

Programme outcomes (POs) and Course outcomes (COs) for all programmes offered by the institutions

Programme Outcomes (POs) of B.A.

Sr. No.	PO No.	Programme Outcomes (POs) of B.A.
1	P01	The completion of the Programme will help the graduates
2	P02	Acquire knowledge in the field of humanities and social sciences
3	P03	Be sensitive to human values like respect, acceptance, empathy etc.
4	P04	Develop aesthetic and moral sense
5	P05	Create a sense of social commitment and act over various social issues for their solutions
6	P06	Prepare themselves for various competitive exams and choose post- graduate programme of their choice

Programme Outcomes (POs) of B.Sc.

Sr. No.	PO No.	Programme Outcomes (POs) of B.Sc.
1	P01	It will develop a scientific attitude to make students open minded, critical and curious.
2	P02	Meet the needs and requirements of the society and to enhance the quality and standards of education.
3	P03	Logical thinking, ability of expression of thoughts, decision making are encouraged.
4	P04	Updated education will be provided to the students at large in order to know the importance and scope of the programme.
5	P05	It will enable the students to face NET, SET, UPSC and other competitive examinations successfully.
6	P06	There will be development of skill among students in practical work, experiments and handling equipments.

Programme Outcomes B.Com.

Sr. No.	PO No.	Programme Outcomes (POs) of B.Com.
1	P01	Acquire knowledge in the field of banking, insurance, management, accounting, purchasing, business economics and finance
2	P02	Startup independently their own business
3	P03	Go for higher education in finance, commerce, CA, CS, ICWA, MBA, and M.Com.

Programme Outcomes (POs) of N. S. S.

Sr. No.	PO No.	Programme Outcomes (POs) of N. S. S.
1	P01	Making education more relevant to the present situation to meet the felt needs of the community and supplement the education of the university/college students by bringing them face to face with the rural situation.
2	P02	Providing opportunities to the students to play their role in planning and executing development projects which would not only help in creating durable community assets in rural areas and urban slums but also results in the improvement of quality of life of the economically weaker sections of the community.
3	P03	Encouraging students and non-students to work together along with the adults in rural areas. Developing qualities of leadership by discovering the talent potential among the campers, both students as well as local youth (Rural and Urban) with a view to involving them more intimately in the development program and also ensuring proper maintenance of the assets created during the camps.
4	P04	Emphasizing dignity of labour and self-help and the need for combining physical work with intellectual pursuits among youth to participate enthusiastically in the process of national

		development and promote national integration through cooperative living and co-operative action.
5	P05	While undertaking these activities, each NSS unit should envisage its programs/activities aimed at instilling discipline, building character, promotion of physical fitness and development of culture.

Cultural

Sr. No.	PO No.	Programme Outcomes (POs) of Cultural
1	P01	Exposure to lead happy and healthy life with arts and cultural activities Increased participation and enhanced experience in arts and culture through famous personalities.
2	P02	Increased availability and accessibility to arts and cultural facilities by creating entertaining environment in the society.
3	P03	Interested students who are active in this field having different skills like Singing.
4	P04	Drama, Dance etc. may get an opportunity in the television and theatre.

Sports & Physical Fitness

Sr. No.	PO No.	Programme Outcomes (POs) of Sports & Physical Fitness
1	P01	Physical fitness for healthy participants and those with controlled disease by conducting assessments of muscular strength, muscular endurance and flexibility.
2	P02	Review pre-participation health screening including self-guided health questionnaires and appraisals, exercise history and fitness assessments and recommend safe and effective exercise programs to achieve desired outcomes and goals.
3	P03	Increased participation in sports and exercise by making available the sports facilities to gain good position in the sports world.

BA / BCOM/BSC – COMPULSORY ENGLISH

PSO 1: It helps student to understand short stories and essays on a variety of important topics.

PSO 2: It makes student to acquaint them with „prose“, its meaning and importance.

PSO 3: It helps to strengthen the vocabulary.

PSO 4: The students learn grammar units and write grammatically correct sentences.

PSO 5: It also encourages them to write short reports, personal and business letters, e-mails for a variety of purposes.

PSO 6: The language empowers students to prepare for competitive examination.

BA - OPTIONAL ENGLISH

PSO 1: Students will be able to comprehend excellent pieces of prose and poetry in English literature.

PSO 2: It helps students to get acquainted with the literary genre of fiction, prose, drama, poetry, and criticism.

PSO 3: Students will be able to apply knowledge of English language to improve skills in Listening, Speaking, Reading and Writing

PSO 4: It helps them to learn, understand, speak phonetically and write grammatical English.

PSO 5: Students will be able to understand the evolution of criticism and its application in language and literature

PSO 6: It enables students to understand the universal values. It inculcates in the students the habit of reading.

Programme Special Outcomes Hindi

1. Introducing autobiography and long poem to students.
2. To make students aware of the method of official letter writing.
3. Introducing students to journalism.
4. To develop the art of translation from English to Hindi in students.
5. To make students familiar with the Hindi used in the government office through the terms defined.
6. Creating an interest in literature.
7. Imbuing the literary research attitude.

Programme Special Outcomes Marathi

1. To create interest in students about Marathi language.
2. Explain the importance of language in personality development.
3. Creating an interest in literature.
4. Learn how to use Marathi language in administrative practice.
5. Review of science literature.
6. Explain the nature of essay writing.

Programme Special Outcomes Economics

1. Understanding how different degrees of competition in a market affect pricing and output.
2. Understanding the efficiency and equity implications of market interference, including government policy.
3. To provide in depth knowledge of socio-economic aspects.
4. To familiarize with current and recent developments in Economics .
5. To enrich knowledge through problem solving, hands-on activities projects.
6. To provide a broad and comprehensive knowledge in micro and macro Economics, Public Economics, Indian Economy and Agricultural Economics.
7. To develop analytical abilities towards real world problems .
8. Developing research knowledge in economics.

Programme Special Outcomes Geography

1. After completion of program, students will be able to have in-depth knowledge of basic concepts in Geomorphology.
2. Students will be able to get acquainted with latest concepts in Geomorphology.
3. Students will get Acquaint with utility and applicaton of geomorphology in different regions and environment.
4. Students will be aware of the need of protection and conservation of different land forms.

Programme Special Outcomes History

1. Students were able to explain and critique the historical schools of thought that have Shaped.
2. Scholarly understand of their fields of study.
3. Students were able to demonstrate broad knowledge of historical events and periods and their significance.
4. Reviewing the state of the field to identify a new topic and locate their work within larger scholarly conversations.
5. Many students got great success in teaching and public sector fields.

Programme Special Outcomes Political Science

1. It focuses in detail on the political processes and the actual functioning of the political system.
2. It simultaneously studies in detail the political structure both Constitutional & administrative.
3. It emphasizes on local influences that derive from social stratification of castes and Jatis, from language, religion, ethic and economic determinants and critically assesses its impact on the political processes.

4. The purpose of this course is to explain the non -institutional political processes and Thereby to sensitize the students on informal processes of politics.
5. To provide a deeper understanding of the concepts and approaches related to political sociology.
6. To explain the social context of politics to the students.

Programme Special Outcomes Sociology

1. To get an idea regarding development of the subject.
2. A good academic background to be able to seek admission for masters degree in geography.
3. Capability of applying the knowledge in solving the real world problems.
4. Skill in cartography for data representation.
5. To know the origin of the earth, universe and solar system etc.
6. To know the demographic data.
7. To know the different settlement pattern, types, characteristics etc.
8. To know the different GIS Software, computer knowledge etc.
9. To briefly analyze bivariate and categorical data.
10. Ability to follow new stream of thoughts and theories of social thinkers.

Program Specific Outcomes of Public Admin

1. It helps students to understand the basic concepts of Public Administration can observe it as a responsible citizen.
2. It is one of the major branches of administration in a whole which acquired all spheres of human life from birth to death.
3. It introduces systematic implementation of laws and policies, theories, principles and controlling system.
4. It makes students aware of the fundamental rights and duties of Indian citizens bestowed by the Indian constitution as well as introduces Indian Parliament, its administration, President, Prime Minister. Council of Ministers, and Supreme Court.
5. Students will be able to find out the multidimensionality of problems and processes of Indian Administration and can work for reforms in it. It is also useful to develop leadership skill in students.
6. Providing a high quality education for a diverse body of public and nonprofit practitioners and pre-service students in the theories that inform the field of public administration. Supporting the practice of public administration and its ability to serve the public interest, with emphasis on the local, state and regional level.

B.A. F.Y. Public Administration

Course: Basic Principles of Public Administration Paper No. 1

After successfully completing this course, the student will be able to:

CO1) The Course introduces and provides knowledge of Public Administration CO2) To provide knowledge of the new trends in public administration

CO3) To understand the relations of public administration with other humanities would be more appropriate for solving a dynamics problem

Course: District Administration Paper No.- II

After successfully completing this course, the student will be able to:

CO1. To know District Administration.

CO2. To understand Structure and function of various Administrative offices of District Administration.

CO3. To provide knowledge of the Revenue Administration, Police administration and Judiciary system at district and taluka level.

Course: Administrative Organization and Its Principles Paper No.-III

After successfully completing this course, the student will be able to:

co1) Basic knowledge of administrative Organization and its principles.

CO2) To provide knowledge of the Functions and qualities of chief executive CO3) To understand the importance of public relations in administration.

Course: Administrative System of Maharashtra State Paper No.-IV

After successfully completing this course, the student will be able to:

CO1) TO Understand the Role of Chief Minister and State Secretariat in Maharashtra state.

CO2) To understand Structure and function of State Legislature

CO3) To provide knowledge of the state government and Administration, understand the concepts of static and dynamical electrical magnetic fields, the

B.A.S.Y. PUBLIC ADMINISTRATION

Course: Personnel Administration Paper-V

After successfully completing this course, the student will be able to:

CO1. To familiarize the students with basic process of Civil Service Recruitment in Indian Personnel Administration

CO2. To understand how to Train Civil Servants for their Better Role in Indian Governance Administration.

CO3. To know the Systematic process in Personnel Administration (Recruitment to Retirement one Personnel). Demonstrate an ability to collect data through observation

Course: State Government and Administration Paper -VI

After successfully completing this course, the student will be able to:

Col. The Course introduces and provides knowledge of State Government and Administration.

CO2. To understand process of State Judiciary. CO3. To know perceive Constitutional and Statutory Agencies.

Course: Office Administration Paper -VII

After successfully completing this course, the student will be able to:

CO1. To understand the meaning of Office Administration

CO2. To introduce the Office Procedure and Method.

CO3. To identify various problems in Office Administration

Course: District Administration Paper -VIII

After successful completion of the course the student will be able to:

CO1. To know what is District Administration means.

CO2. To understand Structure and function of various departments of District Administration

CO3. To provide knowledge of the revenue system, Judiciary system and Police administration at district level.

B.A.T.Y. Public Administration

Course: Administrative Thinkers Paper-IX

After successful completion of the course the student will be able to:

- CO1 Basic knowledge of various administrative Theories.
- CO2) The approaches of study of public administration.
- CO3) The relevance of thoughts in organizations

Course: Rural Local Government in Maharashtra Paper-X

After successful completion of the course the student will be able to:

- CO1) To Understand the Three tire system of panchayati Raj in Maharashtra state.
- CO2) Understand to how to help to Zilla Parishad, panchayat samiti and Gram Panchayat improve their overall well being.
- CO3) To develop awareness of the basic Governing system to students.

Course: Administrative Thoughts Paper XI

After successful completion of the course the student will be able to:

- CO1) To provide basic Knowledge of various modern administrative. theories
- CO2) To Understand the Views of Human Relation theory.
- CO3) To Familiarize the students with basic Knowledge of modern administrative thoughts.

Course: Urban Local Government in Maharashtra Paper-XII

After successful completion of the course the student will be able to:

- CO1) To Understand the Role of Urban Local Government in Development of Nation.
- CO2) Develop a Local Leadership in urban area.
- CO3) To Understand the Role of urban local Institutions in urban development.
- CO4) To develop of the basic Governing system to students. functions and eigen values

Department of Economics Course Outcomes

Class	Paper Title and No.	Course Outcomes After completion of the course the students will be able
BAFY Semester I & II	Micro Economics – I & III	1. To understand basic definitions and concepts of Economics.
		2. To study the nature and scope of Economics
		3. To study the demand and supply analysis.
		4. To make the comparative analysis of cardinal and ordinal utility approach
		5. To tackle the current economic problems
BAFY Semester I & II	Statistical Methods – II & IV	1. Prepare themselves to understand the statistical methods.
		2. Study technical papers like Quantitative Technique, Mathematical Economics and Econometrics
		3. Understanding of the basic concepts of data interpretation with the help of Statistics will be generated.
		4. Students will able to understand basic statistical tools of data analysis.
		5. This course is useful for the students to get job where the data analysis is comprehensively used.
BASY Semester III & IV	Macro Economics – V & VII	1. To prepare the students to understand the basic introductory principles of macroeconomic theory.
		2. To help students to understand the basic analytic framework and models of macroeconomics in a gradual manner.
		3. To equip students to analyses the real worldeconomic issues in a rational manner.
		4. To understand and comment upon real economic issues like inflation, money supply, GDP and their inter linkages
		5. To understand national macro-economic framework

BASY Semester III & IV	Quantitative Techniques – VI & VIII	1. To apply quantitative skill to real economic problems.
		2. To study the rank correlation coefficient and apply practically.
		3. To study the various techniques in statistics.
		4. To study the mathematical techniques in the competitive exams.
		5. To study for the increase of the numerical efficiency among the student.
BATY Semester V & VI	Quantitative Techniques – (DSE- I & II) IX & XI	1. To apply quantitative skill to real economic problems.
		2. To study the rank correlation coefficient and apply practically.
		3. To use quantitative techniques in research
		4. To appear various competitive exams related to statistics
		5. Understand and analyse the data published by various sources
BATY Semester V & VI	Indian Economy (GE- I & II) X & XII	1. To expand their knowledge about Indian Economy.
		2. To know more about opportunities offered by Indian Economy.
		3. To know more about challenges of Indian Economy.
		4. To assess economic policies of Indian economy.
		5. To suggest various measures to policy makers for solution of economic problems.

COURSE OUTCOMES

B. A. First Year Optional English

Name of the course: Paper 1: Understanding Prose Fiction

Intended Course Outcomes 1) Learners will be able to appreciate the texts in English Prose Fiction genre. 2) Through responding to different texts of Prose Fiction, the learners will acquaint themselves with the wide range of expressions in the English language. 3) Learners will carry out the tasks of interpretation of novels and short stories by studying the critical analyses of the prescribed texts.

Name of the course: Paper 2- : Understanding Poetry in English

Intended Course Outcomes: 1) Learners will be able to appreciate English Poetry with an understanding of diverse poetic forms and themes. 2) Through responding to different Poetic texts, the learners will acquaint themselves with the various nuances of poetic expressions in the English language. 3) Learners will carry out the tasks of interpretation of poems by studying the critical analyses of the prescribed texts.

Name of the course: Paper 3- : Understanding Non-Fictional Prose in English

Intended Course Outcomes: 1) Learners will be able to appreciate English Non-fictional prose with an understanding of various prose writings as developed through ages. 2) Through responding to different Prose writings learners will be enriched in the use of prose for diverse thematic expressions. 3) Learners will attain a certain degree of proficiency in the interpretation of English prose.

Name of the course: Paper 4- : Understanding Drama in English

Intended Course Outcomes: 1) Learners will be able to appreciate English Drama with an understanding of various dramatic texts. 2) Through responding to different plays learners will be introduced to various types of dramatic experiences. 3) Learners will be able to critically analyse texts from different dramatic genres.

B. A. First Year Compulsory English

Name of the course: (Ability Enhancement Compulsory Course): English Communication B.A./B.Sc./B.Com

First Year (Semesters I and II)

Intended Course Outcomes: 1) Through responding to and composing a wide range of texts, the learners will begin to use the English language in the best possible manner. 2) Through the close study of texts, students will develop knowledge, understanding and skills in order to communicate effectively in English. 3) Learners will value and appreciate the importance of the English language as a key to learning. 4) Learners will gain the personal enrichment from study of literary pieces in English. 5) Learners will acquire ability to communicate through oral and written texts.

B.A. II YEAR OPTIONAL ENGLISH

Semester III Paper No. V Title: Study of Poetry- Sonnets & Elegy

Intended Course Outcomes: 1) the students will acquaint the students with the literary genre of „poetry,“ particularly sonnet & Elegy, 2) the students are introduced the meaning, types, features and functions of “sonnet Elegy.” 3) the students are encouraged to read, understand, and appreciate sonnet, elegy 4) The students are introduced with the world-famous sonnets and elegy. 5) The students are inculcated the habit of reading Sonnet & Elegy.

Semester III Paper No. VI Title: Study of Prose- Essays

Intended Course Outcomes: 1) the students are acquainted with the literary genre of „prose,“ particularly Essays. 2) The students are introduced with the meaning, types, features and functions of “Prose -Essays” 3) The students are encouraged to read, understand, and appreciate Essays. 4) The students are inculcated the habit of reading Essays.

Semester IV Paper No. VII

Title: Study of Poetry- Odes and Ballads

Intended Course Outcomes: 1) The students are acquainted with the literary genre of „poetry,“ particularly Odes and Ballads. 2) They are introduced with the meaning, types, features and functions of “Odes and Ballads” 3) They are encouraged to read, understand, and appreciate Odes and Ballads. 4) They are introduced with the world-famous Odes and Ballads. 5) They are inculcated in the habit of reading Odes and Ballads.

Semester IV Paper No. VIII Title: Study of Prose- Autobiography

Intended Course Outcomes: 1) They are acquainted with the literary genre of „prose,“ particularly Autobiography. 2) They are introduced with the meaning, types, features and functions of “Autobiography.” 3) They are encouraged to read, understand, and appreciate Autobiography. 4) They are inculcated in the habit of reading Autobiography.

B.A. II YEAR COMPULSORY ENGLISH

Compulsory English - Second Year (Ability Enhancement Compulsory Course)

Intended Course Outcomes: 1) The students are introduced with short stories, essays on a variety of important topics, 2) They are encouraged to understand and appreciate prose writings of well-known writers, 3) They are acquainted with „prose“, its meaning and importance, 4) They are made to learn grammar items, such as Idioms, Phrases, and reported speech etc. 5) They are enabled to write grammatically accurate sentences, by identifying correct reported speech in writing English. 6) They are prepared for competitive exams by encouraging them to learn English.

Compulsory English - Second Year (Ability Enhancement Compulsory Course)

Intended Course Outcomes: 1) The students are encouraged to understand and appreciate short lyrical poems, 2) They are motivated to enjoy the inherent rhythmic beauty of lyrical poetry, 3) They are acquainted with famous world poets such as Wordsworth, Blake, Keats, Byron, Browning, Langston Hughes, Tagore etc, 4) They are prepared for competitive exams by encouraging them to learn English, 5) They are developed in communicative competence by encouraging them to learn to listen, speak, read and write properly, 6) They are developed in the language skills of listening, speaking, reading and writing in the students so that they could use the English language in day to day, practical situations, 7) They are made to understand the importance of non-verbal communication, i.e. body language so as to make communicative situations more meaningful, positive and effective.

Skill Enhancement Course (SEC) - Second Year Skills for Employability-I Semester III & Skills for Employability-II Semester IV

Intended Course Outcomes: 1) Developing a course that meets requirements of the 21st century learners 2) Building Vocabulary comprising Spelling and Pronunciation in English 3) Developing dialogues for Conversation Skills 4) Developing activities for written communication 5) Developing strategies for professional skills and Soft Skills.

B.A. III YEAR OPTIONAL ENGLISH

DSE I - Semester V Title of the course: Literary Theory and Criticism (A) Introduction to Literary Criticism Course/Paper code: DSE-ENG- I Marks 75 (ESE 40 + CA 35) Credits -3

Course Outcomes: 1) The knowledge about classical masters of criticism is disseminated 2) Critical ability to read texts in the light of past theories is introduced.

GE I –Semester V Title of the course: Modern English Structure (A) Introduction to English Speech Sounds Course/Paper code: GE-ENG- I Marks 75 (ESE 40 + CA 35) Credits -3

Course Outcomes 1) The practical aspects of the English language are demonstrated 2) Ability to comprehend and reproduce Standard English is introduced.

Semester VI

Title of the course: Literary Theory and Criticism (B) Introduction to Literary Theory
Course/Paper code: DSE-ENG Marks 75 (ESE 40 + CA 35) Credits -3

Course outcomes: 1) The knowledge about contemporary theories of criticism is disseminated 2) Critical ability to carry out practical criticism is introduced.

VI Title of the course: Modern English Structure (A) Introduction to English Grammar
Course/Paper code: GE-ENG- II Marks 75 (ESE 40 + CA 35) Credits -3
Course 1) The course induces an understanding of the mechanism of the English Language 2) The notion of grammatical correctness in practical usage is highlighted

Course outcomes: 1) Learners are enabled to understand the logics and practices in the field of English grammar 2) The foundational structure of English grammar is explained 3) Learners would be able to use the language with grammatical correctness

Skill Enhancement Course (SEC) - Third Year Title of the course: Life Skills –I- Semester V
Course/Paper code: SEC-ENG- III Credits: 02 (Marks: 50) Periods: 45 (ESE – 25 Marks) (CA- 25 Marks)

Course outcomes: 1) Developing personal and social skills in the learners 2) Creating gender awareness 3) Developing skills for individual and group activities

Skill Enhancement Course (SEC) - Third Year Title of the course: Life Skills -II - Semester VI
Course/Paper code: SEC-ENG- IV Credits: 02(Marks: 50) Periods: 45 (ESE – 25 Marks and CA- 25 Marks)

Course outcomes: 1) the students will learn Digital Literacy 2) they will understand the Importance of Digital Literacy 3) they will be able for Interview, Seminar, and Topic Presentation. 4) they will understand Online Transactions and Search Skills, I C T tools: a) Massive Open Online Courses (MOOC) and their utility b) Generic tools c) P2P Networking and its uses d) Cyber security and Network Safety

Department of Geography

Course Outcome -UG

Class: **BAFY/ Sem.-I**

Paper I: An Introduction to Physical Geography Course Outcome After the successful completion of this course the students will be able to: 1. Know basic concepts of physical geography 2. Know the development of various branches physical geography 3. Familiar with the formation and nature of solar system 4. Know the formation of continents and Oceans 5. Acquire the idea of rotation and revolution of the earth and its impact Class:

BAFY/ Sem.-I Paper II: An Introduction to Human Geography Course Outcome After the successful completion of this course the students will be able to: 1. Know basic concepts of Human Geography and its various branches 2. Know evolution of human race and its classification 3. Know the different races of the world and respect them for peaceful coexistence 4. Know the skills human adaptation to nature 5. Understand man environment relationship

Class: **BAFY/ Sem.-I Paper III: Practical Geography Course Outcome** After the successful completion of this course the students will be able to: 1. Know types of maps, scales, relief and landforms Utility 2. Develop skills to decipher landforms using contours 3. Develop skills to convert the scales 4. Develop abilities to interpret the toposheets 5. Know how to calculate time using longitudes

Class: **BAFY/ Sem.-II Paper IV: Geomorphology Course Outcome** After the successful completion of this course the students will be able to: 1. Know the interior of the earth and rocks 2. Know endogenic and exogenic forces and their resultant landforms 3. Know the evolutionary process of landforms 4. Develop skills to identify the landforms and their agents 5. Know the types of rocks and weathering

Class: **BAFY/ Sem.-II Paper V: Population Geography Course Outcome** After the successful completion of this course the students will be able to: 1. Know the dynamics of population geography 2. Understand the factors affecting on growth and distribution of population 3. Know the phases of transition of population growth 4. Know the structure and composition of population 5. Assess the impact of population explosion

Class: **BAFY/ Sem.-II Paper VI: Practical Geography Course Outcome** After the successful completion of this course the students will be able to: 1. Understand types of population density 2. Develop the skills to interpret population density 3. Project, analyze and plan the population growth 4. Use representation tools to interpret the population data

Class: **BASY/ Sem.-III Paper VII: Climatology Course Outcome** After the successful completion of this course the students will be able to: 1. Know the climate and its various components and their dynamics. 2. Know the climate since the formation of the earth and changes those have occurred 3. Know climate change and its impact on the globe 4. Understand climatic regions of the world 5. Understand Global Warming, Ozone Depletion

Class: **BASY/ Sem.-III Paper VIII: Economic Geography Course Outcome** After the successful completion of this course the students will be able to: 1. Know the basic concepts of Economic Geography and its branches 2. Know the significance of study of Economic Geography 3. Know the types of agriculture and factors affecting on them 4. Describe the distribution of resources and industries, 5. Assert the role of transportation and trade in the economic development

Class: **BASY/ Sem.-III Paper XI: Practical Geography Course Outcome** After the successful completion of this course the students will be able to: 1. Understand different types of climatic data 2. Develop the skills of presentation and interpretation climatic data 3. Analyze climatic variations through the study of Indian Daily Weather Reports 4. Acquaint with Weather Instrument and their uses 5. Develop the skill of presenting meteorological data with the help of graphs and figures

Class: **BASY/ Sem.-III Paper SEC-I: Tourism Geography Course Outcome** After the successful completion of this course the students will be able to: 1. Know the various aspects of tourism and tourists. 2. Learn the skills of arrangement and organization of tours. 3. Study the behavioural aspects of tourists in tourist places.

Class: **BASY/ Sem.-IV Paper X: Oceanography Course Outcome** After the successful completion of this course the students will be able to: 1. Know the nature and significance of study of Oceanography 2. Understand the properties and dynamics of ocean water 3. Assess the importance of Ocean Currents in global temperature stability 4. Have the knowledge of ocean resources. 5. Know the types of oceanic currents and their distribution.

Class: **BASY/ Sem.-IV Paper XI: Settlement Geography Course Outcome** After the successful completion of this course the students will be able to: 1. Know the fundamentals of Settlement Geography 2. Understand the process of evolution settlements 3. Assess the factors governing of rural and urban settlement 4. Describe

the factors affecting on shapes and patterns of settlements 5. Know the process of Urbanization and its impact

Class: **BASY/ Sem.-IV** Paper XII: Practical Geography **Course Outcome** After the successful completion of this course the students will be able to: 1. Acquire the skills of representation of geographical data 2. Learn data collection tabulation of geographical data 3. Develop the technique of representation and interpretation of geographical data

Class: **BASY/ Sem.-IV** Paper SEC-II: Soil Geography **Course Outcome** After the successful completion of this course the students will be able to: 1. Know formation, types, and properties of soil 2. Know the types of soils, their formation, and fertility levels 3. Have the knowledge of physical and chemical composition of soil.

Class: **BATY/ Sem.-V** Paper XIII: Development of Geographical Thought Part-I **Course Outcome** After the successful completion of this course the students will be able to: 1. Know the development of geographical thoughts from ancient to modern times 2. Know the development of various branches of human and physical geography 3. Know the steps of formulation of hypothesis, theories and models 4. Know the contribution of geographers to the field of research and planning 5. Appreciate the diversity of the subject and its contribution to human and physical geography

Class: **BATY/ Sem.-V** Paper XIV: Geography of India Part-I **Course Outcome** After the successful completion of this course the students will be able to: 1. Know the location and physical settings of India 2. Understand the significance of unity in the diversity 3. Acquaint the regional knowledge of India 4. Appreciate the regional diversity and to develop acclimatization skills 5. Make judicious and optimum use of natural resources

Class: **BATY/ Sem.-V** Paper XV: Practical Geography **Course Outcome** After the successful completion of this course the students will be able to: 1. Have the knowledge of making of Projections 2. Know the characteristics and uses of different projections 3. Know the use of statistics in geography 4. Know the basic skills of surveying 5. Know the use computer and GIS in geographical studies

Class: **BATY/ Sem.-V** Paper SEC-III: An Introduction to Research Methodology **Course Outcome** After the successful completion of this course the students will be

able to: 1. Know the basics of research methodology 2. Do data collection, analysis and interpretation 3. Study the subjects in a systematic and scientific way

Class: **BATY/ Sem.-VI** Paper XVI: Development of Geographical Thought Part-II

Course Outcome After the successful completion of this course the students will be able to: 1. Know the development of geographical thoughts from ancient to modern times 2. Know the development of various branches of human and physical geography 3. Know the steps of formulation of hypothesis, theories and models 4. Know the contribution of geographers to the field of research and planning 5. Make use of models to the know real world phenomenon

Class: **BATY/ Sem.-VI** Paper XVII: Geography of India Part-II

Course Outcome After the successful completion of this course the students will be able to: 1. Know the location and physical settings of India 2. Understand agricultural revolution and its impact on agriculture 3. Know the Industrial regions and Indian Economy 4. Know the growth of Urbanization and its problems and planning 5. Know the contemporary issues in India

Class: **BATY/ Sem.-VI** Paper XVIII: Practical Geography

Course Outcome After the successful completion of this course the students will be able to: 1. Have the knowledge of making of Projections 2. Know the characteristics and uses of different projections 3. Know the use of statistics in geography 4. Know the basic skills of surveying, data collection and report writing 5. Know the use computer and GIS in geographical studies

Class: **BATY/ Sem.-VI** Paper SEC-IV: Interpretation of Aerial Photograph and Satellite Imagery

Course Outcome After the successful completion of this course the students will be able to: 1. Know the basics of Aerial Photography and Remote Sensing 2. Develop the skills of interpretation of aerial photographs and satellite imageries 3. Know the types of satellites and Sensors.

Department Of History

B.A. First Year Optional History

Paper - I History of Ancient India (upto 647 A.D.)

Course Outcomes :

Co1: To understand the historical advancement of Ancient India from stone age to 647 A.D.

CO2 :: To understand the cultural history of Indus valley civilization and Vedic age

CO3 :To develop the broad view about the religious development in Ancient

CO4: To create interest among students about Ancient periods Empire and Dynasty.

CO5: To introduce to student about the contribution of various king in Ancient India.

Department Of History

B.A. First Year Optional History

Paper - II History of India (648 to 1526A.D.)

Course Outcomes :

C01: To understand the historical events from 648 A.D. to 1526 A.D..

Co2 : To understand the Archaeological and Literary sources.

CO3 : To develop a broad view about various dynasty..

C04: To create an interest among the students about muslim invasions and

Dynasty. C05: This paper is useful to understand the political History.

Department Of History B.A. Second Year Optional History

Paper - HISI Chhtrapati Shivaji and his Times (1630 to 1707A.D.)

Course Outcomes:

C01: To understand the real history of Chhtrapati Shivaji and his Times. CO2: To understand the benevolent nature of Chhtrapati Shivajis regime.

CO3: To focus contribution of Chhtrapati Shivaji in building an independent swarajya.

C04: To introduce the various policies regarding agriculture, water management, Environment and Scientific approach of Chhtrapati Shivaji Maharaj.

Department of History B.A. Second Year Optional History

Paper - H16-IL History of India(1526 to 1707A.D.)

Course Outcomes :

CO1: students will understand the historical of Mughal period 1526 to 1707 A.D.

CO2: students will understand the political aggressiveness of Mughal and British in this age. CO3 : It will develop the broad view about the religious development of Mughal and British in india.

C04: To create interest among students about Mughal Empire and British rule.

C05: It will introduce the students about the contributions of Mughal Badshah and British governors.

**Department of History B.A. Third Year Optional History
Paper - HIS-L History of Modern India(1857 to 1947A.D.)**

Course Outcomes :

CO1 : To introduce India freedom struggle Movements in broad manner.

CO2: To instill the spirit of nationalism among students. CO3: Make the students responsible citizen of the nation.

CO4: To inculcate moral qualities like Devotion Unity, Fraternity, Brotherhood in students.

CO5: To make the students aware of criticizing.

**Department Of History B.A. Third Year Optional History
Paper - HIS-I Social Reformers in Modern Maharashtra**

Course Outcomes :

CO1: To acquaint the students with social change process in Modern Maharashtra.

CO2 : To introduce the educational development in Modern Maharashtra.

CO3:To generate curiosity to study the Modern times History Of Maharashtra.

CO4: To enhance the perception ability of the students.

CO5: To widen the broad view of the students about the society.

Dep. Sociology

B.A.—Sociology

Programme Outcomes Summary

After successful completion of course the students will be able to :

Co 1 : Know basic concepts of Sociology.

Co 2: Know the various social Institutions and related issues and recent situations.

Co 3: Introduce various Transformative movements and related laws.

Co 4: Know Human rights and its relationship with society.

Co 5 : Know Fundamental Research Methodology and theories.

Paper 1 : Introduction to Sociology -After successful completion of course the students will be able to :.

Co 1: know the basic concepts.

Co 2: Enable the students to understand the various social process in their day to day life.

Co 3: understand the society context of sociology theory and knowledge concepts.

Co 4: understand how social phenomena effects an individual life.

Co 5: understand the basic concepts in sociology and their fundamental theoretical interrelationship and demonstrate the relevance"s.

Paper 2: New changes in social institutions: after successful completion of course the students will be able to :.

Co 1: know the diverse in Indian Society.

- Co 2: know the various social Institutions.
- Co 3: know recent situations of various Institutions and related issues.
- Co 4: know new concepts related to social Institution.
- Co 5: Common to all society social group, organization and social Institutions.

Paper 3: Basic concept in sociology -After successful completion of course the students will be able to :

- Co 1: know the new concepts in sociology.
- Co 2: know the new prospective and approaches of Indian Society.
- Co 3: Develop logical thinking
- Co 4: know distinct cultural milieu and value attitude system.
- Co 5: Understand the concepts and fundamental theoretical interrelationship's and Demonstrate the relevance.

Paper 4: Contemporary Social Institutions- After successful completion of course the students will be able to :.

- Co 1: To understand the thoughts of modern social reformers of India.
- Co 2: know Modern thought and perspectives.
- Co 3: understand contemporary issues and challenges of country.
- Co 4: Develop sociological understanding which develops and buildup capacities of the young generation of the country.
- Co 5: Produce positive social change through active intervention.

Paper 5: Transformative knowledge of social movements in India -After successful completion of course the students will be able to :.

- Co 1: Awareness create of various movement.
- Co 2: Eradicate the social problem students will contribute.
- Co 3: Analyze the social life.
- Co 4: Create social bounding among the students.
- Co 5: About various communities & development programs.

Paper 6: Human Rights & society-After successful completion of course the students will be able to :..

- Co 1: Get Knowledge of Human Rights its importance.
- Co 2: Human Right helpful for the Development of society.
- Co 3: Get Knowledge of various commissions & their work.
- Co 4: Get Knowledge of Government policies for the welfare of people.
- Co 5: Eradicate the injustice & exploitation in the society.

Paper 7: Western Sociological Thinkers-I-After successful completion of course the students will be able to :..

- Co 1: Know systematic Methods or study.
- Co 2: Understand Sociological theory.
- Co 3: Train students for the application of these theories to social situations.
- Co 4: Familiarized themselves with the different sociological perspectives and theories.
- Co 5: Equip themselves with theoretical insights to know analysis and interpret the social Scenario around them.

Paper 8: Modern Sociological theories.-I-After successful completion of course the students will be able to :..

Po 1: Understand the major modern theories.

Po 2: Understand the modern perspectives.

Po 3: Develop Conceptual Framework for the analysis if non logical element in human action.

Po 4: Functional perspective of society.

Co 5: Know Micro sociologist contribution to Sociology.

Paper 9: Methods of social Research. -After successful completion of course the students will be able to :

Co 1: Get fundamental Research Methodology Knowledge.

Co 2: The importance of social research.

Co 3: Provide scientific thinking and rationalizing the minds.

Co 4: Conceptual objectives, tools and techniques of Research Methodology.

Co 5: Develop scientific attitude.

Paper 10: Modern Sociological Thoughts in India-II -After successful completion of course the students will be able to :

Co 1: Helpful themselves to introduce with modern Indian Social Thinkers to understand their thoughts and built their own ideas.

Co 2: Percolate and the philosophy and Principles.

Co 3: Develop the principles to disseminate the constitutional literacy at grass roots level of society.

Co 4: Get idea for solving the society problems.

Co 5: Develop the ideology of the social references.

Paper 11: Fundamental Indian Sociological Thinkers-II-After successful completion of course the students will be able to :

Co 1: Know Contribution of Indian Sociologist to Sociology.

Co 2: Know various perspectives of Indian Society.

Co 3: Know various study method of Indian Society.

Co 4: Get Knowledge if New Concepts by Indian Sociologist.

Co 5: Improve logical and thinking skill.

Paper 12: Techniques of Social Research-II-After successful completion of course the students will be able to :

Co 1: provide an understanding of the nature of social phenomena"s

Co 2: Understand the studies of social reality.

Co 3: Get base for scientific attitude

Co 4: Get job in various research field like research institution, corporate sector etc.

Co 5: Get thevarious tools and technical data collection.

Course Outcomes Political Science

B.A First Year

Semester - I Introduction of Political Concepts P-1

Students will explain the evolution and usage of these concepts, ideas and theories with reference to individual thinkers both historically and analytically. The different ideological standpoints with regard to various concepts and theories are to be critically explained with the purpose of highlighting the difference in their perspectives and in order to understand their continuity and change. Student will understand the basic Political concepts by standing the course. Students will be able to solve the Political problems by standing this tourse. Students will acquire the judgment power by standing the various Political ideas, concepts and other Political issues concern with Politics

B.A First Year

Semester - I Government and Politicsof Maharashtra P-11

On completion of the course, the student shall be able to the patterns of state politics especially in the light of politics of Maharashtra. It not only deals with evolution or formation of Maharashtra state but focus on the changing nature of political culture thereof, and the role of different regional parties in shaping states political system. Followed by structure and function of state government, state legislature, and local self-government, followed by Electoral process which is responsible for stability or instabilityof Maharashtra political system. Students will understand the formation, Government andother Political issues concern with Maharashtra Government. Student will be to solve the Political problems by studying this course. Pupils will acquire to understand various Political issues, Political process and Political activity. Students get various political ideasconcern with state Government and other relevant Political issues.

B.A First Year

Semester - II Introduction of Political Concepts P- III

Students will explain the evolution and usage of these concepts, ideas and theories with reference to individual thinkers both historically and analytically. The different

ideological standpoints with regard to various concepts and theories are to be critically explained with the purpose of highlighting the difference in their perspectives and in order to understand their continuity and change. Student will understand the basic Political concepts by standing the course. Students will be able to solve the Political problems by standing this course. Students will acquire the judgment power by standing the various Political ideas, concepts and other Political issues concern with Politics.

B.A First Year

Semester - II Government and Politics of Maharashtra P-IV

On completion of the course, the student shall be able to know the patterns of state politics especially in the light of politics of Maharashtra. It not only deals with evolution or formation of Maharashtra state but focus on the changing nature of political culture thereof, and the role of different regional parties in shaping states political system. Followed by structure and function of state government state legislature, and local self-government, followed by Electoral process which is responsible for stability or instability of Maharashtra political system. Students will understand the formation, Government and other Political issues concern will Maharashtra Government. Student will be to solve the Political problems by studying this course. Pupils will acquire to understand various Political issues, Political process and Political activity. Student get various political ideas concern with state Government and other relevant Political issues. This course acquaints students with the constitution, design of state structure, institutions and their actual working overtime. The Indian constitution accommodates conflicting impulses of liberty and justice, territorial - decentralization and a strong union for instance within itself.

B.A Second Year

Semester III

INDIAN CONSTITUTION – Paper- V

The course traces the embodiment some of these conflicts in constitutional provisions and shows how thus have played out in Political practices. In further. Encourages a study of state institution in their mutual interaction with the larger extra constitutional environment. Students will acquire knowledge of the basic structure, processes & trends of International Politics. To understand the conceptual framework needed to systematic analysis of World Politics, understand and be capable of evaluating the validity of constructivist approach.

B.A Second Year Semester – III

INTERNATIONAL RELATIONS - Paper VI

To understand theories & concepts of International Relations, International Organization and non government organizations, Role of UN, International Law and contemporary critical issues in World politics, study of International Relations and develop the ability to think critically above current issues and the future of the world order., political participation. Democracies with special reference to India.

B.A Second Year Semester III

SEC-1 - Election

Students will be able to debates, principles & practices of Election Management. Election, electoral, voting behavior public opinion of the context of

It will familiarize the students with how to conceptualize & measures of election management using quantitative methods, with particular attending management being paid to development basic skills pertaining to the collection, analyze and utilization of data.

B.A Second Year Semester IV

INDIAN GOVERNMENT AND POLITICS - Paper VII

On completion of the course, the student shall be able to know the patterns of state politics especially in the light of politics of India. It deals with evolution or formation of India focus on the changing nature of political culture thereof, and the role of different regional parties in shaping states political system.

B.A Second Year Semester IV

INTERNATIONAL ORGANISATION & ISSUES - Paper VIII

Students will acquire knowledge of International Organization and non- government organizations, Role of UN, International Law and contemporary critical issues in World politics, study of International Relations and develop the ability to think critically above current issues and the future of the world order.

This course will give introduction to the students of political journalism aims to provide voters with the information to formulate their own opinion and participate in community, local to global matter that will affect then.

Political SEC II - B.A Second Year Semester

Political journalism is provided through different mediums in print, broadcast, online Journalism reporting, instant coverage of campaign, politics, event news, government status, election updates etc.

B.A Third Year Semester - V

INDIAN POLITICALTHOUGHT Paper IX

Students will able to deals with the main sources of the political traditions in modem India and focuses the development of social Institution and as well as various patterns of politics that emerged in modern India.

This course will be encouraged students to understand and decipher the diverse and often contesting ways in which the ideas of nationalism, democracy and social transformation were discussed in Pre- and Post independence India.

B.A Third Year Semester - V

WESTERN POLITICAL THINKER Paper X

The course will narrate students the legacy of the thinkers and orient them about continuity and change within the western political tradition. It helps them to study historical aspects western state and society.

B.A Third Year Semester - VI

POLITICAL IDEOLOGY Paper XI -

This paper will helpful and encourage students to know the actual working of the houses the sittings, the role of the presiding officers, the Question Hour. Acknowledge students with various classical political ideologies and its contemporary relevance.

B.A Third Year Semester - VI Paper XII

MODERN POLITICAL AND ANALYSIS

This paper content will helpful for student to draw new meaning as per recent time they can understand new concept of political science in the reference of modern age.

B.A Third Year

Semester - VI SEC-IV - INDIAN DEMOCRACY AND GOOD GOVERNANCE

This Course will helpful and encourage students to Acknowledge Democratic & Good Process in India

Programme Specific Outcomes (PSOs) of B.Sc. Chemistry

Sr. No.	PSO No.	Programme Specific Outcomes (PSOs) of B.Sc. Chemistry
1	PSO 1	To understand the fundamentals, principles, mathematical concepts and recent developments in the subject area.
2	PSO 2	To enable the students to understand basic concepts, nomenclature, functional groups, hydrocarbons, aromaticity, and fundamental term in organic chemistry.
3	PSO 3	Students are able to know the elements present in nature & its properties
4	PSO 4	The practical course is in relevance to the theory courses to improve the understanding of concepts in chemistry
5	PSO 5	To development of practical skills of the students
6	PSO 6	To promote inspire the students towards competitive exams in chemistry

Programme Specific Outcomes (PSOs) of B.Sc. Zoology

Sr. No.	PSO No.	Programme Specific Outcomes (PSOs) of B.Sc. Zoology
1	PSO1	To make aware of natural resources and environment and the importance conserving the same.
2	PSO2	To develop ability for the application of the acquired knowledge in the fields of life so as to make our country self reliant and self sufficient.
3	PSO3	To appreciate and apply ethical principles to animal sciences research the studies.
4	PSO4	To develop skill in practical work, experiments, equipments and laboratory use along with collection and interpretation of animal materials and data.
5	PSO5	To expose themselves to the animal diversity amongst life forms.
6	PSO6	To develop an ability to work on their own and to make them fit for the society.
7	PSO7	To develop an scientific attitude to make students open minded, critical and curies.
8	PSO8	To impart knowledge of zoology (animal sciences) as the basic objective of education.

9	PSO9	To update the curriculum by introducing recent advances in the subject and enable the students to face NET,SET,UPSC and other competitive examination successfully.
10	PSO10	To provide an updated education to the students at large in order to know the importance and scope of discipline and to provide

Programme Specific Outcomes (PSOs) of B.Sc. Mathematics

Sr. No.	PSO No.	Programme Specific Outcomes (PSOs) of B.Sc. Mathematics
1	PSO1	Built up confidence by developing a feel for numbers, patterns and relationships.
2	PSO2	Provide with the opportunity to acquire mathematics to reach it to at least key stage UG level
3	PSO3	Enable us to start the postgraduate basic training of mathematics as it is a requirement of the training of Basic application of Mathematics
4	PSO4	Improve students chances of employment
5	PSO5	Solve the problems independently & interpret the results.
6	PSO6	Communicate and apply mathematical concepts to solve real life problems
7	PSO7	Understand and apply mathematical principles and their applications
8	PSO8	Develop the abilities to reason logically, to classify, to generalize and to prove
9	PSO9	Acquire a foundation appropriate to their further study of Mathematics and of other disciplines

Programme Specific Outcomes (PSOs) of B.Sc. Microbiology

Sr. No.	PSO No.	Programme Specific Outcomes (PSOs) of B.Sc. Microbiology
1	PSO1	Take care of fast paced development in the knowledge of microbiology.
2	PSO2	Meet the needs and requirements of the society and to enhance the quality and standards of Microbiology Education.
3	PSO3	Solve complex problems in CSIR-NET/SET/GATE
4	PSO4	Get tune with further studies of their area of interest of Microbiology
5	PSO5	Become good teacher in Microbiology

6	PSO6	Provide a broad knowledge of skills based on microbiological techniques.
7	PSO7	Introduction of various fields like agricultural micro, medical, pharmaceutical, food microbiology, genetic engineering, environmental microbiology.
8	PSO8	Get placed in Agro, Pharma, food related industries.
9	PSO9	Provide intellectual leadership in Microbiological sciences, which is of direct benefit to the nations.
10	PSO10	Inculcate specific skills in independently comprehending, analyzing modeling and solving problems at a high level of abstraction.
11	PSO11	Create and aptitude for Microbiology in those students who show a promise for higher studies and creative work in Microbiology.
12	PSO12	Create confidence in others, for equipping themselves with that part of Microbiology which is needed for various branches of Sciences or Humanities in which they have aptitude for higher studies and original work.

Programme Specific Outcomes (PSOs) of B.Sc. Botany

Sr. No.	PSO No.	Programme Specific Outcomes (PSOs) of B.Sc. Botany
1	PSO1	The program will provide an updated education to the students at large in order to know the importance and scope of the discipline.
2	PSO2	It will provide mobility to students to other university or state.
3	PSO3	It will enable the students to face NET, SET, UPSC and other competitive examinations successfully.
4	PSO4	The students will get knowledge of plant science as the basic objective of education.
5	PSO5	It will develop a scientific attitude to make students open minded, critical and curious.
6	PSO6	The students will develop an ability to work on their own and to make them fit for the society.
7	PSO7	The students will expose themselves to the diversity amongst life forms.

8	PSO8	There will be development of skill among students in practical work, experiments, equipments and laboratory use along with collection and interpretation of plant materials and data.
9	PSO9	The students will get awareness about natural resources and environment and the importance of conserving the same.
10	PSO10	The students will be able to apply the acquired knowledge in the fields of life so as to make our country self-reliant and self-sufficient.

Program Specific Outcomes (PSOs) Of B.Sc. Computer Science

Sr. No.	PSO No.	Program Specific Outcomes (PSOs) Of B.Sc. Computer Science
1	PSO1	Program focuses on giving knowledge of computer from basics to different programming languages like C, C++, JAVA, VB.NET etc.
2	PSO2	It will provide the knowledge of Database, Different types of Database Software, its application & implementation in real life software's.
3	PSO3	It will enable the student for developing websites using different scripting languages.
4	PSO4	It will enable the student for developing application /software's using different programming languages.
5	PSO5	Program focuses on giving knowledge of Computer Skill Like java script, Linux and shell programming, R Lang, XML programming, SQL server, MySQL etc. so that students have hands on practice on such subjects.
6	PSO6	The students will get awareness about the new subjects like Android, Python, JSP Servlet etc. which are used in MNC
7	PSO7	Due to some courses like Digital Image Processing student will take initiative in research Field
8	PSO8	Program also focuses on giving knowledge of Basic Networking, Mobile computing so that student will select the Computer Networking field as a Career
9	PSO9	students will able to take up self-employment in Indian & global software market.
10	PSO10	Program also focuses on to Meet the requirements of the Industrial standards.

Program Specific Outcomes (PSOs) Of Physics

Sr. No.	PSO No.	Program Specific Outcomes (PSOs) Of Physics
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1	PSO1	The program will provide an updated education to the students at large in order to know the importance and scope of the discipline.
2	PSO2	The Program will provide the need of the students to understand the basics of Physics
3	PSO3	The Students will learn about the basic principles in the development of modern physics. The topics covered in the course build a basic foundation of undergraduate physics students to study the advance branches: quantum physics, nuclear physics, particle physics and high energy physics. The course contains the study of Planck's hypothesis, photoelectric effect, Compton effect, matter waves, atomic models, Schrodinger wave equations, and brief idea of nuclear physics.
4	PSO4	It will provide mobility to students to other university or state for Higher Education.
5	PSO5	It will enable the students to face MPSC, UPSC and other competitive examinations successfully.
6	PSO6	The accumulation of facts of nature and the ability to link the facts to observe and discover the laws of nature i.e. develop an understanding and knowledge of the basic Physics.
7	PSO7	The ability to use this knowledge to analyze new situations and learn skills and tools like mathematics, engineering and technology to find the solution, interpret the results and make predictions for the future developments.
8	PSO8	The ability to synthesize the acquired knowledge, understanding and experience for a better and improved comprehension of the physical problems in nature and to create new skills and tools for their possible solutions.
9	PSO9	It will develop scientific attitude to make students open minded, critical and curious to understand basic concepts.
10	PSO10	The students will get an ability to work on their own.
11	PSO11	There will be development of skill in practical work, experiments, equipments and laboratory use along with collection and interpretation of plant materials and data.

12	PSO12	The student should be Capable of self-paced and self-directed learning aimed at personal development and for improving knowledge/skill development and reskilling in all areas of Physics.
13	PSO13	The students will be able to apply the acquired knowledge in the fields of life so as to make our country self-reliant and self-sufficient.

Program Specific Outcomes (PSOs) of B.Sc. Electronics

Sr. No.	PSO No.	Program Specific Outcomes (PSOs) Of Electronics
1	PSO1	The student acquires learning experiences that develop broad knowledge and understanding of key concepts of electronic science and equip students with advanced scientific/technological capabilities for analyzing and tackling the issues and problems in the field of electronics.
2	PSO2	The student apply knowledge and skills they have acquired to the solution of specific theoretical and applied problems in electronics.
3	PSO3	The student will have the abilities to design and develop innovative solutions for benefits of society, by diligence, leadership, team work and lifelong learning.
4	PSO4	Provide students with skills that enable them to get employment in industries or pursue higher studies or research assignments or turn as entrepreneurs.
5	PSO5	Prepare them with extensive knowledge of the disciplinary foundation in the various areas of Electronics, as well as insight into contemporary research and development.
6	PSO6	To make them capable for specialized methodological knowledge in the specialized areas of Electronics about professional literature, statistical principles and reviewing scientific work.
7	PSO7	It creates the ability to apply electronics knowledge & experimental skills critically and systematically for assessment and solution of complex electronics problems and issues related to communication systems, embedded systems, computers networks, robotics, VLSI Design and fabrication and other specialized areas of electronics.

8	PSO8	The student acquires an ability to model, simulate and evaluate the phenomenon and systems in the advanced areas of electronics.
9	PSO9	The student develops an ability to apply one's electronics knowledge, experimental skills, scientific methods & advanced design, simulation and validation tools to identify and analyze complex real life problems and frame technological solutions for them.
10	PSO10	The student acquires an ability to design and develop industrial products, processes and electronics systems while taking into account the circumstances and needs of individuals, organizations and society with focus on economical, social and environmental aspects.
11	PSO11	The student develops an ability to independently propose research/developmental projects, plan its implementation, undertake its development, evaluate its outcomes and report its results in proper manner.

Course Outcomes (COs) B. Sc. (F Y and S Y) Compulsory English

Sr. No.	Name of Paper	Course Outcomes
1	Semester-I: Compulsory English (Ability Enhancement Compulsory Course): English Communication	1) Through responding to and composing a wide range of texts, the learners will begin to use the English language in the best possible manner. 2) Through the close study of texts, students will develop knowledge, understanding and skills in order to communicate effectively in English. 3) Learners will value and appreciate the importance of the English language as a key to learning. 4) Learners will gain the personal enrichment from study of literary pieces in English. 5) Learners will acquire ability to communicate through oral and written texts.

2	Semester-II: Compulsory English (Ability Enhancement Compulsory Course): English Communication	1) Through responding to and composing a wide range of texts, the learners will begin to use the English language in the best possible manner. 2) Through the close study of texts, students will develop knowledge, understanding and skills in order to communicate effectively in English. 3) Learners will value and appreciate the importance of the English language as a key to learning. 4) Learners will gain the personal enrichment from study of literary pieces in English. 5) Learners will acquire ability to communicate through oral and written texts.
3	Semester-III: (Ability Enhancement Compulsory Course): English Communication	1) The learners will be able to use the English language in a refined way for the personal and social purposes. 2) The students will attain a higher level of understanding and skills in order to carry out communicative activities. 3) Learners will be able to make practical use of the mechanics of the English language. 4) Learners will be acquiring the skill of using English for media and electronic communication. 5) The ability to communicate and interpret written texts shall be augmented.
4	Semester-IV (Ability Enhancement	1) The learners will be able to use the English language in a refined way for the personal and social purposes. 2) The students will attain a higher level of understanding

Course Outcomes (COs) Of B.Sc. Botany

Sr. No.	Section and Paper code	Name of Paper	Course Outcomes
1	I (CCB-IA)	Viruses, Bacteria, Algae, Fungi, Lichens and Mycorrhiza	- The students will understand the morphology, structure and importance of various organisms. - They will be able to differentiate between various groups of viruses, bacteria, algae, fungi, lichens and mycorrhiza. - They will learn the life cycles of individuals belonging to viruses, bacteria, algae, fungi, lichens and mycorrhiza.
2	II (CCB-IB)	Plant Ecology, Phytogeography and Environmental Biology	- The students will be able to understand the ecological principles, interactions taking place in the ecosystems and the flow of energy. - They will acquire knowledge about the concept of phytogeography and its relation with other disciplines.
3	III (CCB-IIA)	Bryophytes, Pteridophytes, Gymnosperms and Paleobotany	- The students will learn the life cycles of individuals belonging to bryophytes, pteridophytes and gymnosperms.. - They will learn about the process of fossil formation and fossil plants.
4	IV (CCB-IIB)	Taxonomy of Angiosperms	- The students will get proficiency with the basic terminology of plant morphology. They will be able to identify the major families of plants and their economic importance. - The students will understand the methods of collecting and preserving plants.

5	V (CCBP-I)	Practical paper based on theory papers of CCB-I and II	• The students will develop skill of temporary preparation of plant specimens. • They will develop skill of permanent preparation of plant specimens. • They will understand the morphology, structure and life cycle of various organisms.
6	VI (CCB-IIIA)	Plant Anatomy	• The students will be able to understand the meristem (RAM & SAM), different simple and complex tissues and secondary growth in root and stem. • The students will acquire knowledge of • anatomy of root, stem and leaf in dicot and monocot plants.
7	VII (CCB-IIIB)	Plant Physiology and Biochemistry	• The students will gain the knowledge of water and nutrient uptake, movement in plants, role of mineral elements, translocation of sugars, Role of various plant growth regulators, phytochrome in plants. • Students shall learn different types of biomolecules and secondary

			metabolites. Students will learn the flowering physiology, vernalization and seed dormancy in plants.
8	SECB-I(A)	Fruit and Vegetables Processing	- The students will get knowledge about preservation methods of fruits and vegetables. - They will be introduced with skill of processing and preservation of different fruits and vegetables.
9	VIII (CCB-IVA)	Plant Embryology	- This course will be able to demonstrate foundational knowledge in embryology of plants. - The students will be able to understand the development of pollen, ovule, and fertilization and palynological information.
10	IX (CCB-IVB)	Plant Metabolism and Biochemistry	- The students will be able to understand the various metabolic processes such as photosynthesis, respiration, nitrogen metabolism etc. which are important for life. - The students shall become familiar with the gene cloning and its transfer in plants They shall learn different databases and their applications.
11	X (CCBP-II)	Practical paper based on theory papers-VI and VIII	- The students will study types of tissues in plants. - They will be able to prepare of permanent slides of angiosperms for study of internal structures. - The students will learn about structure of anther, ovule and types of ovules in plants. - They will learn the structure of embryo and types of endosperm.
12	XI (CCBP-III)	Practical paper based on theory papers-VII and IX	- The students will get knowledge about different bio-physico-chemical phenomena like osmosis, plasmolysis and permeability. - They will learn to estimate glucose, protein and oil content from plant material.

			• They will understand method of measurement of plant growth. • The students will be expert in quantitative analysis of biomolecules and secondary metabolites in plants. • They will gain the knowledge of tools in genetic engineering and bioinformatics.
13	SECB-II(A)	Nursery and Gardening	• The students will learn gardening skills. • They will get knowledge about methods of vegetative propagation. • They will acquire knowledge of ornamental plants and garden designs.
14	XII (DSEB-IA)	Plant Physiology	• The students will gain the knowledge of water and nutrient uptake, movement in plants, role of mineral elements, translocation of sugars, Role of various plant growth regulators, phytochrome in plants. • Students shall learn different types of biomolecules and secondary metabolites. • Students will learn the flowering physiology, vernalization and seed dormancy in plants.
15	XIII (DSEB-IB)	Plant Pathology-I	• The students will learn the fundamentals of plant pathology. • They will study the factors involved in plant disease development. • The will get knowledge about enzymes and toxins in plant pathogens. • The students will acquire basic knowledge of identification of plant diseases and their control measures.
16	SECB-III(A)	Floriculture	• The students will get knowledge about fundamentals of floriculture and its scope. • They will study propagation of flowering plants of commercial interest.

			• They will learn skill of cultivation of flowering plants among the students.
17	XIV (DSEB-IIA)	Plant Metabolism, Biochemistry and Biotechnology	• The students will be able to understand the various metabolic processes such as photosynthesis, respiration, nitrogen metabolism etc. which are important for life. • The students shall become familiar with the gene cloning and its transfer in plants • They shall learn different databases and their applications.
18	XV (DSEB-IIB)	Plant Pathology-II	• The students will get the knowledge of aerobiology and seed pathology. • They will learn about defense mechanism in plants. • They will know the methods of plant disease management. • The students will get knowledge of identification of plant diseases and their control measures.
19	XVI (DSEBP-I)	Practical paper based on theory Papers-XII and XIV	• The students will get knowledge about different bio-physico-chemical phenomena like osmosis, plasmolysis and permeability. • They will learn to estimate glucose, protein and oil content from plant material. • They will understand method of measurement of plant growth. • The students will be expert in quantitative analysis of biomolecules and secondary metabolites in plants. • They will gain the knowledge of tools in genetic engineering and bioinformatics.
20	XVII (DSEB-II)	Practicals based on theory Papers-XIII and XV	• The students will study methods of isolation and cultivation of plant

			pathogens. • They will be able to measure the size of fungal spores. • The students will know the effect of environmental factors and fungicides on plant pathogens. • They will gain knowledge about various plant diseases with slide preparation.
21	SECB-IV(A)	Fruits and Vegetables Processing	• The students will get knowledge about preservation methods of fruits and vegetables. • They will be introduced with skill of processing and preservation of different fruits and vegetables.

Course Outcomes (COs) Of B.Sc. Microbiology

Sr. No.	Section and Paper code	Name of Paper	Course Outcomes
1	CCMB I (Section A)	Introductory Microbiology (PI)	• Scope and distribution of microorganism in detail. • Historical development of microbiology. • Characteristics of microorganism and their classification.
2	CCMB I (Section B)	Fundamentals of Microbiology (PII)	• Detailed study of microscope. • Study the basic structure of bacterial cell. • Concept of sterilization and their types. • Nutrition of microorganism.
3	CCMB II (Section A)	Basic Microbiology & Bio-molecules (PIII)	• Different staining techniques used in microbiology. • Detailed study of viruses with respect to structure and classification. • Study of structural and functional properties of biomolecules.
4	CCMB II (Section B)	Microbial Physiology	• Cultivation and maintenance techniques of bacterial cultures.

		(PIV	• Study of uptake mechanism of nutrients. • Detailed study of growth, reproduction and sporulation of bacteria.
5	CCMBP I [CCMB I & II (Section A & B)]	Practical's based on Section A & Section B of CCMB I & CCMB II (PV)	• Introduction to microbiology laboratory equipments. • Differential staining techniques of bacteria. • Preparation of media and isolation techniques for bacterial culture. • Study of qualitative estimation of biomolecules.
6	CCMB III (Section A)	Applied Microbiology (P-VI)	• Applied microbiology trains students for gaining expertise in the microbial world and the way it interacts with humans. • It looks at how we can harness and utilize the powers of the microbes in areas ranging from air, water and sewage microbiology to Milk Microbiology and extends to industrial applications. A wide range of microbial by-product production, quality assessment and health hazard monitoring is possible by students who get well versed in this course.
7	CCMB III (Section B)	Immunology (P -VII)	• Understand the basic components of the immune system and how this system serves to protect the host against disease-causing microbes. Understand Concept related to cells and organs related to immune system, Immunity, Immune response and immune mechanism of both Immunity & Hypersensitivity.
8	CCMBP II [CCMB III & IV (Section A)]	Practical's based on P- VI & P-VIII (PX)	• Methods of examination of water, air, food, milk. • Ammonification, Nitrification. • Study of Rhizobium and Azotobacter.
9	CCMBP II [CCMB III & IV (Section B)]	SEC I (1 Skill/ optional)	• Water borne infections and analysis • Water quality monitoring. • Food and milk quality.

10	CCMB IV (Section A)	Food, Soil Microbiology and Microbial Ecology (PVIII)	To apply the knowledge of microorganisms causing food spoilage, pathogens that may cause disease post cooked or storage, those used to produce fermented foods such as cheese, yogurt, bread, beer, and wine, meat and meat products, fruits vegetables and those with other useful roles such as producing probiotics. Understand of principles of soil science, microbiology, and the chemistry and physics of natural elemental cycles, which maintain the balance of our ecosystem. Describe significance of soil fertility, appreciate role of soil microorganisms which play essential roles in the nutrient cycles that are fundamental to life on the planet. Illustrate and explain how microbes are responsible for cycling nutrients through the environment, creating important symbiotic relationships, providing energy in the absence of sunlight, and digesting the food we eat.
11	CCMB IV (Section B)	Medical microbiology (PIX)	Impart Knowledge of the diverse places where microbiology is involved. Understanding of diverse Microbiological processes. Basic skills such as culturing microbes, maintaining microbes, safety issues related to handling of microbes, Good Microbiological practices etc. Moderately advanced skills in working with microbes such as Pathogens.
12	CCMBP III [CCMB III & IV (Section B)]	Practical's based on PVII & P-IX (PXI)	- Staining and counting methods of different cells in blood. - Detailed study of Salmonella spp. And Vibrio spp. - Antibiotic sensitivity testings.

13	CCMBP III [CCMB III & IV (Section B)]	SEC II (1 Skill / optional)	• Diagnosis of diseases. • Collection, examination of different sample.	
14	DSEMBI (Section A)	Microbial Genetics (P – XII)	• DNA as genetic material: History, properties of genetic material, chemical stability of DNA and structure of prokaryotic chromosomes. • Prokaryotic DNA replication. • Molecular recombination in Bacteria. • Genetic exchange in bacteria.	
15	DSEMB I [Section B I] OR DSEMB I [Section B II]	Microbial Metabolism (P – XIII A)	• Classification and properties of enzymes. • Michaelis-menten equation, enzyme inhibition. • Microbial metabolism • Energy transformations in Microorganisms. • Microbial fermentations.	
16	DSEMB II (Section A)	Molecular Biology (P- XIV)	• Genetic expressions, genetic code, ribosomes. • Mutation and repair mechanisms. • Regulation of gene expression in prokaryotes. • Molecular techniques and applications.	
17	DSEMB II [Section B I] OR DSEMB II [Section B II]	Industrial Microbiolog y (P – XVA)	• Basic concepts of Bioreactor and its types. • Strain improvement, stock cultures, screening techniques, inoculum development. • Down stream processing. • Fermentative production of wine, citric acid, penicillin, thuricide, glutamic acid.	
18	DSEMBP I [DSEMB I & II Section A]	Practicals Based on P – XII & P - XIV (P -XVI)	• Purification and quantitative estimation of DNA. • Effects of UV radiations. • Gene expression study experiments. • Conjugation, isolation of autotrophic mutants.	

19	SECMB III (A OR B)	Molecular Biology Techniques (B)	- Enzymes involved in genetic engineering. - Hybridization techniques. - Cloning vectors and cloning methods.
20	DSEMBP II [DSEMB I & II (Section B I & II)]	Practicals based on P - XIII A & B & P – XV A & B (P -XVII)	- Estimation of sugars, aminoacids. - Production of amylase, citric acid, biofertilizers. Screening of antibiotic producers, organic acid producers, antibiotic producers.
21	SECMB IV (A OR B)	Good Manufacturi ng Practices (B)	- Agro based bioprocesses - Food and diary bioprocesses - Industrial effluent treatment. - Anaerobic treatment process.

Course Outcomes (COs) Of B.Sc. Mathematics

Sr. No.	Section and Paper code	Name of Paper	Course Outcomes
1	CCM-1 Section-A	Differential Calculus	- Knowledge of differential calculus with higher order and its applications. - Studies of different mean value theorem and solution of indeterminate. - Application of partial derivatives in real world problems.
2	CCM-1 Section-B	Algebra and Trigonometry	- Description of basics properties of matrices and its applications. - Algebra of matrices its working Procedure for system homogeneous equations. - Detailed study of trigonometric functions, circular functions hyperbolic functions etc.
3	CCM-2 Section-A	Integral Calculus	- Integrations and its standard forms with reeducation formulae. - The study integral of transcendental functions.

			• Solution of areas of curves using multiple integrals
4	CCM-2 Section-B	Geometry	• The enhancement in the study of co-ordinates , plan Geometry. • Representation of line and its equations in the different forms. • Study of sphere and theorem related to sphere cones, cylinder etc.
5	CCMP-1 Based on CCM-1 & 2	Practical on MATLAB	• Introduction to the MATLAB softwear and its application. • Solution of problems of algebra using MATLAB. • Plotting the graphs of different function using MATLAB.
6	CCM-3 Section-A	Real Analysis - I	• Write down the operations on sets and functions for real valued functions. • Description of real number and its sequences. • Study of series of real numbers and its convergence, absolute convergence.
7	CCM-3 Section-B	Group Theory	• Introduction to group theory and examples on group • Describe subgroup and cyclic group & • properties on quotient groups. • Study of Homomorphism image & Cauchy's theorem for abelian group & automorphism.
8	CCM-3 Section-C	Ordinary Differential Equations	• Study of the first order differential equation. • Introduction to initial value problems for homogeneous equation & linearly independent & dependent. • Application of linear equation with variable coefficient & solution of the homogeneous equation.
9	SECM-I	Skill	• Introduction to mathematical software • Study of scilab software & overview & console of scilab. • Scilab features as programming language.
10	CCM-4 Section-A	Real Analysis - II	• Introduction to Riemann integral and conditions of integrability with

			examples. • Study of fundamental theorem of calculus & mean value theorem & improper integrals. • Study of series such as Fourier series such as Fourier series. Trigonometric series
11	CCM-4 Section-B	Ring Theory	• Introduction to ring theory and special classes of rings. • Study of ideals & quotient ring with examples. • Describing Euclidean ring & polynomial over the rational field.
12	CCM-4 Section-C	Partial Differential Equations	• Forming partial differential equation & Lagrange's linear equation with examples. • Introduction to Charpit's method Linear homogeneous partial differential equation with example • Application of wave equation by D'Alembert's method & one dimensional beat flow.
13	SECM-II	Skill	• Introduction to matrices in scilab. • Study of operator such as colon (:) dollar (\$). • Study of some common functions for linear algebra.
14	DSEM-5 Section-A	Metric Spaces	• Introduction of metric space & open & closed set with examples. • Study of convergence & completeness & uniform continuity. • Study of compactness and connectedness.
15	DSEM-5	Linear Algebra Section-B	• Study of vector spaces & linear independence & bases. • Introduction of inner product spaces with application • Study of linear transformation & application of characteristics tools.
16	DSEM-5 Section-C	Mechanics - I	• Introduction of force action and a particle. • Study of equilibrium of forces acting on a particle.

			• Application of forces acting on a rigid body & system of forces acting upon a rigid body.
17	SECM-III	Skill	• Calculation of partial Differential equations using Mathematical software. MAPAL, MATHEMATICA, LINGO etc. • Applications of Mathematical software's. • Study of financial of Mathematics and its project.
18	DSEM-6 Section-A	Numerical Analysis	• Introduction of differences operators, interpolation with equal intervals. • Study of properties of divided differences. • Introduction to general quadrature formulas, trapezoidal & Simpson's one – third & three eight rules.
19	DSEM-6 Section-B	Laplace Transform ation	• Introduction of Laplace transform and application of Laplace transform of integral of $f(t)$. • Study of inverse Laplace transforms & solution of differential equation by Laplace transforms. • Application of Fourier sine & cosine integrals & Fourier complex integral.
20	DSEM-6 Section-C	Mechanics - II (Dynamics)	• Introduction to kinematics & dynamics of a particle in two dimensions with application • Study of kinetics of a particle 4 conservation of linear momentum. • Description of motion of a projectile & motion in resisting medium.
21	SECM-IV	Skill	• Knowledge of insurance Mathematics. • Solving problems in numerical analysis using Mathematical Software.

Course Outcomes (COs) of B.Sc. Zoology

Sr. No.	Section and Paper code	Name of Paper	Course Outcomes
1	CCZ-I Section-A	Life &diversity animals-I (non- chordata)	Knowledge about invertibrates Study of different invertebrate phyla.
2	CCZ-I Section-B	Cell biology	To give knowledge about microscope and cell structure and functions To study about different cell organ
3	CCZ-II Section-A	Life & diversity of animals –II (chordata)	Knowledge about vertibrates Study of different vertebrate phyla
4	CCZ-II Section-B	Developmental biology	To give knowledge about development of embryo To study about the development of frog chick and stem cells .
5	CCZP-I	Practical paper (CCZ-I&II)	To provide application of the skill about identification of animals and different techniques .
7	CCZ-III Section-A	Physiology	On successful completion of the course, the students will be able to Monitor their blood pressure and identify blood groups. Understand function and types of heart & circulatory system. Appreciate the basic function of kidney, main function of nerves. Acquire knowledge on the nature and functions of hormones and learn the mechanism of hormone action. Learn the structure and functions of Endocrine glands. Understand the structure, development and function of reproductive organs in human.
8	CCZ-III Section-B	Biochemistry	On successful completion of the course, the students will be able to Understand the chemical structure and functions of various biomolecules Learn the signaling of biomolecules in cell

			membrane. Understand the correlation between metabolism of different types of biomolecules
9	CCZ-IV Section-A	Cell biology, Genetics,	On successful completion of the course, the students will be able to Understand the structure and function of the cell as the fundamentals for understanding the functioning of all living organisms. Understand structures and various cellular functions associated with the macromolecules found in cells. Acquire knowledge of Mendelian Genetics and its Extension. Graduates will be able to explain and interpret various processes, phenomena, states and evolutionary tendencies at a biological system level.
10	CCZ-IV Section-B	Evolutionary biology and genetic engineering	On successful completion of the course, the students will be able to 1. Understand the theories and concepts of evolution. 2. Learn the process of evolution in animals. 3. Understand the patterns of evolutionary changes in animals. 4. Understand the organization and functions of genetic material in the living world. 5. Understand the Recombinant DNA Technology.
11	CCZP-II Section-A	Practical based on theory paper VIII & IX	Students would be able to prepare temporary squash preparations of onion root tips for mitosis. 2. Demonstrate the genetic traits in Man. 3. Ability to culture Drosophila flies in the laboratory. 4. Ability for mounting of salivary glands of Drosophila larvae. 5. Students are able to understand the outline of Genetic Engineering. 6. Ability to Learn the role of Genetic Engineering in biology.

12	CCZP-II Section-B	Practical based on theory paper VIII& IX	To study applications in biochemistry, histology and endocrinology
13	SEC-II	SEC-II Anyone skill from skill URINOLOGY	1. Ability to describe function of human urinary system. 2. Skill to collect, preserve, process and store urine samples. 26 3. Skill to perform physical, chemical and microscopic examination of urine samples. 4. Ability to document findings of urine examination/analysis..
14	SEC-II	SEC-II Anyone skill from skill APICULTURE	Ability to understand and describe the life stages and social organization of honey bee species. 2. Ability to correctly explain and perform bee rearing, farming and harvesting practices. 3. Appreciate the economic importance of derivative benefits and byproducts of apiculture. 4. To identify and take remedial measures against the different bee diseases and predators
15	DSEZ-V Section-A	Ecology & zoogeography	To understand and appreciate the interactions of organisms with their environments and the consequences of these interactions for population, community, and ecosystem dynamics. To be aware of the current environmental issues with an understanding of the basic ecological concepts involved. To study the local and geographical distribution and abundance of organisms (habitat niche, community, bio- geography). To understand the inter-relationship between individuals in population and communities (population ecology). To study the structural adaptations and functional adjustment of organisms to their physical environment To study the conservation and management of natural resources and pollution (applied ecology).
16	DSEZ-V	Aquaculture	To introduce student to various types of

	Section-B		aquaculture and culture methods. To obtain knowledge of fishery science, with a particular emphasis on the biology, assessment, and management of fish and invertebrate fisheries. To create awareness about manmade hazards to aquaculture. To elaborate the role of Larvivorous fishes in relation to public health.
17	DSEZ-VI Section-A	Ethology, Biometry ,& Bioinformatics	To study the behaviourorganism under natural conditions (Ethology). To understand the concepts of Biometry. To get acquainted with and apply the fundamentals of applied statistical methodology. To give students an introduction to the basic practical techniques of bioinformatics. To emphasize the application of bioinformatics and biological databases for problem solving in real-life & research. To familiarize student with the use of a wide varetty of internet applications, biological database and to enable them to apply these methods under various situations.
18	DSEZ-VI Section-B	Pisciculture	To exchange and circulate information, ideas and practical experience on all matters relating to fisheries and their management. To enable students with Fishery specific knowledge for entering PG courses or fishery industries. To establish and maintain an appropriate Branch and Specialist section structure to meet the local, specialist and overall needs of fisheries interests.
19	DSEZP-I Section-A	Practical based on theory paper XII & XIV	To improve the skills of students in microscopy, whole mount preparation, observations, drawings and laboratory techniques. To acquaint the students with operations of the different laboratory equipment.

			To equip the student with the necessary skills in standard operating procedures for laboratories and handling of chemicals, reagents and glassware. To instill an understanding of the methods and protocols for handling and maintenance of animals for experiments. To provide basic practical skills and experience in using laboratory techniques in experimentation. To train the students in the analysis of experimental data with statistical and computer aided techniques. To induct the students in the activity of field observation of natural phenomena and organisms through excursion and drafting of reports in a scientific and objective manner. To equip the students with the understanding of taxonomy and other aspects of different organisms so that they become capable of classifying any given organism, at least up to the level of Order.
20	DSEZP-I Section-B	SEC-III(1Skill/Optional)	SECZ –III (F) : Vermiculture and Vermicomposting: The introduction of this skill in the curriculum is with the objective that the learners should be able to do vermiculture in a systematic way and also be able to get hands on experience in all related activities till vermicomposting. This will increase the awareness and skill availability in the need of the day viz. organic farming.

Course Outcomes (COs) of B.Sc. Chemistry

SEMISTER-I				
Sr. No.	Section & Paper code	Name of paper	Paper No.	Programme Specific Outcomes (PSOs)
1	CCC I (Section -A)	Organic + Inorganic Chemistry	P-I	After completion of syllabus students will be able to understand following outcomes. 1. Student should learn basic concept of organic chemistry, Nomenclature. 2. Student get well acquainted with functional group in organic chemistry. 3. To understand the basic concepts and differences aliphatic hydrocarbons. 4. To know about term cycloalkane ,cycloalkene and diene. 5. Learn and practice about organic compounds with their names. 6. Students learn some exceptional electronic configuration, trends and Periodicity in the following properties like atomic size, ionization energy, electron affinity & electro negativity. 7. Understand the inert gases forms compounds, different fluoride compounds of xenon. 8. Understand periodic properties with respect to atomic radii, ionization potential, Electron affinity and Electro negativity.
2	CCC I (Section -B)	Physical + Inorganic Chemistry	P-II	1. Developed Numerical Solving Skill through Mathematical Concepts. 2. She/he knows about adsorption and absorption phenomenon and its application. 3. Inculcate the states of matter and its properties with respective its structures. 4. Learn about calculation of oxidation state and balancing of redox reaction. Also he got knowledge about the chemistry of S-block elements.
3	CCC II (Section -A)	Organic + Inorganic Chemistry	P-III	Outcomes: After completion of syllabus students will be able to understand following outcomes. 1. Student should learn the concept of aromatic hydrocarbons, Aromaticity and antiaromaticity. 2. Student should understand the phenols

				and synthesis of phenols 3. Student knows about the haloalkene and haloarenes compounds. 4. To know the concepts of carboxylic acids and their derivatives. 5. To know about the types of alcohols and reaction of epoxide. 6. To study the different properties of P-block elements. 7. To know the acids & Bases by different concepts.
4	CCC II (Section -B)	Physical + Inorganic Chemistry	P-IV	1. Imparted knowledge about the liquid state and colloidal states. 2. Students know about structure of atom through Bohrs Model, Destitution of electron in shell and sub shell through various principle and rules. 3. Students knows concept of catalyst and catalysis. 4. Understanding of structure, Bonding and stereochemistry through concept of hybridization and various theories.
5	CCCP-I(CCC-I&II) (Section -A&B)	Organic + Inorganic Chemistry	P-V	Developed skills in different laboratory titrations and the theory behind titrimetric analysis Understand various laboratory techniques employed Developed basic knowledge regarding the evaluation of analytical data To learns about various synthesis techniques. To study about industrially important organic chemicals. Understand basic metallurgical operations Study the importance of certain inorganic materials
6	CCC III (Section -A)	Organic + Inorganic Chemistry	P-VI	To Learn the mechanism of name reactions. Aromatic Carboxylic and Sulphonic acids. Synthesis, and Reactions of Organometallic compounds. Active methylene compounds Soaps and Detergents. Application of Qualitative Analysis.

7	CCC III (Section -B)	Physical + Inorganic Chemistry	P-VII	After completion of these courses students should be able to, Write an expression of Davisson-Germer experiment. Derive Schrodinger wave equation. Understand De-Broglie's hypothesis and uncertainty principle. Solve the numerical problems based on De-Broglie. Understand concept of entropy. Understand statements of first, second and third law of thermodynamics. Know the meaning of phase, component and degree of freedom. Know the nuclear structure & different energy of nuclear. Understand the different steps & procedure in the gravimetric separation method
8	CCCP II [CCC III&IV] (Section -A)	Practicals based on P-VI&P-VIII	X	Organic chemistry To d1. To develop skills required for the qualitative analysis of organic compounds 2. To study unit operations and processes such as; 1. Filtration, 2. Crystallization
9	SECC-I	SEC-I Anyone skill from optional		
10	CCC IV	Organic +	P-VIII	To Learn the stereoisomerism of Chiral compounds. To know the synthesis and reaction of carbohydrates Nitrogen Compounds. Organic Synthesis d- Block Elements.
11	CCC IV (Section -B)	Physical + Inorganic Chemistry	P-IX	After completion of these courses students should be able to, Know the rate constant and factors affecting rate of reactions. Write an expression for rate constant (K) for first order, second order reaction. Know the terms cell constant, specific conductivity, equivalent conductivity and molar

				conductivity. Know the applications of Kohlrausch's law. Compare between thermal and photochemical reactions. Discuss different types of photochemical process. Know the preparation, properties, structure & application of different compounds. Discuss different inter halogen compounds by preparation, properties, structure and uses.
12	CCCP-III [CCC III&IV] (Section -B)	Practical's based on P-VII&P-IX	XI	After completion of this course students should be able to, Calculate normality and strength of the solution using potentiometer and conductivity meter. Find pka value on pH meter. Verify Lamberts-Beer's law colorimetrically and determine unknown concentration of the solution. Determine energy of activation. Determine heat of solution. Study the effect of solute on CST of phenol-water system. Determine the enthalpy of ionization of weak acid / weak base. Determine partition coefficient. Separations of elements from each other & analysis by volumetric method.
13	SECC- I	SEC-I Anyone skill from optional	–	Skill developed about preparation and standardization of solutions
14	DSEC-V (Section -A)	Organic + Inorganic Chemistry	P-XII	1. Developed theoretical knowledge about aromatic and non aromatic five, six and fused heterocyclic compounds with respect to its preparation, properties and applications. 2. Impart the fundamentals about drugs, dyes and its application. 3. Inculcate knowledge about alkaloid, vitamin and pesticides.

				4. Students knows about terminologies and theories in co-ordination chemistry, also knows about use of different transition metals in medicines.
15	DSEC-V (Section -B) (Elective)	Physical + Inorganic Chemistry OR Elective paper Physical + Inorganic Chemis	P-XIII B-1 P-XIII B-2	1. Developed theoretical knowledge about various spectroscopic techniques. 2. Students understand the bonding ,structure and properties of organometallic compounds and metal carbonyl.
16	DSEC-IV [DSECP-V&VI] (Section -A)	Practical's based on P-XII&P-XIV	P-XVI	Students understand estimation of organic compounds And organic qualitative analysis.
17	DSECP-III SEC-III Anyone skill from optional	A) analytical Chemistry OR A) Computer application Applied in chemistry	-	1.Students understand application of Chem –Draw software in chemistry. 2. Students understand applied techniques.
18	DSEC-VI (Section -A) (Elective)	Organic + Inorganic Chemistry OR Organic + Inorganic Chemistry	P-XIV-A1 P-XIV-A2	1. Developed theoretical and practical skills about elucidation of organic molecule though UV, IR, NMR spectroscopic techniques. 2. Study of amino acids and peptides. 3. Knows about VBT,CFT for structure and bonding in co-ordination compounds and electronic transition spectra.
19	DSEC-VI (Section -B)	Physical + Inorganic Chemistry	P-XV P-XIII B-2	1. Understanding of theoretical knowledge thermodynamics, Electrochemistry. 2. Students knows about structure and function of biological molecule ,also knows the structure and bonding in metal clustre

20	DSEC-IV [DSECP-V&VI] (Section-B)	Practical's based on P-XIII&P-XV	P-XVII	Students known about handling of instruments like colorimeter, Potentiometer, PH meter.
21	DSEC-IV (Section-B)	Practical's based on Elective	-	. Students known about handling of instruments like colorimeter, potentiometer, PHmeter ,also known about separation of binary mixture and estimations of metal in the solution
22	DSECP-IV SEC-IV Anyone skill from optional	A)spectroscopic techniques and Cosmetic preparations OR A) Basic analytical Chemistry	-	1. Developed theoretical knowledge about aromatic and non aromatic five, six and fused heterocyclic compounds with respect to its preparation, properties and applications. 2. Skill developed in Synthetic method for cosmetics.

B.Sc Physics Course outcomes

B.Sc First Year Physics

1. **Course Name:-** : Mechanics and Properties of Matter

Course Number:- CCP I - (Section A) P-I

Outcomes:-

1. The objective of this course is to introduce the students to the world of mechanics and properties of the matter that exists in different phases i.e., solid, liquid and gas.
2. Laws of motion and its applications to various systems studied in this paper is of fundamental nature and enable the students to handle different types of problems and is the pre-requisite for several other advanced courses in physics and chemistry.
3. The pre-requisite for this course is knowledge of calculus, wave theory and modern physics. This course is the core course and every student pursuing B Sc with physics as one of the optional is required to study this course.

2. **Course Name:-** : Mathematical Methods in Physics

Course Number:- CCP I - (Section B) P-II

Outcomes:-

1. This course is also aimed to develop knowledge in mathematical physics and its applications, to develop expertise in mathematical methods required in the study of Physics, to develop critical thinking and problem solving skill.
2. After completion of this course students will be able to apply the concept of vectors and complex variables to various physical quantities.
3. This course will also enable the students to solve the problems related to partial differentiation. Fourier analysis unit will enable the students to analyze the periodic functions.

3. Course Name:- : Heat and Thermodynamics**Course Number:- CCP II - (Section A) P-III:****Outcomes:-**

1. This course will introduce the students to the world of heat and thermodynamics and the behaviour of the physical systems at different thermodynamically conditions.
2. After completing this course students will understand the difference in the behavior of the ideal and real gases, transport phenomenon in gases.
3. Students will also understand the working of various heat engines and the ways to increase their working efficiency.

4. Course Name:- : Electricity and Magnetism**Course Number:- CCP II - (Section B) P-IV****Outcomes:-**

1. The objective of this course is to introduce the students to the concepts of static and dynamical electrical magnetic fields, the sources for generating such fields, polarization and induction effects, understand the basic difference between the DC and AC circuits and their functioning.
2. This course is of most applied nature and will enable the students to understand the role of electricity in everyday life, relate electrical conduction, relate using Ohm's law
3. And will also enable the students to understand the working principles of various electrical components and gadgets.
4. After completion of this course students will be able to apply the concept of vectors and complex variables to various physical quantities.

B.Sc Second Year Physics**1. Course Name:- Waves and Oscillations**

Course Number:- : CCP III - (Section A) P-VI

Outcomes:-

1. The objective of this course is to introduce the students to the concepts of mechanical waves, their properties, propagation and reflection properties, formation of standing waves, their applications in resonance tubes, energy distribution in the standing waves, free and forced vibrations, acoustics and acoustical designs and also introduces the students to the concepts of ultrasonic waves and their applications.
2. This course is the pre-requisite for several advanced courses in physics and chemistry and is necessary for understanding the behavior of the matter when mechanical waves pass through them.
3. Pre-requisite for this course is the knowledge of elementary mathematics and calculus, wave theory, etc. This forms the core course of the programmes and every student pursuing B Sc with physics as one of the optional is required to study this course.

2. Course Name:- Statistical Physics, Electromagnetism and Theory of Relativity

Course Number:- : CCP III - (Section B) P-VII

Outcomes:-

1. The objective of this course is to introduce the students to the concepts of macroscopic world, statistical approaches for understanding properties of the macroscopic bodies, ensembles, their classification on the basis of macroscopic and microscopic basis, their applications to photonic and electronic gases, electromagnetism, Maxwell's equations and their applications in the electromagnetic waves, energy carried by the EM waves and theory of relativity.
2. This course is the prerequisite for several advanced courses in physics, chemistry, life sciences and the modern communication systems. Pre-requisite for this course is the knowledge of elementary mathematics and calculus.
3. This forms the core course of the programmes and every student pursuing B Sc with physics as one of the optional is required to study this course.

3. Course Name:- Optics and Lasers

Course Number:- : CCP IV - (Section A) P-VIII Core

Outcomes:-

1. This course is aimed to introduce the students to important core subject optics and its applications.
2. This course begins with the introduction to the concepts of geometrical optics, properties of optical instruments, interference and diffraction of light, polarization of light and finally introduces to the advanced source like LASERS and conditions for the lasing action.

3. This course is the advanced course having applications in nearly all the branches of science.

4. Pre-requisite for this course is the knowledge of light waves and their properties in different media and requires the knowledge of EM waves. This forms the core course of the programmes and every student pursuing B Sc with physics as one of the optional is required to study this course.

4. Course Name:- Basic Electronics

Course Number:- : CCP IV - (Section B) P-IX

Outcomes:-

1. After completing this course students will be able to Identify and understand construction and properties of different types of P-N junction diodes
2. Apply knowledge of semiconductor devices to use them in different combinations to see their applications as amplifiers and oscillators
3. Design different circuits using semiconductor devices and demonstrate their usage.

5. Course Name:- Skill Enhancement Course I B. Electrical Measurements

Course Number:- : CCPS I - (Section A) SEC-I

Outcomes:-

1. This is a skill based course and is aimed to acquire skills related to characteristics and usage of the instruments for measurement of the electrical quantities like voltage, current, impedance and various other quantities using analogue and digital meters.
2. The students will learn the skills selecting meters of proper scales, connecting and handling them and also to use them. As this is a skill based course therefore it is expected that students will spend nearly half of the time in laboratory for gaining hands-on training.
3. This course is the pre-requisite for several advanced courses in physics, chemistry, and in almost all other disciplines. Pre-requisite for this course is the knowledge of physical quantities and their measurement.

6. Course Name:- Skill Enhancement Course II A. Electronic Devices and Equipments

Course Number:- : CCPS I - (Section B) SEC-II

Outcomes:-

1. This is a skill based course and is aimed to educate students about the working and usage of electrical appliances and other electrical devices.
2. This course enables the students to know the behavior of active and passive devices under ac and dc conditions and also to use them for designing various circuits such as signal generators and amplifiers. As this is a skill based course,

therefore, after completing this course the students will be able to acquire skills and apply them in daily hood purpose. 3. As this course is of doit-yourself nature, therefore, the students are required to spend more than half of the time in laboratory. This course is the pre-requisite for several advanced courses in physics, chemistry, and in almost all other disciplines.

4. Pre-requisite for this course is the knowledge of semiconductor physics,knowledge of the semiconductor devices and their characteristics.

B.Sc Third Year Physics

1. Course Name:- Quantum Mechanics

Course Number:- P-XII DSEP I (Section A)

Outcomes:-

1. The objective of this course is to introduce the students to the world of microscopic particles such as molecules, atoms, atomic nuclei and elementary particles, study their dynamics employing wave analogy, and also to make the connections between the rules governing the microscopic particles with that of the macroscopic bodies around us.

2. This course is the pre-requisite for several advanced courses in physics and chemistry and is necessary for understanding the behavior of molecules, atoms and elementary particles.

3. The pre-requisite for this course is knowledge of calculus, wave theory and modern physics. This course is the core course and every student pursuing B Sc with physics as one of the optional is required to study this course.

2. Course Name:- A. Solid State Physics

Course Number:- P-XIII A - DSEP I (Section B)

Outcomes:-

1. This course is designed to provide fundamental knowledge of the crystallography, principles behind the formation of matter, their structure and physical properties.

2. This course also enables the students to understand the relationship between the internal structure and various properties of matter such as periodicity, structure and bonding in solids, making these solids an attractive material for the device applications.

3. At the end of this course, students will be able to classify the materials in different classes based on their physical, thermal, electrical, and magnetic properties. This is an elective course of 02 credits offered at Semester V.

3. Course Name:- Atomic, Molecular & Nuclear Physics

Course Number:- P-XIV DSCP II (Section A)

Outcomes:-

1. Aim of this course is to introduce the students to the world of physics of atoms, molecules and nuclei, their structures, emission of Gamma rays, X-rays, optical and microwave spectra from these systems, the interaction of atoms and molecules with electric and magnetic fields.
2. This course also provides adequate knowledge on the nuclear energy sources and reactions with its application in establishing nuclear reactors.

4. Course Name:-. Digital and Communication Electronics**Course Number:- P-XV A - DSEP II (Section B)****Outcomes:-**

1. This course enables the students to understand the importance and interconvertibility of various number systems, principles of digital gates, and working principle of communication systems.
2. After completing this course students will be in a position to know the working of communication systems i.e., modulators, demodulators, transmitters and receivers, etc.
3. Students will be able to apply these concepts in future assignments.

5. Course Name:-. Skill Enhancement Course: B. Electrical Circuit Analysis Skill**Course Number:- SEC III (B)****Outcomes:-**

1. Aim of this course is to create awareness among the students about the electrical circuits, wiring of the electrical appliances and enable them to check for troubleshoots through hands-on exercises.
2. This course introduces the students to various electrical components including their characteristics and power losses.
3. As this course is of skill based, therefore, after completing this course students will not only be able to check the electrical connections at house-hold but will also learn the skill to repair the electrical appliances for the general troubleshoots and wiring faults

6. Course Name:-. Skill Enhancement Course Physics Workshop Skills**Course Number:- SEC IV (A)****Outcomes:-**

1. Aim of this course is to create awareness among the students about the mechanical, electrical and electronic tools through hands-on activities.
2. This course introduces the students to the workshop skills like cutting, drilling, filing, different types of AC and DC generators, soldering-desoldering of electrical and electronics components, constructing regulated power supplies, etc.,

3. Therefore, after completing this course students will gain skills of using various workshop tools and also to find faults and general troubleshoots and wiring faults.

Sr. No.	Section and Paper code	Name of Paper	Course Outcomes
1	BCS-101	Basic of Computer Science	• To learn Basic Function of Devices like I/O, HDD etc. • To Understand the Fundamental of Software and Hardware. Understand the Concept of Operating System and Network.
2	BCS-102	Computer Network	• To study of structure of programming languages, structure of c program. • To study different keyword for making program. • To develop programs using operators and control statement. • To describe an array. • Student are able to develop application software.
3	BCS-103	Web Technologies	At the end of the course, students should be able to: Design and implement dynamic websites with good aesthetic sense of designing
4	BCS-104 (Elective)	A (Elective) Office Automation	After completion of this course student will be able to understand the computer software, hardware, made available to simplify and automate a variety of office operations such as data processing, data manipulating and data presentation with various application those are presents in Microsoft office tools packages.
5	BCS-305	Intra / Inter Departmental courses OR BCS-305 B (Open	Solve mathematical problems using analytical methods; Solve mathematical problems using computational methods; Students can develop design and analyze

		Elective) Numerical Abilities	numerical techniques to approximate solutions to problems .
6	BCS - 105	Open Elective A : University recognized MOOC (NPTEL / SW A Y AM / others) OR Intra / Inter Departmenta l courses OR Open Elective B: Communicat ion Skills-1	Understand and demonstrate Basic English usages for their different purposes. Clear entrance examination and aptitude tests. Write various letters, reports required for professional life

Sem II

Sr. No.	Section and Paper code	Name of Paper	Course Outcomes
1	BCS-201	Operating System	Fundamental understanding of the role of Operating Systems. To understand the various memory management techniques To apply the cons of process/thread scheduling To understand the concept of a process and thread.
2	BCS-202	Introduction to Programming Language Using C Part – 2	To describe a function, storage classes, structure, union, string and functions, Pointers, File Handling, Student are able to develop application software

3	BCS-203	Database Management System	students will be able to think of ER modelling and creation of own database schema.
4	BCS-204 (Elective)	A (Elective) : Desktop Publishing	Create personal documents such as business cards and resumes. Create business documents such as flyers and advertisements. Create a newsletter with graphics and draw objects. ☐ Create a course project illustrating Desktop Publishing techniques
		B (Elective) 8085 Microprocessor	To understand CISC and RISC based Microprocessor. To understand techniques for faster execution of instruction and increase speed of operation of 8085 Microprocessor. Write programs to run 8085 Microprocessor based system.
5	BCS-205 (Open Elective)	A (Open Elective) : University recognized MOOC (NPTEL / SWAYAM / others) OR Intra / Inter Departmental courses	Understand and demonstrate Basic English usages for their different purposes. Clear entrance examination and aptitude tests. Write various letters, reports required for professional life.
		B(Open Elective) : Communication Skills-2	Understand and demonstrate Basic English usages for their different purposes. Clear entrance examination and aptitude tests. Write various letters, reports required for professional life.

Sem III

Sr. No.	Section and Paper code	Name of Paper	Course Outcomes
1	BCS-301	Object Oriented	Ability to explain the difference between object oriented programming and procedural programming concepts . Ability to program using object oriented features such as inheritance and polymorphism, , operator overloading, dynamic memory allocation, file I/O, exception handling, etc Ability to apply object oriented techniques to solve computing problems.
2	BCS-302	Computer Network	After completing this course the student get the knowledge and ability to: Understand basic computer network technology. Students can identify the different types of network topologies and protocols. Students can Identify the different types of network standards
3	BCS-303	Data Structure and Algorithms	Ability to analyze algorithms and algorithm correctness. Ability to summarize searching and sorting techniques Ability to describe stack, queue and linked list operation. Ability to have knowledge of tree and graphs concepts.
4	BCS-304 (Elective)	A (Elective) Discrete Mathematics	Apply mathematical foundation to the discipline of Computer Science.
		Mathematical Technique in Computer Science (MTCS)	Able to use standard mathematical techniques to solve elementary problem. • Understand the nature of mathematical proof & be able to write clear & concise proof.

5	BCS-305	OR Intra / Inter Departmental courses OR BCS-305 B (Open Elective) Numerical Abilities	Solve mathematical problems using analytical methods; Solve mathematical problems using computational methods; Students can develop design and analyze numerical techniques to approximate solutions to problems .
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Sr. No.	Section and Paper code	Name of Paper	Course Outcomes
1	BCS -401	Programming in JAVA	The knowledge of the structure and model of the Java programming language. To use the Java programming language for various programming technologies To develop software in the Java programming language.
2	BCS-402	Software Engineering	Ability to learn various methods of software development Ability to apply various software testing techniques
3	BCS-403	Relational Database Management System	To study the basic concepts of relational databases Learn and practice data modeling using the entity-relationship and developing database designs. Understand the use of Structured Query Language (SQL) and learn SQL syntax for writing queries. Apply normalization techniques to normalize the databases.

4	BCS-404 (Elective)	A (Elective) Principle of Compiler Design	To understand overall design of compiler with their types and phases. To understand the basic concept of essential syntactic elements and identifying those elements. One can easily construct the recognizer system for language constructs as a input. Understanding context free grammar. Understanding various parsing techniques and intermediate code.
		B (Elective) Essentials of Computer Security	To develop a basic understanding of cryptography To develop a basic understanding of security policies. To develop a basic understanding of authentication and access control To determine mechanism for protecting information
5	BCS-405 (Open Elective)	Logical Reasoning	Identify logical relations among statements. Analyse logically complex statements into their truth functional or quantificational components This enable students to develop their ability to reason by introducing them to elements of formal reasoning

Sr. No.	Section and Paper code	Name of Paper	Course Outcomes
1	S5.CC.1	Windows Programming with C#.NET	To impart the knowledge on basics concepts of object oriented programming. To outline the various characteristics of c#. To provide the familiarity in the concept of developing window application. To converse an idea of creating application using ADO.Net. To convey the idea of CLR and .Net framework
2	S5.CC.2	Python Programming	To impart the knowledge on basics concepts of object oriented programming. To outline the various characteristics of Python. To provide the familiarity in the concept of developing web based & game application. To converse an idea of creating application using Database Handling. To convey the idea of Python Machine learning concept.
3	S5.CC.3	Java Server Pages(JSP) and Servlet	Awareness of existing demanding trends in IT industry in order to get placement & research Understand the JSP, Servlet and MVC architecture Install and use appropriate tools for JSP and Servlet development, including IDE, Web Server etc. Build user interfaces with JSP, Servlet Java Beans and MVC and more.

4	S5.CC.5 (Core Course Elective)	I (Elective) Operating System	Fundamental understanding of the role of Operating Systems. To understand the concept of a process and thread. To apply the cons of process/thread scheduling. To apply the concept of process synchronization, mutual exclusion and the deadlock. To realize the concept of I/O management and File system. To understand the various memory management techniques
5	S5.SEC.1 (Skill Enhancement Course - 1)	II (Elective) Mobile Communication	Evaluate the usability of mobile devices such as smart phones. Select appropriate wireless technologies in commercial and enterprise applications. Assess the capabilities of next generation networks and role of mobile technologies.
		III(Elective) Distributed Computing	Distinguish between distributed computing and parallel computing. Understand concepts of architectural Styles, Communication, and Synchronization. Demonstrate different naming & synchronization technologies Explore various distributed concepts.
6	S5.SEC.1 (Skill Enhancement Course - 1)	JavaScript	Use operators, variables, arrays, control structures, functions and objects in JavaScript. Identify popular JavaScript Libraries. Use regular expressions for form validation. Use Array, Math and String methods to access proper data. To build dynamic web pages and web applications.

		Linux and Shell programming(Skill Enhancement)	Awareness of existing demanding trends in IT industry in order to get placement & research in open source market. Understand the Linux OS architecture. Install and use different types of distributions available in market..
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8	S5.Lab.1	Windows Programming with C#.NET	To impart the knowledge on basics concepts of object oriented programming. To outline the various characteristics of c#. To provide the familiarity in the concept of developing window application. To converse an idea of creating application using ADO.Net. To convey the idea of CLR and .Net framework.
9	S5.Lab.2	Python Programming	To impart the knowledge on basics concepts of object oriented programming. To outline the various characteristics of Python. To provide the familiarity in the concept of developing web based & game application. To converse an idea of creating application using Database Handling. To convey the idea of Python Machine learning concept.
10	S5.Lab 3	Java Server Pages(JSP) and Servlet	Awareness of existing demanding trends in IT industry in order to get placement & research Understand the JSP, Servlet and MVC architecture. Install and use appropriate tools for JSP and Servlet development, including IDE, Web Server etc. Build user interfaces with JSP, Servlet Java Beans and MVC and more.

Sem VI

Sr. No.	Section and Paper code	Name of Paper	Course Outcomes
1	S6.CC.1	Cloud Computing	Awareness of existing demanding trends for Clouds and Virtualizations in the IT industry in order to get placement as well as in research

2	S6.CC.2	Android Programming	Awareness of existing demanding trends in IT industry in order to get placement & research Understand the Android OS architecture. Install and use appropriate tools for Android development, including IDE, device emulator, and profiling tools. Understand the Android application architecture, including the roles of the task stack, activities, & services. Build user interfaces with fragments, views, form widgets, text input, lists, tables, and more.
3	S6.CC.3	Digital Image Processing	Review the fundamental concepts of a digital image processing system. Analyze images in the frequency domain using various transforms. Evaluate the techniques for image enhancement and image restoration. Categorize various compression techniques. Interpret Image compression standards. Interpret image segmentation and representation techniques.
4	S6.CC.4	Software Engineering	Ability to learn various methods of software development. Ability to apply various software testing techniques
5	S6.CC.5 (Core	I (Elective) :Software Testing	Determines the correctness, completeness and quality of software being developed. Technical documentation is well organized using testing.
		II (Elective) Data Mining & Data Warehousing	Process raw data to make it suitable for various data mining algorithms. Discover and measure interesting patterns from different kinds of databases. Apply the techniques of clustering, classification, association finding, feature selection and visualization to real world data.

6	Course Elective)	III(Elective) Cyber Security	Explain the concepts of confidentiality, availability and integrity (CIA) in context of Information Assurance. Understand the objectives of IT Act and Cyber Law. Understands Encryption and decryption methods. Understand Digital signature and its technical aspects. Understand the concept of Domain Name Disputes ,Cyber squatting and Reverse Hijacking. Will understand cybercrimes such as hacking and other offences.
7		XML Programming	Use XML Markup and Core Concepts. Use of Document Models: A Higher Level of Control. Use different template rules. To build dynamic web pages and web applications.
8		SQL Server	Detailed understanding of MS SQL Server database. Knowledge of writing SQL queries. oKnowledge of DDL, DML, DCL commands o Knowledge of maintaining relation between table and database normalization. Understanding different numerical, string handling and date handling function.
9		MySQL	Detailed understanding of MySQL database. oKnowledge of writing SQL queries. oKnowledge of maintaining relation between table and database normalization. oUnderstanding different numerical, string handling and date handling function.
10	S6.Lab1	Android Programming	Awareness of existing demanding trends in IT industry in order to get placement & research Understand the Android OS architecture. Install and use appropriate tools for Android development, including IDE, device emulator, and profiling tools. Understand the Android application architecture, including the roles of the task stack, activities, & services. Build user interfaces with fragments, views, form

			widgets, text input, lists, tables, and more.
11	S6.Lab2	Digital Image Processing	• Review the fundamental concepts of a digital image processing system. • Analyze images in the frequency domain using various transforms. • Evaluate the techniques for image enhancement and image restoration. • Categorize various compression techniques. • Interpret Image compression standards. • Interpret image segmentation and representation techniques

Course Outcomes of B.Sc. Electronics

Sr. No.	Section and Paper code	Name of Paper	Course Outcomes
1	CCEI-A	Basic Electronics and Network Analysis (P-I)	Understand the current voltage characteristics of semiconductor devices, Able to understand the phasor diagram. (understanding of electronics in mathematics point of view) Design and analyze of electronic circuits, Evaluate frequency response to understand behavior of Electronics circuits.
2	CCEI-B	Basic Digital Electronics (P-II)	Gain knowledge and evaluate the Boolean expressions, combinational logic circuits and simplifications using Karnaugh maps. Understand different types of number systems and codes. Perform different number system interconversion. Perform different types of Boolean operations.

			Analyze digital system design using IC. Simplify the Boolean equation using Karnaugh map techniques. Understand basic arithmetic circuits using Gates.
3	CCEII-A	Semiconductor Devices and Electronic Instruments (P-III)	Understand the fundamental concepts of diodes and difference between different types of semiconductor diodes. Understand the Voltage- Current characteristics of different transistor configuration.
4	CCEII-B	Digital Logic Circuits (P-IV)	Analyze the operation of decoders, encoders, multiplexers, adders and subtractors. Understand the working of latches, flip-flops, designing registers, counters, a/d and d/a converter. Design and Analyze synchronous and asynchronous sequential circuits. Students learn to analyze and compare algorithms for efficiency using Big-O notation. Students implement projects requiring the implementation of the above data structures.
5	ELEC V: Paper – V	Laboratory Course Work	Identify the different electronic components viz, Resistors, Capacitors, Inductors, transformers. Understanding of basic Gates using ICs. Able to understand rectifiers and their characteristics Understanding of different diodes and their operations. With the help of different ICs student can perform different combinational circuits.

6	CCC-III Section-A P- VI	Amplifiers, Oscillators & Multivibrators P – VI	A student will learn about basics of load lines and D.C bias circuits in electronics. A student will learn how to bias a transistor and different biasing circuits used in electronics.
7	CCC-III Section-A P- VII Section-B	Fundamental of microprocessor	A student gets information about microprocessor its internal structure, pin diagram and its application (especially 8085 microprocessor). A student learns the instruction set of 8085 microprocessor and addressing modes in brief. A student is able to write simple programmes of data transfer and arithmetic operations and can execute them. A student study about Intel 8086 microprocessor. A student learns internal structure, functional pin diagram and features of Intel 8086 microprocessor.
8	CCEP-II Section-A	Practical based on P-VI and P-VII	Understanding of operational amplifier and its uses in different circuits How to use op-amps as inverting and non inverting amplifiers. Application of IC 555 timer. Study of different forms of oscillators and oscillator's study using op-amp. Can perform different practical related to multivibrators.
9	CCESI (Section A) OR Section-B	Skill Enhancement Course- I (SEC-I) OR Skill Enhancement Course-II	Enhancement of students measurement skills like SI to CGS conversions Can operate vernier caliper, screw gauge. How to operate both analog and digital multimeters. Operate cathode ray oscilloscope and how to find frequency, time period, voltage using CRO.

			OR Understanding of basics of semiconductors and diodes. Study of Light Dependent Resistor (LDR), its construction and working. Student will able to understand how to determine radius of curvature of Lens using Spherometer. Able to understand the use of laser source to find slit width and radial spacing of CD. To understand the polarization and how to find angle of polarization.
10	CCEIV Section-A Paper-VIII	Op- Amp its application and some special IC's	A student learns about internal block diagram of Op-Amp 741 IC and related parameters. A student learns the application of Op-Amp and its modes of operation. A student knows about active filters and its design. A student learns about IC 555 timer and can construct circuit of astable, monostable and bistablemultivibrator circuit.
11	CCE-IV Section-B	Microprocessor Interfacing	A student learns the interfacing concept and data transfer scheme in 8085 microprocessor. A student study about functional pin diagram, block diagram of different interfacing chips like 8253, 8255, 8259, 8257, etc. A student get an idea about application of microprocessor like interfacing switches, LED, Relay, etc. A student gets knowledge of analog to digital and digital to analog converter (0808) and its interfacing using IC 8255.

12	CCEP-III Section-A	Paper No. XI Practicals based on P- VIII and P- IX	Study of ALP to transfer a data from one location to another location. Understanding of ALP for addition and subtraction of bits and bytes. Able to find compliments using ALP. Study of multiplication and division using ALP. How to generate square wave using IC 8255.
13	CCESII (Section A) OR Section-B	Skill Enhanceme nt Course- I (SEC-I) Electrical Circuits & Network Skills OR Skill Enhanceme nt Course-II Renewable Energy & Energy Harvesting	Students learn basic principles of electricity such as voltage, current, resistors, power. Get familiarized with multimeter, ammeter and voltmeter. Understanding off different parameters of Op-Amps and transducers. Students will learn to use LCR meter. OR Students will learn the importance of solar energy. Understanding of applications of solar energy. (Solar water heater, solar distillation, solar cooker, solar green houses)
14	DECE-I (Section A) (P-XII)	Communica tion Electronics- I (Compulsor y	Understand different blocks in communication system and how noise affects communication using different parameters. Distinguish between different amplitude modulation schemes with their advantages, disadvantages and applications. Analyze generation and detection of AM signal and comparison between amplitude and angle modulation schemes. Sample analog signal and recover original signal without any distortion. Differentiate between different pulse modulation and demodulation techniques and signal multiplexing for various applications.

15	DECE-I (Section B) Elective (P-XIII-B)	Introduction to Microcontroller (8051)	A student will get information about 8051 microcontroller and its internal structure, pin diagram and working of different blocks. A student learns about its instruction set addressing modes and programming modes of 8051 microcontroller. A student get knowledge of special function registers in 8051 microcontroller. A student can write and execute assembly language programs on arithmetic, logical branching and looping etc. using Keil software.
16	SEC-III	SEC-III(A): Linear Circuit Designing	Students will learn the basics of some electronic components and circuits of practical importance.
17	*DECE-II (Section A)	Communication Electronics-II (P-XIV) (Compulsory)	Identify different radio receiver circuits and role of AGC. Discriminate different Radars, find applications and use of its supporting systems. Understand evolution of mobile communication generations 2G, 3G, and 4G with their characteristics and limitations. Apply the fundamental principles of optics and light wave to design optical fiber communication systems. Differentiate losses in optical fiber link and state transmission characteristics of optical fiber.
18	DECE-II [(Section B) Elective]	Microcontroller 8051 Programming and Interfacing (P- XV-B)	A student learns about I/O port programming of 8051. A student gets knowledge about timer/counter programming of 8051.

19	SEC-IV	SEC-IV(A): Digital Logic Design OR SEC-IV(B): Programming Skill in 'C'	Student learns fundamentals of Digital Logic Design. Understanding of designing of a given combinational logic circuit. Student studies designing of a given sequential logic circuit. Get fundamental knowledge of PLDs. OR Student will understand fundamentals of C language Develop the skill of decision making & looping control structure. Student Studies the functions, arrays, string in C language. Students develop software skill by writing programs in 'C' based on some problems. Student can write C program for any given task.
20	DECEP-I (Section A) P-XVI	Practicals based on P-XII and P-XIV	Students will understand class C amplitude modulation. Get the knowledge of linear diode detector and to measure detection efficiency. Student will know about two stage IF amplifier. Get the basic knowledge of optical fiber and to calculate bending loss and numerical aperture. Understand the use of photodiode to study different characteristics.
21	DECEP II (Section B) P-XVII	Practicals based on P-XIII and P-XV (A or B)	Understand the basics of UJT and its characteristics. Students will get the idea behind the use of Silicon Controlled Rectifier (SCR). Student will understand the applications of SCR such as in AC voltage stabilizer, in choppers, in inverters and in power control. Students will get to know about the characteristics of DIAC and TRIAC

B.Com I Year (I Semester)

1. Fundamental of Financial Accounting (Paper No. BC 1.1)

Course Outcomes 1. Basic knowledge of Accountancy 2. Accounting process 3. Application of Accounting in Business

2. Business Statistics (Paper No. BC 1.2)

Course Outcomes 1. Student can understand the basic concept of statistics. 2. Provide fundamental knowledge of statistical techniques. 3. Statistical application in business and data analysis.

3. Business Economics-I (Paper No. BC 1.3) Course Outcomes 1. Students will be acquainted with the business economic principles 2. Economic theories as are applicable in business.

4. Fundamentals of Business Communication (Paper No. : BC 1.4) Course Outcomes 1. Develop Communication Skills of Students 2. Help in personality development. 3. To improve speaking, writing, and interview skills of students. 4. Adequate Knowledge about good communication in business

5. Computer for Business (Paper No. : BC 1.5.1) Course Outcomes 1. Develop awareness about computer and advances in the Information technology field 2. Develop knowledge about internet, email and social networking 3. Adequate Knowledge about Information technology

B.Com I Year (II Semester)

1. Financial Accounting (Paper No. BC 2.1)

Course Outcomes 1. Accounting Knowledge 2. Application of Accounting in Business

2. Business Statistics and Mathematics(Paper No. : BC 2.2)

Course Outcomes 1. Student can understand the basic concept of mathematics 2. Mathematical operational use in various business operations

3. Business Economics II (Paper No. BC 2.3)

Course Outcomes 1. Students will be acquainted with the market structures 2. Theory of distribution is as applicable in business.

4. Modern Business Communication(Paper No. BC 2.4)

Course Outcomes 1. Adequate Knowledge about good communication in business

Tally ERP 9.0(Paper No. : BC 2.5.1) Course Outcomes 1. Adequate Knowledge about Computerize Accountancy and Tally

B.Com. Second Year Semester III (CBCS Patterns)

Paper No. BC.3.1 Corporate Accounting

Course Outcomes: 1. The course is beneficial to understand the provision of company act 1956 regarding the preparation of accounts. 2. It is beneficial for students to move in to advance areas i.e. C.A, I.C.W.A, CS etc. 3. It could help graduates to work as financial analyst, HRM officers. 4. It provides the knowledge of differentiating the profit Prior and post Incorporation. 5. It provides the basic concept of knowledge of buyback, forfeiture of shares.

Paper No. BC.3.2 Cost Accounting

Course Outcomes: 1. The selection of the appropriate cost accounting and their impact on the business policy. 2. The determination of cost as per element per unit of production. 3. The Identification and control of cost of production. 4. Becoming a superior Cost accountant and cost analyst.

Paper No. BC.3.3 Principles of Business Management

Course Outcomes: 1. Successfully completion of this course, students will be able to understand the Managerial functions. 2. To understand the way of implementation of the planning process within the organization. 3. It would help the students to clarify the basic and fundamental concepts of the management systems. 4. To illustrate the ability to directly leading and communicating effectively. 5. It would be useful for analyzing, evaluating and synthesizing the information of management.

Paper No. BC.3.4 Mercantile Law

Course outcomes: Students will be able to apply and follow the rules and regulations as per the various business and mercantile laws. Such As 1. Indian Contract Act, 1872. 2. Negotiable Instruments Act, 1881 3. Sale of Goods Act, 1930 4. Indian Partnership Act, 1932 5. Consumer Protection Act, 1986 Paper No. BC.3.5 Fundamentals of Income Tax

Paper No. BC.3.5 Fundamentals of Income Tax

Course Outcomes: 1. After Completion of course students will be capable to describe the provisions in the corporate tax law which can be used for tax planning. 2. Students can well define the residential status of the assets. 3. Student of the course will be able to explain different type of income of their tax liabilities, expenses and their deduction ability. 4. Students who complete their course will be able to learn various direct and indirect taxes and their implications 5. Students of the

course will be able to state the use of various deduction to reduce the taxable income.
6. Student will be capable of choosing a career to become a Tax consultant.

Skill Enhancement Course -I Paper No. SEC.1.3 Basic Accounting skills

Course Outcomes: The students will be able to handle basic accounting practices skillfully.

B.com Second year Semester IV (CBCS Patterns)

Paper No. BC.4.1 Advance Corporate Accounting

Course outcomes:- 1) Student can acquire an idea about internal reconstruction of the company 2) The learn and understand how the two companies amalgamated 3) Students get knowledge of process of how the Holding company and subsidiary company come together 4) Provide the knowledge of Advance and recent transactional concept of corporate accounting

Paper No. BC.4.2 Advanced Cost Accounting

Course Outcomes 1) It will assist to student in company decisions making in practical manner 2) Students has an opportunity to become a cost analyst and cost accountant 3) Students can evaluate financial cost and cost volume profit model by acquiring the costing knowledge 4) Students can become to propose an organizational design based managerial accounting concept.

Paper No. BC.4.3 Business Management

Course Outcomes: 1.It is beneficial to become successful manager. 2.It is very useful to apply theories and techniques of management in practical life. 3. It develops managerial skills among the students.

Paper No. SEC.2.4 Retail Business Accounting Paper No. BC.4.4 Corporate Law

Course outcomes:- 1) Student know the procedure of conducting meetings 2) Student hasan opportunity to become a company secretary 3) By acquiring the knowledge of technical process of company winding-up 4) Student can understand various provision of incorporation of company

Paper No. BC.4.5 Income Tax Law and Practice

Course Outcomes 1) Student able to make differentiate the direct and indirect tax 2) Student acquaint the knowledge and able to file tax return on individual 3) To learn and make able to compute total Income and define tax compliance and structure 4) Enable to understand amendment made from time to time by finance department

Paper No. SEC.2.4 Retail Business Accounting

Course Outcomes: 1. The students will be able to handle basic accounting practices skillfully. 2. The students will be able to handle Retail Business Accounting practices skillfully.

B. Com. Third Year Semester -V(CBCS Pattern)

1. Advanced Accounting – I (XXIII)

Course Outcomes: 1. Student can acquire knowledge of advance level of accounting for professional 2.The course is to equip the students with the ability to analysis interpret and use accounting information in managerial decision making and auditing.

2. Management Accounting – I (XXIV)

Course Outcomes: 1. This course is to equip the students with the ability to analysis, interpret and use accounting information in Management accounting information in managerial decision making. 2. The student is expected to have a good working knowledge of the subject. 3. This paper provides the students an understanding of the application of accounting techniques for management.

3. Auditing-I (XXV)

Course Outcomes: 1. The course is to provide the candidates with sound Knowledge of the important provisions of the Audit and company law and their Applications in practices. 2.The course is to provide the candidates with sound Knowledge of Regarding minute study to find out the fraud and errors in accounting.

4. (B) Human Resource Management-I (XXVI)

Course Outcomes: 1. The course is to gain the holistic knowledge of human resource engaged in the business world. 2. The course is to provide the candidates of understand the nature and applicability of the major HR Practice.

5. (B) Marketing Management-I (XXVII)

Course Outcomes: 1. This course is to provide a sound understanding of the basic Principles of Marketing Management and their applications in the business and industry. 2. This course aware oneself in respect of difference between sales and marketing

GE-I.1 Indian Economy-I

Course Outcomes: 1. Acquaint the student with the development of knowledge about Indian Economy and various system of control the Economic crises in Indian Economy.

SEC-III.4 Accounting and Tally

Course Outcomes: 1. Develop the knowledge of student in accounting treatment with the help of computer software technology.

B. Com. Third Year Semester VI

1. Advanced Accounting-II (XXIX)

Course Outcomes: 1. Student can acquire knowledge of advance level of accounting for professional 2.The course is to equip the students with the ability to analysis interpret and use accounting information in managerial decision making and auditing.

2. Management Accounting – II (XXX)

Course Outcomes: 1. This course is to equip the students with the ability to analysis, interpret and use accounting information in Management accounting information in managerial decision making. 2. The student is expected to have a good working knowledge of the subject. 3. This paper provides the students an understanding of the application of accounting techniques for management.

3. Auditing-II (XXXI)

Course Outcomes: 1. The course is to provide the candidates with sound Knowledge of the important provisions of the Audit and company law and their Applications in practices. 2.The course is to provide the candidates with sound Knowledge of Regarding minute study to find out the fraud and errors in accounting.

4. (B) Human Resource Management-II (XXXII)

Course Outcomes: 1. The course is to gain the holistic knowledge of human resource engaged in the business world. 2. The course is to provide the candidates of understand the nature and applicability of the major HR Practice.

5. (B) Marketing Management-II (XXXIII)

Course Outcomes: 1. This course is to provide a sound understanding of the basic Principles of Marketing Management and their applications in the business and industry. 2. This course aware oneself in respect of difference between sales and marketing.

GE-II.1 Indian Economy-II

Course Outcomes: 1. Acquaint the student with the development of knowledge about Indian Economy and various system of control the Economic crises in Indian Economy.

SEC-III.4 Accounting and Tally

Course Outcomes: 1. Develop the knowledge of student in accounting treatment with the help of computer software technology.