the academic session)		during the academic session)		the academic session)	
Olympics	15	International	10	R. D. Pared	6
International	10	National	8	Summer Camp (More than 10 days)	6
National	8	Regional/Zonal	6	National level training (More than 10 days)	5
Regional/Zonal	6	State	4	State level training (More than 10 days)	4
State	4	University	3	University level training (More than 10 days)	3
Inter-University	4	Best University Volunteer	3	C certificate	2
University	3	2 Years NSS + 2 NSS Camps	2	Any special Camps of more than 2 weeks	2
Inter-collegiate/PE Exam.	2	2 Years NSS + 1 NSS Camp	2	Any special Camps of more than one week	2

Mechanism of Credit System: -

Credit is a kind of weightage given to the contact hours to teach the prescribed syllabus, which is in a modular form. Normally one credit is allotted to 15 contact hours. It is 30 contact hours in European system. The instructional days as worked out by the UGC are 180 days (30 Weeks). The paper wise instructional days with a norm of 4 contact hours per week per paper will be of 120 days. That is 60 days or 60 contact hours per paper shall be completed during each semester session. By converting these contact hours into credit at the rate of 15 contact hours for each subject, there will be 4 credits allotted to each paper.

Conversion of Marks into Grades:

The marks obtained by a candidate in each paper or practical/CIE (out of 100 or any fractions like 80:20 shall be converted into grades on the basis of the following table.

Grades points	Range of marks obtained out of 100 or in any fractions	
	from 00	To 39
0	40	44
1	45	49
2	50	54
3	55	59
4	60	64
5	65	69
6	70	74
7	75	79
8	80	84
9	85	89
10	90	94
11	95	100

The maximum credit point shall be 48 credits (i.e. 12 grade points * 4 minimum credits) for each paper.

Grade & Grade Points:

The student's performance of course will be evaluated by assigning a letter grade on a few point scales as given below. The grade points are the numerical equivalent of letter grade assigned to a student in the 12 point's scale,

The grade and grade points and credits shall be calculated as under: -

GRADES	FGPA CREDIT POINTS
O	10 to 12
A+	8 to 9.99
A	6 to 7.99
B+	4 to 5.99
B	2 to 3.99
C+	1 to 1.99
C	0 to 0.99

Evaluation: -

1. The BOS in Economics shall lay down the evaluation system for each course.
2. There shall not be rounding off of SGPA/FGPA.
3. A student who fails in a course shall be required either to repeat that course or to clear another course in lieu thereof irrespective of his/her past performance in the semester if he/she has been awarded a final grade weighted grade of F in that course.
4. A student who secures a grade higher than C in a course may be permitted to improve grade by repeating the course provided that a student willing shall be allowed to do so only if he/she surrenders his/her earlier grade in the course. It will be his/her repeated performance in the course, which will be taken into account to compute the SGPA.
5. Non-examination credit shall be counted in the overall performance or for required minimum credits.
6. The students shall be further graded on a scale ranging from 0 to 12. The grades and grade points as shown below will express the level of good students.

Overall Final Credits	Degree of Good	Students
10 to 12	Higher Distinction Level	Extraordinary
8 to 9.99	Distinction Level	Excellent
6 to 7.99	First Class	Very Good
4 to 5.99	Higher Second Class	Good
2 to 3.99	Second Class	Satisfactory
1 to 1.99	Pass	Fair
0 to 0.99	Fail	Unsatisfactory

16. NATURE OF QUESTION PAPER AND SCHEME OF MARKING :-

There will be four questions in the question paper each carrying 20 marks. All questions shall be compulsory,

**NATURE OF QUESTION PAPER AND SCHEME OF MARKING
[UNDER ACADEMIC FLEXIBILITY]****SHIVAJI UNIVERSITY, KOLHAPUR****M.A. (ECONOMICS) SEMESTER-I/II/III/IV EXAMINATION, -----****PAPER No.---- Paper Title-----****Day and Date****:****Duration : 03 Hours****Instructions:**

- 1) **All questions are compulsory.**
- 2) **All questions carry equal marks.**

Total Marks:**80**

Q. No. 1: (A) Multiple Choice Questions (Five) (2 Marks Each)	10
(B) Answer in One or Two Sentences (Five) (2 Marks Each)	10
Q. No. 2: Descriptive Type Questions with internal choice	20
Q. No. 3: Descriptive Type Question with internal choice.	20
Q. No. 4 : Short Notes (Any Four out of Six) (Five Marks Each)	20

Nature of Question paper and Scheme of Marking
Paper No. EO-28 & EO-40: Computer Application in Economics.

Duration: 02 Hours	Total Marks:
	50
Q. 1 A) Multiple Choice Questions	05 Marks
B) Answer in One or Two Sentences	05 Marks
Q. 2 Short Notes (Any Two out of Four)	10 Marks
Q. 3 Descriptive type questions with internal choice	15 Marks
Q. 4 Questions on Quantitative Techniques (Any Two out of Three)	15 Marks

17. EQUIVALENCE IN ACCORDANCE WITH TITLES AND CONTENTS OF PAPERS- (FOR REVISED SYLLABUS): NA.

18) SPECIAL INSTRUCTIONS, IF ANY. NIL

19) OTHER FEATURES:

- 1. INTAKE CAPACITY / NUMBER OF STUDENTS: 60**
 - (i) M. A. Part-I : 60**
 - (ii) M. A. Part-II : 60**
- 2. TEACHERS QUALIFICATIONS:-**
 - (i) As prescribed by norms.**
 - (ii) Work load of teachers in the department as per Apex body/UGC/State Govt./University norms.**

- (iii) **List of books/journals are given for each paper**
 (iv) Teaching Aids like TV, VCR, LCD, OHP, Computer Software's, SPSS, Internet facilities etc. are available in the Department.

20) A copy of Revised Syllabus for M. A. Economics (Semester-I to IV) is enclosed herewith.

M. A. Economics, Revised Syllabus
Semester System with Credits and Continuous Internal Evaluation [CIE] To be introduced w.e.f. June 2018 for M. A. Part –I (Semester-I & II) in the Department of Economics, Shivaji University, Kolhapur-4, [Under Academic Flexibility]

M. A. Part-I (Semester-I)			
Paper Number	Paper Title	Credits	Marks
(I)	<i>Core/ Compulsory Papers</i>		
EC-1	Micro Economic Analysis	04	100
EC-2	Monetary Economics	04	100
(II)	<i>Elective / Optional Papers :</i>		
EO-1	Economics of Environment	04	100
EO-2	Agricultural Economics	04	100
EO-3	Economics of Insurance	04	100
EO-4	Principles and Practice of Co-operation	04	100
EO-5	Economics of Education	04	100
EO-6	Human Resource Development	04	100
EO-7	Economics of Gender and Development	04	100
EO-8	Indian Capital Market	04	100
EO-9	Economics of Livestock	04	100
EO-10	Economy of Maharashtra	04	100
M. A. Part – I: Semester – II			
(I)	<i>Core/ Compulsory Papers:</i>		
EC-3	Public Economics	04	100
EC-4	Ecological and Resource Economics	04	100
(II)	<i>Elective / Optional Papers :</i>		
EO-11	Agricultural Development in India	04	100
EO-12	Industrial Economics	04	100
EO-13	Rural Development	04	100
EO-14	Managerial and Business Economics	04	100
EO-15	Financial Markets and Institutions	04	100
EO-16	Regional Economics	04	100
EO-17	Contribution of Nobel Laureates to Economics	04	100
EO-18	Economic Thoughts of Dr. B.R.	04	100

	Ambedkar		
EO-19	Economics of Infrastructure	04	100
EO-20	Mathematical Economics I	04	100

MICRO ECONOMIC ANALYSIS
EC-1 (Core/ Compulsory Paper)

Preamble:

This paper analyses the economic behaviour of individuals, firms and markets. It is mainly concerned with the objective of equipping the students in a rigorous and comprehensive manner with the various aspects of consumer behaviour and demand analysis, production theory and behaviour of costs, the theory of traditional markets and equilibrium of firm in modern non-profit maximizing framework in theory and applications as well. The paper also deals with the micro and macro theories of distribution, welfare economics, and general equilibrium in closed and open systems and analysis of economic behaviour under uncertainty.

UNIT I: Basic Concepts and Demand Analysis (15 Periods)

1.1: Deductive and Inductive Methods of Analysis; Positive and Normative Economics; Characteristics of Equilibrium and Disequilibrium Systems.

1.2: Indifference curve: income, price and substitution effects, Hicks and Slutsky Approach,

1.3: Compensated demand curve and their applications; Revealed preference theory;

1.4: Revision of demand theory by Hicks.

UNIT II: Theory of Production and Costs (15 Periods)

2.1: Least cost combination of inputs; Multi-product firm; Elasticity of substitution; Euler's theorem;

2.2: Cobb-Douglas, CES, VES

2.3: Translog production functions and their properties;

2.4: Traditional and modern approaches to cost curves.

UNIT III: Market Structure: Price and Output Determination (15 Periods)

3.1: Monopolistic competition – general and Chamberlin approaches to equilibrium, equilibrium of the firm and the group

3.2: Oligopoly – Non-collusive: Cournot, Bertrand, Edgeworth, Chamberlin, Kinked demand curve and Stackelberg's solution - Collusive: Cartels and mergers, price leadership and basing point price system models.

3.3: Price and output determination under monopsony

3.4: Price and output determination under bilateral monopoly.

UNIT IV: Alternative Theories of Firm and Distribution (15 Periods)

4.1: Critical evaluation of marginal analysis; Baumol's sales revenue maximization model; Williamson's model of managerial discretion;

- 4.2: Marris model of managerial enterprise; Full cost pricing rule; Bain's limit pricing theory
- 4.3: Neo-classical approach – Marginal productivity theory; Product exhaustion theorem;
- 4.4: Elasticity of technical substitution, technical progress and factor shares.

READING LIST

1. Kreps, David M. (1990), A Course in Microeconomic Theory, Princeton University Press, Princeton.
2. Koutsoyiannis, A. (1979), Modern Microeconomics (2nd Edition), Macmillan Press, London.
3. P. R. G. and A. W. Alters (1978), Microeconomic Theory, McGraw Hill, New York.
4. Sen, A. (1999), Microeconomics: Theory and Applications, Oxford University Press, New Delhi.
5. Stigler, G. (1996), Theory of Price, (4th Edition), Prentice Hall of India, New Delhi.
6. Varian, H. (2000), Microeconomic Analysis, W. W. Norton, New York.
7. Baumol, W. J. (1982), Economic Theory and Operations analysis, Prentice Hall of India, New Delhi.
8. Hirshleifer, J. and A. Glazer (1997), Price Theory and Applications, Prentice Hall of India, New Delhi.
9. Green, H. A. G. (1971), Consumer Theory, Penguin, Harmondsworth.
10. Henderson, J. M. and R. E. Quant (1980), Microeconomic Theory: A Mathematical Approach, McGraw Hill, New Delhi.
11. Da Costa, G. C. (1980), Production, Prices and Distribution, Tata McGraw Hill, New Delhi.
12. Healthfields and Wibe (1987), An Introduction to Cost and Production Functions, Macmillan, London.
13. Archibald, G. C. (Ed.) (1971), Theory of the firm, Penguin, Harmondsworth.
14. Bain, J. (1958), Barriers to New Competition, Harvard University Press, Harvard.
15. Bronfenbrenner, M. (1979), Income Distribution Theory, Macmillan, London.
16. Broadway, R. W. and N. Bruce (1984), Welfare Economics, Basil Blackwell, London.
17. Graff, J. De V. (1957), Theoretical Welfare Economics, Cambridge University Press, Cambridge.
18. Mishan, E. J. (1969), Welfare Economics: An Assessment, North Holland, Amsterdam.
19. Green, H. and V. Walsh (1975), Classical and Neo-classical Theories of General Equilibrium, Oxford University Press, London.
20. Hansen, B. (1970), A Survey of General Equilibrium Systems, McGraw Hill, New York.
21. Quirk, J. and R. Saposnik (1968), Introduction to General Equilibrium Theory and Welfare Economics, McGraw Hill, New York.
22. Weintrub, E. R. (1974), General Equilibrium Theory, Macmillan, London.
23. Arrow, K. J. and M. D. Intrilligator (Eds.) (1981), Handbook of Mathematical Economics, Vol. I, North Holland, Amsterdam.
24. Borch, K. H. (1968), The Economics of Uncertainty, Princeton University Press, Princeton
25. Diamond and Rothschild (Eds.) (1978), Uncertainty in Economics, Academic Press, New York.

MONETARY ECONOMICS
EC – 2 (Core/ Compulsory Paper)

PREAMBLE:

This paper analyses the significant role of 'Money' in the economy. It provides essential and thorough knowledge to the economics students relating to the theoretical aspects of money. It covers various approaches towards evolution of money, demand for money, supply of money, and rate of interest, inflation, agencies which creates and supplies money and operates monetary policy. The paper also deals with Keynesian and post-Keynesian economics, which is a most essential part of the monetary economics. Since reforms introduced in financial sector, many new concepts have emerged in this sector. For the students of economics it is essential to understand and analyze these new concepts as well as monetary forces and real forces, their developmental role and limitations in shaping and influencing the monetary and related policies both at the national and international level.

- UNIT I: Evolution and flow of Money: (15 Periods)**
- 1.1: Evolution of Money-Money and Near Money - Stock & Flow concept of money
 - 1.2: Functions of Money– Significance of Money in Economy
 - 1.3: Circular Flow of Money; Importance of Circular Flow of Money,
 - 1.4: Velocity of Circulation of Money, Concept of Value of Money.
- UNIT II: Money Supply and Money Multiplier: (15 Periods)**
- 2.1: Money Supply- Determinants of Money Supply – Money supply function- Approaches to Money Supply – Money Supply & Liquidity
 - 2.2: H theory of Money Supply – Factors affecting H – Adjusted H--- Is H autonomous policy variable?
 - 2.3: Money Multiplier Process: Determinants –
 - 2.4: Derivation of Money Multiplier, Deposit Multiplier
- UNIT III: Demand for Money and Interest Rate: (15 Periods)**
- 3.1: Classical & Neo-classical views on Holding Money – Keynesian theory of Demand for Money– Post Keynesian (Baumol-Tobin approach) - Friedman’s Quantity Theory of Money.
 - 3.2: Money & Prices: Fisher’s Cash Transaction Approach – Cambridge Cash Balances Approach- Phillips Curve Hypothesis – Rational Expectations theory.
 - 3.3: Theories of Interest Rates: Classical Theory – Loanable Fund Theory –
 - 3.4: Liquidity Preference Theory- Hicks-Hansen Theory
- UNIT IV: Monetary and Fiscal Policies: Income and Interest Rate Determination: (15 Periods)**
- 4.1: Factors Determining the Term Structure of Interest Rates- Theories of Term Structure of Interest Rates (Expectation Theory, Segmented Market Theory, Risk Premium Theory and Preferred Habitat Theory).
 - 4.2: Real balance Effect – Patinkin’s General Equilibrium Model,
 - 4.3: Transmission Mechanism in Monetary Theory, Relative Effectiveness of Monetary and Fiscal Policy
 - 4.4: Monetary Theories of Business Cycles (Hawtrey, Hayek), Easy & Dear Monetary Policy

READING LIST :

1. Bain, Keith & Howells, Peter (2009), *Monetary Economics: Policy and Its Theoretical Basis*, Palgrave.
2. Friedman, Ben & Hahn F.H. (Eds.), (1990), *Handbook of Monetary Economics*, Vols. 1, 2, & 3, North Holland Publishers.
3. Gupta, S.B. (1983), *Monetary Economics*, S. Chand & Company, New Delhi.
4. Mankiw N. Gregory (2012), *Macroeconomics*, Worth Publisher, New York
5. Mishkin Frederic (2007), *The Economics of Money Banking and Financial Markets, 8th ed* Addison Wesley Longman Publishers.
6. Niehans, J. (1984), *International Monetary Economics*, John Hopkins University Press, New York.
7. Sheth. M. L (2016), *Monetary Economics*, Lakshi Narain Agarwal, Agra.
8. Keynes, J. M., *General Theory of Employment, Interest and Money*.
A. E. A., *Readings in Monetary Theory*
9. Halm, G. N., *Monetary Economics*
10. Einzing, P., *Monetary Policy: Ends & Means*
11. Newlyn, W. E., *theory of Money*
12. Chandler, L. V., *Economics of Money and Banking*.
13. Scammel, W. M., *International Monetary Policy*
14. Sen, S. N., *central Banking in Underdeveloped Money Markets*
15. H. Johnson, *Essays in Monetary Theory*
16. Don Patinkin, *Money, Interest and Prices*
17. Shaw, E. S., *Money, Income and Monetary Policy*
A. C. L. Day, *An Outline of Monetary Economics*
18. M. Friedman, *Essay on Money*
19. Ghosh, B. N. & Ghosh Rama, *Monetary Economics*
20. Claassen Emil-Maria, (1996) *Global Monetary Economics*, Oxford University Press
21. Harris, L., *Monetary Theory*
22. J. D. Von Pischke, *Finance at the Frontier: Debt, Capacity and Role of Credit in Private Economy*
23. RBI Reports
24. World Bank Reports
25. IMF Reports
26. Friedman M, *Essays on Money*
27. Bhole, L. M., *Financial Institutions and Markets: Structure, Growth and Innovation*

ECONOMICS OF ENVIRONMENT EO 1 - (Elective/ Optional Paper)

PREAMBLE:

Environment is a part and parcel of living things in general and human beings in particular. Hence for their well being and environmental balance its preservation and protection is of vital importance. Environmental degradation can very badly affect all living things coupled with human beings in particular. Environment can have economic aspects, which are neglected in the studies in main stream economics and its branches. This necessitates studying Economics of Environment as an Elective course at post graduate level in both the theoretical as well as applied perspectives. The prime objective of this course is well equip

the students regarding economic aspects of environment and development

UNIT I: INTRODUCTION TO ECONOMICS OF ENVIRONMENT: (15 Periods)

- 1.1: Economics of Environment: Meaning -Nature- Scope – Significance
- 1.2: Economic Development and Environment – Common Property Resources-
- 1.3: Eco-systems - Loss of Bio-diversity
- 1.4: Sustainable Development

UNIT II: ENVIRONMENTAL PROBLEMS OF ECONOMIC AND INDUSTRIAL DEVELOPMENT (15 Periods)

- 2.1: Environmental Pollution: Water pollution – Air Pollution – Noise Pollution – Land Pollution; causes, effects and remedies
- 2.2: Global Environmental Problems: Depletion of Ozone Layer –Green House Effect - Global Warming and Climate Change
- 2.3: Environmental Theory of Development: Environment Friendly Size of Firm
- 2.4: Limits to Growth Theory.

UNIT III: ENVIRONMENTAL PROBLEMS OF AGRICULTURAL DEVELOPMENT (15 Periods)

- 3.1: Technological changes in Agriculture and Environment; Excess use of Water, Fertilizers and Pesticides and Environment
- 3.2: Concept of Natural Farming – Large sized dams and Environment
- 3.3: Forest Depletion; Causes, Consequences and Remedies
- 3.4: Social Forestry.

UNIT IV: ENVIRONMENTAL PROTECTION AND ENVIRONMENTAL POLICY: (15 Periods)

- 4.1: Role of Public, Private, and Co-operative sectors in Environmental Protection
- 4.2: Environment Management Techniques: Cost Benefit Analysis – Environmental Impact Assessment- Environmental Audit
- 4.3: India's Environmental Policy: Environmental Protection Laws in India-
- 4.4: Pollution Control Boards : CPCB and SPCBs

1. **Project Report / Journal / Field Survey / Study Tour Report / Oral Examination: (20 Marks)**
2. **Teaching: 04 Hours per Week Practical: 04 Hours per Week for a batch of 10 students**
3. **Open Access to Environmental Economics as an Elective / Optional Paper**
4. **Study Tour for Environmental knowledge and awareness of students**

READING LIST:

1. Baumol, W. J. & W. E. (1997), The Theory of Environmental Policy, Prentice Hall, Englewood-Cliffs.