

Program Outcomes

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| PO1 | Critical Thinking | Take informed actions after identifying the assumptions that frame our thinking and actions, checking out the degree to which these assumptions are accurate and valid, and looking at our ideas and decisions (intellectual, organizational, and personal) from different perspectives. |
| PO2 | Problem Solving | Understand and solve problems of relevance to society to meet the specified needs using the knowledge, skills and attitudes acquired from humanities / sciences/ mathematics/ social sciences. |
| PO3 | Computational Thinking | Understand data-based reasoning through translation of data into abstract concepts using computing technology-based tools |
| PO4 | Effective Communication | Speak, read, write and listen clearly in person and through electronic media in English and in one Indian language, and make meaning of the world by connecting people, ideas, books, media and technology. |
| PO5 | Environment and Sustainability | Understand the issues of environmental contexts and sustainable development. |

BSc Physics - Program Specific Outcomes (PSO)

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| PSO 1 | Understand basic mechanics and properties of matter. |
| PSO 2 | Illustrate the principles of electricity, magnetism, thermodynamics, optics and spectroscopy. |
| PSO 3 | Identify, formulate and analyze complex problems using basic principles of mathematics, physics and statistics. |
| PSO 4 | Design, construct and analyze basic electronic and digital circuits. |
| PSO 5 | Understand the basics of programming language and apply it to various numerical problems. |
| PSO 6 | Develop effective communication skills. |

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| PSO 7 | Develop experimental skills and independent work culture through a series of experiments that compliment theories and projects. |
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BSc Physics - Course Outcomes (CO)

| SEMESTER | PAPER CODE | TITLE OF THE PAPER | CO | COURSE OUTCOME |
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| 1 | PH1CRT01 | Methodology and Perspectives of Physics | 1 | Understand the historical developments in physics and its methodology. |
| | | | 2 | Illustrate various mathematical methods and co- ordinate systems for physicists |
| | | | 3 | Understand number systems, algebra and its significance. |
| | | | 4 | Create skills to estimate errors in experimental measurements |
| | | | 5 | Understand the working of basic measuring instruments. |
| 1 | PH1CMT01 | Properties of Matter and Error Analysis | 1 | Understand the concepts of elasticity and its relevance. |
| | | | 2 | Understand the concepts of surface tension |
| | | | 3 | Understand the concepts of hydrodynamics |
| | | | 4 | Create skills to estimate errors in experimental measurements. |
| 1 | PH1CMT02 | Properties of Matter and Thermodynamics | 1 | Understand the concepts of elasticity and its relevance |
| | | | 2 | Understand the concepts of surface tension. |
| | | | 3 | Understand the concepts of hydrodynamics. |
| | | | 4 | Apply the concepts of thermodynamics. |
| 2 | PH2CRT01 | Mechanics and Properties of Matter | 1 | Understand the general nature of waves and its characteristics. |
| | | | 2 | Analyze oscillatory motions. |

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| | | | 3 | Understand the mechanics of rotational motion. |
| | | | 4 | Understand the concepts of elasticity |
| | | | 5 | Understand the concepts of hydrodynamics |
| 2 | PH2CMT01 | Mechanics & Astrophysics | 1 | Understand the characteristic features of motion under gravity. |
| | | | 2 | Understand the general nature of waves and its characteristics. |
| | | | 3 | Analyze different types of harmonic motions. |
| | | | 4 | Determine the theoretical and practical moment of inertia of different bodies. |
| | | | 5 | Describe the life cycle of stars and stellar evolution |
| | | | 6 | Understand stellar classification, properties; and its various stages. |
| 2 | PH2CMT02 | Mechanics & Superconductivity | 1 | Understand the characteristic features of motion under gravity. |
| | | | 2 | Understand the general nature of waves and its characteristics. |
| | | | 3 | Analyse different types of harmonic motions. |
| | | | 4 | Determine the theoretical and practical moment of inertia of different bodies |
| | | | 5 | Understand the concept of superconductivity |
| 3 | PH3CRT03 | Optics, Laser and Fiber Optics | 1 | Apply the concepts of interference in different practical cases. |
| | | | 2 | Apply the concepts of diffraction.. |
| | | | 3 | Understand the concept of polarization and different methods of production. |
| | | | 4 | Understand the characteristics and types of laser. |
| | | | 5 | Understand the propagation of light through optical fiber. |
| 3 | PH3CMT01 | Modern Physics and Electronics | 1 | Understand types of atom models & related principles, atomic nucleus and its fundamental properties. |

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| | | | 2 | Understand the concept of radioactivity and related laws. |
| | | | 3 | Understand the concepts of wave mechanics, eigenvalues, eigen functions and basic postulates of quantum mechanics. |
| | | | 4 | Analyse Schrödinger's equation for a particle in a box. |
| | | | 5 | Understand the basics of molecular spectroscopy, microwave spectroscopy, infrared spectroscopy, Raman Spectroscopy and NMR Spectroscopy. |
| | | | 6 | Distinguish different types of semiconducting diodes and bipolar junction transistor. |
| | | | 7 | Illustrate number systems, binary and Boolean algebra, logic gates and truth tables. |
| 3 | PH3CMT02 | Modern Physics & Magnetism | 1 | Understand types of atom models & related principles, atomic nucleus and its fundamental properties. |
| | | | 2 | Understand the concept of radioactivity and related laws. |
| | | | 3 | Understand the concepts of wave mechanics, eigenvalues, Eigen functions and basic postulates of quantum mechanics. |
| | | | 4 | Analyse Schrödinger's equation for a particle in a box. |
| | | | 5 | Understand the basics of molecular spectroscopy, microwave spectroscopy, infrared spectroscopy, Raman Spectroscopy and NMR Spectroscopy. |
| | | | 6 | Distinguish different types of semiconducting diodes and bipolar junction transistor. |
| | | | 7 | Differentiate magnetic materials and their properties |
| | | | 8 | Illustrate Earth's magnetism, causes and components. |
| 4 | PH4CRT04 | Semiconductor Physics | 1 | Understand various types of semiconducting diodes, properties and characteristics. |
| | | | 2 | Analyse various configurations and feedback circuits of bipolar junction transistor |
| | | | 3 | Apply the concepts of transistor amplifier |
| | | | 4 | Compare amplifiers & oscillators |
| | | | 5 | Explain Field Effect Transistor (FET) and OP-amp |
| | | | 6 | Analyze different types of modulation. |
| 4 | PH4CMT01 | Optics and Electricity | 1 | Apply the concepts of interference, diffraction and polarization in different practical cases |
| | | | 2 | Understand the characteristics and types of laser. |

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| | | | 3 | Explain the properties of dielectrics. |
| | | | 4 | Apply the concepts of alternating current. |
| 4 | PH4CMT02 | Optics and Solid State Physics | 1 | Apply the concepts of interference, diffraction and polarization in different practical cases |
| | | | 2 | Understand the characteristics and types of laser. |
| | | | 3 | Explain the properties of dielectrics. |
| | | | 4 | Distinguish different crystal structures with examples. |
| 5 | PH5CRT05 | Electricity and Electrodynamics | 1 | Apply the concepts of alternating current. |
| | | | 2 | Understand the concepts of transient current and thermo electricity |
| | | | 3 | Apply laws governing the charge distribution in electrostatics |
| | | | 4 | Understand the concepts of Polarization, bound charges and boundary conditions. |
| | | | 5 | Express the relevance of different magnetization and the boundary condition of magnetic field. |
| | | | 6 | Illustrate Faraday's law of induction, Maxwell's equations in different media and displacement current. |
| | | | 7 | Discuss energy, momentum and propagation of electromagnetic waves in different media. |
| | | | 8 | Solve network theorems. |
| 5 | PH5CRT06 | Classical and Quantum Mechanics | 1 | Apply Lagrangian and Hamiltonian |
| | | | 2 | Understand Blackbody radiation, the Ultraviolet catastrophe, Photoelectric effect and the Compton Effect. |
| | | | 3 | Understand wave properties of particles, De Broglie waves and its implications on the uncertainty principle. |
| | | | 4 | Understand the concepts of Wave Mechanics, Eigen values, Eigen functions and basic postulates of quantum mechanics. |
| | | | 5 | Analyse Schrödinger's equation for a particle in a box. |
| 5 | PH5CRT07 | Digital Electronics and Programming | 1 | Compare Digital and analog systems. |
| | | | 2 | Understand various number systems and their conversions |
| | | | 3 | Compare operators, logic symbols and truth tables of different logic gates. |
| | | | 4 | Compute Boolean expressions using sum of product method and product of sum method. |

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| | | | 5 | Explain the combinational logic and sequential logic |
| | | | 6 | Analyze various problems and create programs to solve it using C++ |
| 5 | PH5CRT08 | Environmental Physics and Human Rights | 1 | Examine the need of environmental study. |
| | | | 2 | Understand renewable, non-renewable and natural resources. |
| | | | 3 | Understand the concept of ecosystem, biodiversity and its conservation. |
| | | | 4 | Understand pollution factors , remedies and environmental protection laws |
| | | | 5 | Analyze social issues and environment acts |
| | | | 6 | Understand the International, National and State perspectives of Human Rights |
| | | | 7 | Understand the waste management. |
| 5 | PH5OPT02 | Physics in Daily Life | 1 | Understand the concept of errors, fundamental and derived quantities. |
| | | | 2 | Understand the role of light and em waves in daily life. |
| | | | 3 | Understand the concepts and laws of linear and rotational motion. |
| | | | 4 | Illustrate the concepts of Electricity and power generation technologies |
| | | | 5 | Enumerate different dynamical and thermal properties of matter. |
| | | | 6 | Explain the general features of waves. |
| | | | 7 | Understand the fundamentals of celestial bodies. |
| 6 | PH6CRT09 | Thermal and Statistical Physics | 1 | Understand various thermodynamic processes and work done |
| | | | 2 | Apply the concepts of thermodynamics |
| | | | 3 | Describe the working of ideal and real heat engines. |
| | | | 4 | Illustrate the concept of entropy. |
| | | | 5 | Focus on the thermo dynamical functions and their relations |
| | | | 6 | Apply the various modes of energy transmission. |
| | | | 7 | Discuss Maxwell- Boltzmann, Bose – Einstein and Fermi – Dirac statistics. |

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| 6 | PH6CRT10 | Relativity and Spectroscopy | 1 | Understand the different types of frames of references , Galilean and Lorentz Transformation laws. |
| | | | 2 | Apply the concepts of the special theory of relativity. |
| | | | 3 | Describe various atom models. |
| | | | 4 | Discuss Zeeman Effect; Nuclear magnetic Resonance (NMR) and Electron spin resonance (ESR) |
| | | | 5 | Illustrate Spectra of diatomic molecules. |
| | | | 6 | Differentiate Phosphorescence and Fluorescence |
| | | | 7 | Understand the basics Raman, IR and Microwave Spectroscopy. |
| 6 | PH6CRT11 | Nuclear, Particle and Astrophysics | 1 | Illustrate General properties of nucleus. |
| | | | 2 | Explain the nuclear composition and various nuclear models. |
| | | | 3 | Apply the concepts of Radioactivity |
| | | | 4 | Differentiate nuclear Fission and Fusion. |
| | | | 5 | Classify Nuclear reactors |
| | | | 6 | Realize the importance of Cosmic rays and its effects on earth. |
| | | | 7 | Illustrate elementary particles, quantum numbers and quark model. |
| | | | 8 | Understand the fundamentals of celestial bodies. |
| 6 | PH6CRT12 | Solid State Physics | 1 | Understand crystal structures and X-ray diffraction methods to analyze crystal structures |
| | | | 2 | Understand types of bonding of solids and their properties and classify the solids |
| | | | 3 | Understand free electron theory and elementary band theory |
| | | | 4 | Analyze the properties of semiconducting materials |
| | | | 5 | Understand the dielectric and magnetic properties of materials |
| | | | 6 | Expected to gain knowledge of superconductivity, its underlying principles and its applications in the modern world. |
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| 6 | PH6CBT03 | Computational Physics | 1 | Explain microprocessor operations; Illustrate and Explain pinout diagram and architecture of microprocessor |
| | | | 2 | Develop simple programs for data transfer, addition and subtraction |

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| | | | 3 | Understand C++ program structure |
| | | | 4 | Illustrate the application of C programming for addition and multiplication of matrices, bisection, false position and Newton-Raphson methods |
| | | | 5 | Explain trapezoidal rule and Simpson's 1/3 rule for numerical integration also state algorithm; Explain Euler's method and second order Runge-Kutta method to find the numerical solution of differential equation also state algorithm. |

BSc ZOOLOGY MODEL I - Program Specific Outcomes (PSO)

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| PSO 1 | Understand levels of biological diversity, taxonomy of organisms and their evolutionary significance |
| PSO 2 | Identify environmental issues, awareness about biosphere conservation and develop an attitude for sustainable development. |
| PSO 3 | Understand the concepts of physiology, cell biology, genetics, biotechnology, bio informatics, molecular biology, endocrinology, developmental biology, microbiology, immunology, public health, nutrition, biochemistry, biophysics, biostatistics, human rights, research methodology, Zoogeography and Ethology. |
| PSO 4 | Understand the application of principles of aquaculture, apiculture, ornamental fish culture and vermiculture. |

BSc Zoology Model I - Course Outcomes (CO)

| SEMESTER | PAPER CODE | TITLE OF THE PAPER | CO | COURSE OUTCOME |
|----------|--------------------------------|--|----------|---|
| 1 | ZY1CRT01 & ZY1CRP01 | General Perspectives In Science And Protistan Diversity | 1 | Understand the basic philosophy of science and components of scientific inquiry |
| | | | 2 | Identify key individuals and events in the study of zoology over history |
| | | | 3 | Understand different branches and scope of Zoology |
| | | | 4 | Understand classification and organizational tools biologists use, including modern taxonomy and the features used to define the various animal body plans and symmetry |

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| | | | 5 | Explain the principal similarities and distinctions between Radiata and Bilateria, protostomes and deuterostomes, acoelomates, pseudocoelomates, and eucoelomates. |
| | | | 6 | Identify different taxa of organisms using taxonomic keys |
| | | | 7 | Identify the common characteristics of protists, roles they play in the ecosystem and diseases caused by parasitic protists |
| | | | 8 | Identify free living and parasitic protists |
| 1 | ZY1CMT01 & ZY1CMP01 | Non Chordate Diversity | 1 | Understand classification of invertebrate fauna into their major taxonomic groupings (phylum and class) |
| | | | 2 | Explain the major features used to differentiate the members of Kingdom Protista, Phylum Porifera, Coelenterata, Platyhelminthes, Nematoda, Annelida, Arthropoda, Mollusca, Echinodermata and Hemichordata |
| | | | 3 | Understand Parasitic forms of Protists |
| | | | 4 | Explain morphological, anatomical and developmental features of Fenneropenaeus sp. |
| | | | 5 | Illustrate organisms through scientific drawing to record and communicate the features of the specimen |
| | | | 6 | Identify sections of earthworm and Fasciola sp. under microscope |
| | | | 7 | Understand internal structure of prawn and cockroach through dissections |
| | | | 8 | Identify invertebrate specimens and assign organisms to their systematic position |
| 2 | ZY2CMT02 & ZY2CMP02 | Chordate Diversity | 1 | Understand fundamental characteristics of phylum chordate and classify various organisms |
| | | | 2 | Describe the salient features of division Agnatha, division Gnathostomata and class Pisces and describe accessory respiratory organs in fishes |
| | | | 3 | Describe the salient features of class Amphibia and organ systems of Euphyctis hexadactyla |
| | | | 4 | Describe the salient features of class Reptilia and describe poisonous and non poisonous snakes of Kerala |
| | | | 5 | Describe the salient features of class Aves and explain flight adaptation of birds |
| | | | 6 | Describe the salient features of class Mammalia and understand adaptation of aquatic mammals |

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| | | | 7 | Classify organisms into various phyla |
| | | | 8 | Compare and contrast the bones of frog |
| | | | 9 | Distinguish poisonous and non poisonous snakes |
| | | | 10 | Illustrate various systems of frog |
| 2 | ZY2CRT02 & ZY2CRP02 | Animal Diversity - Non Chordata | 1 | Understand classification of invertebrate fauna into their major taxonomic groupings (phylum and class) |
| | | | 2 | Explain the major features used to differentiate the members of Phylum Orthonectida, Placozoa, Porifera, Coelenterata, Ctenophora, Plat�helminthes, Nemathelminthes, Annelida, Onychophora, Arthropoda, Mollusca, Echinodermata and Hemichordata |
| | | | 3 | Explain morphological, anatomical and larval features of Fenneropenaeus sp. |
| | | | 4 | Describe Parasitic forms of lower invertebrates |
| | | | 5 | Illustrate invertebrates through scientific drawing to record and communicate the features of the specimen |
| | | | 6 | Identify sections of Hydra sp., earthworm, Ascaris sp., Fasciola sp. under microscope |
| | | | 7 | Understand internal structure of prawn and cockroach through dissections |
| | | | 8 | Identify invertebrate specimens and assign organisms to their systematic position |
| 3 | ZY3CRT03 & ZY3CRP03 | Animal Diversity – Chordata | 1 | Understand the general characters and classification of Phylum Chordata with examples |
| | | | 2 | Discuss Piscean classification, types of scales and accessory respiratory organs, parental care and migration |
| | | | 3 | Compare the Orders of Class Amphibia and study in detail the organ systems of Euphlyctis hexadactylus |
| | | | 4 | Classify Reptilia upto Order with special emphasis on identification poisonous and non-poisonous snakes |
| | | | 5 | Explain the classification, flight adaptations and migration in Aves |
| | | | 6 | Understand Mammalian classification, their adaptations and detailed account on the organ systems of Oryctolagus cuniculus |
| | | | 7 | Illustrate vertebrate specimens through scientific drawing to record and communicate their features |

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| | | | 8 | Infer the anatomy of frog using dissected specimens and diagrams |
| | | | 9 | Identify the components of endoskeleton in vertebrates |
| | | | 10 | Identify chordate specimens and classify organisms to their systematic position |
| 3 | ZY3CMT03 & ZY3CMP03 | Physiology And Immunology | 1 | Understand the basic concepts of nutrition, vitamin and mineral deficiencies and nutritional disorders |
| | | | 2 | Understand the mechanism, transport of respiratory gases, respiratory disorders and physiological effects of smoking |
| | | | 3 | Understand the composition and functions of blood, mechanism of blood coagulation, ECG, Blood pressure, arteriosclerosis and clotting disorders |
| | | | 4 | Understand the structure of nephron, composition and mechanism of urine formation and kidney disorders |
| | | | 5 | Understand the structure of neuron, physiology of nerve impulse transmission, Brain waves, EEG and neural disorders |
| | | | 6 | Understand the different types of muscle, structure of skeletal muscle, mechanism of muscle contraction, Cori cycle, Oxygen debt and rigor mortis |
| | | | 7 | Understand the mechanism of hormone action, endocrine glands, function and hormonal disorders |
| | | | 8 | Understand the concepts of human immune system |
| | | | 9 | Analyse the components reducing sugar, protein, lipid and action of salivary amylase on starch |
| | | | 10 | Estimate the hemoglobin content in blood sample, Determine the blood pressure and blood group |
| 4 | ZY4CRT04 & ZY4CRP04 | Research Methodology, Biophysics & Biostatistics | 1 | Understand basic concept of scientific method in research process |
| | | | 2 | Understand basic techniques of sampling and collection of animals |
| | | | 3 | Create awareness about the laws and ethical values in biology |
| | | | 4 | Understand the basic principles and use of different types of microscope |
| | | | 5 | Draw diagrams of microscopic organisms using Camera lucida |
| | | | 6 | Estimate the breadth of microscopic objects using micrometry |

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| | | | 7 | Calculate measures of central tendency and dispersion |
| | | | 8 | Construct bar diagram, histogram, pie diagram and line graphs |
| | | | 9 | Apply statistical methods in biological studies |
| | | | 10 | Develop skill in research communication and scientific documentation |
| 4 ZY4CMT04 & ZY4CMP04 | Applied Zoology | | 1 | Understand the objectives, types of aquaculture, common cultivable fishes , and fish preservation |
| | | | 2 | Understand induced breeding, prawn, mussel and pearl culture |
| | | | 3 | Understand the steps involved in setting an aquarium and fish diseases |
| | | | 4 | Describe the steps involved in sericulture, common species of silkworms, life history and diseases |
| | | | 5 | Understand the ecological classification of earth worms, life history, species of earth worms used for vermicultre, Study in detail the steps in setting up of a vermicomposting unit, its maintenance and management, preparation of vermiwash, understand the role of vermiculture in solid waste management. |
| | | | 6 | Understand uses of bees, species of bees cultured, organization of honeybee colony, bee keeping methods and equipment, management and maintenance of an apiary and by products. |
| | | | 7 | Apply the knowledge gained through class session and practical to differentiate culturable fishes, earthworms, honey bees, silkworm and their economic importance |
| | | | 8 | Identify and comment on bee keeping equipments and castes of honey bees |
| | | | 9 | Identify and comment on the uses of bee wax, honey, silk, vermicompost |
| | | | 10 | Identify and comment on mountages used in sericulture |
| | | | 1 | Understand the basic concepts of species, population, community and ecosystem |
| | | | 2 | Compare the advantages and disadvantages of renewable and non renewable resources |

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| 5 | ZY5CRT05 & ZY5CRP05 | Environmental Biology And Human Rights | 3 | Explain the concept of Biodiversity, types and levels and its conservation measures |
| | | | 4 | Identify global and local environment issue, factors polluting the environment, their impacts and control measures |
| | | | 5 | Understand the basic concepts of toxicology and their impact on human health |
| | | | 6 | Understand Human rights- its concepts and manifestations |
| | | | 7 | Estimate dissolved Oxygen and carbon dioxide in the given water samples |
| | | | 8 | Identify and enumerate marine/fresh water planktons in the given water sample |
| | | | 9 | Examine equipments such as Secchi disc and plankton net |
| | | | 10 | Compare different ecosystems and animal associations existing in these ecosystems |
| | | | 1 | Recognise the importance of Cell Biology and Genetics |
| | | | 2 | Understand the types of mutation |
| 5 | ZY5CRT06 & ZY5CRP06 | Cell Biology & Genetics | 3 | Identify cell organelles, leukocytes, tissues |
| | | | 4 | Understand the various genetic abnormalities |
| | | | 5 | Generalise the central role of genes and their inheritance in the life of organisms |
| | | | 6 | Explains mechanisms of sex determination |
| | | | 7 | Illustrate the structure and functions of cell membrane and various organelles |
| | | | 8 | Distinguish between mitosis and meiosis and its significance |
| | | | 9 | Understand the basic principles of cell communication |
| | | | 10 | Develop critical thinking, skill and research aptitude |
| | | | 1 | Understand various concepts and theories on evolution and evidences for evolution |
| | | | 2 | Describe the factors that lead to evolution |
| 5 | ZY5CRT07 & ZY5CRP07 | Evolution, Ethology And Zoogeography | 3 | Understand the concept of population genetics and factors that upset Hardy-Weinberg equilibrium |
| | | | 4 | Distinguish micro, macro and mega evolution with examples |

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| | | | 5 | Describe types of learning in animals with examples |
| | | | 6 | Understand animal behavioural patterns and the role of pheromones and hormones |
| | | | 7 | Understand the animal distribution patterns, types and factors |
| | | | 8 | Identify the zoogeographical realms of the world, its physical features and fauna |
| | | | 9 | Understand the biogeographic zones of India with special reference to Western Ghats |
| | | | 10 | Demonstrate phototaxis and chemotaxis using Drosophila |
| 5 | ZY5CRT08 & ZY5CRP08 | Human Physiology, Biochemistry And Endocrinology | 1 | Explain different types of macro and micronutrients, mention the deficiency diseases and describe digestive system |
| | | | 2 | Understand phases of respiration and summarize the respiratory gas transport |
| | | | 3 | Summarize blood coagulation and describe cardiovascular diseases |
| | | | 4 | Illustrate structure of nephron, describe urine formation and mention renal disorders |
| | | | 5 | Understand nerve impulse transmission and synapse, comment on neural disorders and explain muscle contraction |
| | | | 6 | Describe endocrine glands and summarize hormone action |
| | | | 7 | Understand enzyme action and explain enzyme kinetics, describe carbohydrate, protein and lipid metabolism |
| | | | 8 | Determine haemoglobin, enumerate RBC and WBC in blood sample |
| | | | 9 | Carry out qualitative analysis of macronutrients |
| 5 | ZY5OPT01 | Vocational Zoology | 1 | Understand the basic concepts in ornamental fish culture, vermiculture, apiculture and quail farming |
| | | | 2 | Discuss the types of indigenous fishes and present status of ornamental fish culture in India |
| | | | 3 | Explain the steps involved in aquarium management and establishment of commercial ornamental fish culture unit |
| | | | 4 | Understand salient features of quail farming and management |

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| | | | 5 | Understand methodology of setting up of vermiculture unit and its management |
| | | | 6 | Explain the techniques in management and maintenance of an apiary |
| | | | 7 | Apply the knowledge gained to design and set up small scale culturing units for self-employment |
| 6 | ZY6CRT09 & ZY6CRP09 | Developmental Biology | 1 | Understand the structural and functional features of human reproductive system, aspects of human development including pregnancy, parturition, birth control, infertility, developmental defects and miscarriage |
| | | | 2 | Understand type of eggs based on the amount, distribution and position of yolk |
| | | | 3 | Compare the early developmental process of egg up to gastrula stage |
| | | | 4 | Illustrate the development of frog, development of 18 hr, 24 hr, 33 hr and 48 hr chick embryo and extraembryonic membranes |
| | | | 5 | Describe the prenatal diagnostic techniques |
| | | | 6 | Explain the scope of IVF, embryo transfer and stem cell research and the ethical values involved in their practice |
| | | | 7 | Enumerate the different types of placenta and its functions in mammals |
| | | | 8 | Understand the mechanism of embryonic cell differentiation and gene action leading to differential potency of cells |
| | | | 9 | Understand the structure of reproductive organs of cockroach through dissections |
| | | | 10 | Calculate the fecundity and gonado-somatic index of fish |
| 6 | ZY6CRT10 & ZY6CRP10 | Microbiology & Immunology | 1 | Understand the basic concepts in the classification, structure and reproduction of bacteria and viruses |
| | | | 2 | Discuss the microbiological methods such as sterilization, culturing and preservation |
| | | | 3 | Explain the types of infections, epidemiology, symptomatology, diagnosis and treatment of microbial diseases |
| | | | 4 | Describe the types and mechanism of immunity |
| | | | 5 | Explain the concept of antigen-antibodies interaction |
| | | | 6 | Summarize the types of immunological disorders and vaccines |

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| | | | 7 | Identify the instruments used in microbiology and demonstrate basic microbiological techniques |
| | | | 8 | Determine the ABO blood group and Rh factor |
| 6 | ZY6CRT11 & ZY6CRP11 | Biotechnology, Bioinformatics And Molecular Biology | 1 | Understand the basic concepts of tools and techniques used in biotechnology |
| | | | 2 | Understand the applications of biotechnology in medicine, agriculture, environment and industry, analyze its benefits and potential hazards and identify the approaches involved in protection of biotechnological inventions. |
| | | | 3 | Understand the concept of various databases, sequence alignments and phylogenetic tree |
| | | | 4 | Understand basic concepts of RASMOL, drug discovery pipe line, computer aided drug discovery and its applications and Human Genome Project |
| | | | 5 | Understand the basic concepts of DNA, RNA and Prokaryotic/ Eukaryotic genome |
| | | | 6 | Understand the concept of Gene expression, Protein Synthesis and Operon concept |
| | | | 7 | Carryout the procedure for DNA Isolation |
| | | | 8 | Identify the genome, protein sequences |
| | | | 9 | Determine the structure of macromolecule using RASMOL |
| | | | 10 | Identify the models/ diagrams of DNA, RNA and DNA Replication |
| 6 | ZY6CRT12 & ZY6CRP12 | Occupational Zoology (Aquaculture, Apiculture, Vermiculture, & Quail Farming) | 1 | Understand the basic knowledge and skills in aquaculture, apiculture, vermiculture & Quail farming for the economic prosperity of the society |
| | | | 2 | Understand the social life and economic importance of honey bees |
| | | | 3 | Explain the life cycle and role of earthworms in solid waste management |
| | | | 4 | Describe Quail farming |
| | | | 5 | Illustrate the procedure for setting up of a Vermicompost |
| | | | 6 | Develop awareness about the need for waste management and organic farming. |
| | | | 7 | Identify economically important species of fishes, honeybees, earthworms and shell fishes |

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| | | | 8 | Describe the formulation of artificial feed for aquarium fishes |
| | | | 9 | Develop skills in designing and setting up of a fresh water aquarium |
| | | | 10 | Equip students for self employment opportunities with scientific knowledge. |
| 6 | ZY6CBT01 | Nutrition, Health And Lifestyle Management | 1 | Understand the basic concepts of nutrition, mention classification of major nutrients |
| | | | 2 | Explain food safety, nutrition education, food adulteration |
| | | | 3 | Define health, understand the basic concepts and dimensions of health |
| | | | 4 | Understand health care parameters |
| | | | 5 | Identify various life style diseases |
| | | | 6 | Describe the causes and prevention of life style diseases |
| | | | 7 | Mention role of healthy diet and physical exercises in wellness |
| | | | 8 | Summarize health literacy as a public health goal |

BSc Zoology Model II - Program Specific Outcomes (PSO)

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| PSO 1 | Understand levels of biological diversity, taxonomy of organisms and their evolutionary significance |
| PSO 2 | Identify environmental issues, awareness about biosphere conservation and develop an attitude for sustainable development. |
| PSO 3 | Understand the levels of life related concepts of physiology, cell biology, genetics, bio informatics, molecular biology, endocrinology, developmental biology, microbiology, biochemistry and immunology. |
| PSO 4 | Understand the medically important microorganisms, control, mode of transmission and laboratory diagnosis. |

BSc Zoology Model II - Course Outcomes (CO)

| SEMESTER | PAPER CODE | TITLE OF THE PAPER | CO | COURSE OUTCOME |
|----------|--------------------------------|--|----|---|
| 1 | ZY1CRT01 & ZY1CRP01 | General Perspectives In Science And Protistan Diversity | 1 | Understand the basic philosophy of science and components of scientific inquiry |
| | | | 2 | Identify key individuals and events in the study of zoology over history |
| | | | 3 | Understand different branches and scope of Zoology |
| | | | 4 | Understand classification and organizational tools biologists use, including modern taxonomy and the features used to define the various animal body plans and symmetry |
| | | | 5 | Explain the principal similarities and distinctions between Radiata and Bilateria, protostomes and deuterostomes, acoelomates, pseudocoelomates, and eucoelomates. |
| | | | 6 | Identify different taxa of organisms using taxonomic keys |
| | | | 7 | Identify the common characteristics of protists, roles they play in the ecosystem and diseases caused by parasitic protists |
| | | | 8 | Identify free living and parasitic protists |
| 1 | ZM1V01U | Fundamentals of Microbiology | 1 | Understand the basics, branches and scope of microbiology and to identify key individuals and events in the study of Microbiology over history |
| | | | 2 | Create awareness on microbial control methods |
| | | | 3 | Understand basics of taxonomy and organizational tools biologists use, including modern taxonomy |
| | | | 4 | Understand the basic principles, applications of different types of microscope and specimen preparation |
| 1 | ZM1V02U | Basics Of Microbial Physiology And Genetics | 1 | Describe the differences in prokaryotic and eukaryotic cell morphology and structure |
| | | | 2 | Understand basics of microbial physiology |
| | | | 3 | Understand methods used in the study and culture of bacteria, cultivation technique |
| | | | 4 | Describe microbial genetics and types of mutation |
| 1 | BC1CMT01 | Complementary course I - Elementary Biochemistry | 1 | Define the physical aspects in biochemistry |
| | | | 2 | Understand the chemical interactions in biological systems |

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| | | | 3 | Explain the basics of membrane biochemistry |
| | | | 4 | Analyse the importance of metabolism in plants |
| | | | 5 | Understand important biochemical techniques. |
| 2 | ZY2CRT02 & ZY2CRP02 | Animal Diversity - Non Chordata | 1 | Understand classification of invertebrate fauna into their major taxonomic groupings (phylum and class) |
| | | | 2 | Explain the major features used to differentiate the members of Phylum Orthonectida, Placozoa, Porifera, Coelenterata, Ctenophora, Platyhelminthes, Nemathelminthes, Annelida, Onychophora, Arthropoda, Mollusca, Echinodermata and Hemichordata |
| | | | 3 | Explain morphological, anatomical and larval features of Fenneropenaeus sp. |
| | | | 4 | Describe Parasitic forms of lower invertebrates |
| | | | 5 | Illustrate invertebrates through scientific drawing to record and communicate the features of the specimen |
| | | | 6 | Identify sections of Hydra sp., earthworm, Ascaris sp., Fasciola sp. under microscope |
| | | | 7 | Understand internal structure of prawn and cockroach through dissections |
| | | | 8 | Identify invertebrate specimens and assign organisms to their systematic position |
| 2 | ZM2V03U | Parasitology | 1 | Understand the basic science of parasitology |
| | | | 2 | Define the role of vectors in parasitology |
| | | | 3 | Describe the morphology, life cycle ,clinical manifestations and pathogenesis and laboratory diagnosis of protozoan and helminthic parasites |
| | | | 4 | Analyse case studies based on clinical manifestations and determine the causative agent |
| 2 | ZM2V04U & ZM2VP01 | Medical Virology, Fundamentals of microbiology, Basics of microbial physiology and genetics, Parasitology | 1 | Understand the basics of virus -morphology, classification and replication |
| | | | 2 | Define the methods of cultivation of virus |
| | | | 3 | Describe the pathogenesis, laboratory diagnosis, prevention and control of human viruses |
| | | | 4 | Apply the techniques for laboratory diagnosis of clinical specimens |
| | | | 5 | Develop basic understanding on media preparation, cultivation techniques, cleaning and sterilization of glassware, staining and examine microorganisms in living conditions |

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| | | | 6 | Detect the parasite from clinical specimens, identify the vectors of clinical importance and virus cultivation using chorioalantoic membrane inoculation |
| 2 | BC2CMT02 | Complementary course II - Biomolecules | 1 | Define Biomolecules |
| | | | 2 | Understand basic concepts of structure and functions of carbohydrates |
| | | | 3 | Explain classification of lipids |
| | | | 4 | Determine the structural hierarchy of proteins and its evolutionary significance |
| | | | 5 | State the types of DNA and RNA |
| | | | 6 | Analyse the qualitative methods for identification of biomolecules |
| 3 | ZY3CRT03 & ZY3CRP03 | Animal Diversity – Chordata | 1 | Understand the general characters and classification of Phylum Chordata with examples |
| | | | 2 | Discuss Piscean classification, types of scales and accessory respiratory organs, parental care and migration |
| | | | 3 | Compare the Orders of Class Amphibia and study in detail the organ systems of Euphyctis hexadactylus |
| | | | 4 | Classify Reptilia upto Order with special emphasis on identification poisonous and non-poisonous snakes |
| | | | 5 | Explain the classification, flight adaptations and migration in Aves |
| | | | 6 | Understand Mammalian classification, their adaptations and detailed account on the organ systems of Oryctolagus cuniculus |
| | | | 7 | Illustrate vertebrate specimens through scientific drawing to record and communicate their features |
| | | | 8 | Infer the anatomy of frog using dissected specimens and diagrams |
| | | | 9 | Identify the components of endoskeleton in vertebrates |
| | | | 10 | Identify chordate specimens and classify organisms to their systematic position |
| 3 | ZM3V05U | Medical Mycology | 1 | Understand the basics of fungus |
| | | | 2 | Describe routine mycological techniques, culture media and identification |
| | | | 3 | Describe pathogenesis, diagnosis, prevention and control of medically important fungus |
| | | | 4 | Analyse case studies based on clinical manifestations and determine the causative agent |

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| 3 | ZM3V06U | Diagnostic Microbiology | 1 | Understand the basics of laboratory safety guidelines and good lab hygiene |
| | | | 2 | Describe routine microbiological techniques , culture characteristics, biochemical characters used for identification and antimicrobial susceptibility test |
| | | | 3 | Understand immunological and molecular technique used for diagnosis |
| | | | 4 | Describe automation in diagnostic microbiology |
| 3 | BC3CMT03 | Complementary course III – Enzymology and metabolism | 1 | Define Enzymology and metabolism |
| | | | 2 | Understand basic concepts of enzyme kinetics |
| | | | 3 | Explain the major catabolic pathways of carbohydrates |
| | | | 4 | Understand the general aspects of aminoacid metabolism |
| | | | 5 | Explain the oxidation and biosynthesis of lipids |
| | | | 6 | Determine the methods for enzyme activity |
| 4 | ZY4CRT04 & ZY4CRP04 | Research Methodology, Biophysics & Biostatistics | 1 | Understand basic concept of scientific method in research process |
| | | | 2 | Understand basic techniques of sampling and collection of animals |
| | | | 3 | Create awareness about the laws and ethical values in biology |
| | | | 4 | Understand the basic principles and use of different types of microscope |
| | | | 5 | Draw diagrams of microscopic organisms using Camera lucida |
| | | | 6 | Estimate the breadth of microscopic objects using micrometry |
| | | | 7 | Calculate measures of central tendency and dispersion |
| | | | 8 | Construct bar diagram, histogram, pie diagram and line graphs |
| | | | 9 | Apply statistical methods in biological studies |
| | | | 10 | Develop skill in research communication and scientific documentation |
| | | | 1 | Understand medically important bacteria and significance of infectious diseasesand good lab hygiene |
| | | | 2 | Define the principles of prevention and treatment of pathogenic microorganism infection in humans procedures |

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| 4 | ZM4V07U & ZM4VP02 | Medical Bacteriology, Medical mycology and diagnostic microbiology | 3 4 5 6 7 8 | Describe virulence factors associated with bacterial infection Understand laboratory diagnosis for the identification of bacterial pathogens Develop skill in fungal specimen collection and identification Analyse characteristics of fungi based on culture and microscopy Develop skill in germ tube method, cellophane method and hair bait technique Demonstrate biochemical and immunological techniques for the identification of pathogen |
| 4 | ZM4V08U & ZM4VP03 | Clinical Microbiology and Medical Bacteriology | 1 2 3 4 5 6 7 8 | Understand laboratory safety, concepts of specimen collection and transport of clinical specimens Describe the epidemiology, clinical manifestations, pathogenesis, and laboratory diagnosis of respiratory tract and gastrointestinal tract Describe the epidemiology, clinical manifestations, pathogenesis, and laboratory diagnosis of urinary tract, sexually transmitted and nerve system Understand laboratory diagnostic methods in clinical microbiology and recent advances in diagnosis Identify bacteria based on morphology by spore staining, negative staining and granule staining Identify bacteria based on colony morphology on nutrient, Mac Conkey and blood agar Analyse microbial susceptibility to antibiotics Identify Gram positive and gram negative bacteria |
| 4 | BC4CMT04 | Complementary course IV – Nutritional and Clinical Biochemistry | 1 2 3 4 5 6 | Understand the nutritional and biological importance of vitamins Explain the clinical significance of organ-based function test Explain the major catabolic pathways of carbohydrates Understand the biochemistry of blood Describe the biochemical basis of important metabolic disorders. Determine the methods for qualitative analysis of body fluids |

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| 5 | ZY5CRT05 & ZY5CRP05 | Environmental Biology And Human Rights | 1 | Understand the basic concepts of species, population, community and ecosystem |
| | | | 2 | Compare the advantages and disadvantages of renewable and non renewable resources |
| | | | 3 | Explain the concept of Biodiversity, types and levels and its conservation measures |
| | | | 4 | Identify global and local environment issue, factors polluting the environment, their impacts and control measures |
| | | | 5 | Understand the basic concepts of toxicology and their impact on human health |
| | | | 6 | Understand Human rights- its concepts and manifestations |
| | | | 7 | Estimate dissolved Oxygen and carbon dioxide in the given water samples |
| | | | 8 | Identify and enumerate marine/fresh water planktons in the given water sample |
| | | | 9 | Examine equipments such as Secchi disc and plankton net |
| | | | 10 | Compare different ecosystems and animal associations existing in these ecosystems |
| 5 | ZY5CRT06 & ZY5CRP06 | Cell Biology & Genetics | 1 | Recognise the importance of Cell Biology and Genetics |
| | | | 2 | Understand the types of mutation |
| | | | 3 | Identify cell organelles, leukocytes, tissues |
| | | | 4 | Understand the various genetic abnormalities |
| | | | 5 | Generalise the central role of genes and their inheritance in the life of organisms |
| | | | 6 | Explains mechanisms of sex determination |
| | | | 7 | Illustrate the structure and functions of cell membrane and various organelles |
| | | | 8 | Distinguish between mitosis and meiosis and its significance |
| | | | 9 | Understand the basic principles of cell communication |
| | | | 10 | Develop critical thinking, skill and research aptitude |
| 5 | ZY5CRT07 & ZY5CRP07 | Evolution, Ethology And Zoogeography | 1 | Understand various concepts and theories on evolution and evidences for evolution |
| | | | 2 | Describe the factors that lead to evolution |

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| | | | 3 | Understand the concept of population genetics and factors that upset Hardy-Weinberg equilibrium |
| | | | 4 | Distinguish micro, macro and mega evolution with examples |
| | | | 5 | Describe types of learning in animals with examples |
| | | | 6 | Understand animal behavioural patterns and the role of pheromones and hormones |
| | | | 7 | Understand the animal distribution patterns, types and factors |
| | | | 8 | Identify the zoogeographical realms of the world, its physical features and fauna |
| | | | 9 | Understand the biogeographic zones of India with special reference to Western Ghats |
| | | | 10 | Demonstrate phototaxis and chemotaxis using Drosophila |
| 5 | ZY5CRT08 & ZY5CRP08 | Human Physiology, Biochemistry And Endocrinology | 1 | Explain different types of macro and micronutrients, mention the deficiency diseases and describe digestive system |
| | | | 2 | Understand phases of respiration and summarize the respiratory gas transport |
| | | | 3 | Summarize blood coagulation and describe cardiovascular diseases |
| | | | 4 | Illustrate structure of nephron, describe urine formation and mention renal disorders |
| | | | 5 | Understand nerve impulse transmission and synapse, comment on neural disorders and explain muscle contraction |
| | | | 6 | Describe endocrine glands and summarize hormone action |
| | | | 7 | Understand enzyme action and explain enzyme kinetics, describe carbohydrate, protein and lipid metabolism |
| | | | 8 | Determine haemoglobin, enumerate RBC and WBC in blood sample |
| | | | 9 | Carry out qualitative analysis of macronutrients |
| 5 | ZY5OPT02 | Public Health & Nutrition | 1 | Define health and its dimensions and the role of exercise on body systems |
| | | | 2 | Summarize programmes on community health promotion |

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| | | | 3 | Explain the concept of balanced diet and nutritional disorders |
| | | | 4 | Enumerate the role of life skill and safety education in our life |
| | | | 5 | Understand potable water quality standards and water purification techniques |
| | | | 6 | Describe food borne and water borne diseases and preventive measures |
| | | | 7 | Understand vector borne, zoonotic, emerging and re-emerging diseases and control measures |
| | | | 8 | Understand the health issues of people and the activities undertaken by health missions to promote well being of community through health centre visits |
| 6 | ZY6CRT09 & ZY6CRP09 | Developmental Biology | 1 | Understand the structural and functional features of human reproductive system, aspects of human development including pregnancy, parturition, birth control, infertility, developmental defects and miscarriage |
| | | | 2 | Understand type of eggs based on the amount, distribution and position of yolk |
| | | | 3 | Compare the early developmental process of egg up to gastrula stage |
| | | | 4 | Illustrate the development of frog, development of 18 hr, 24 hr, 33 hr and 48 hr chick embryo and extraembryonic membranes |
| | | | 5 | Describe the prenatal diagnostic techniques |
| | | | 6 | Explain the scope of IVF, embryo transfer and stem cell research and the ethical values involved in their practice |
| | | | 7 | Enumerate the different types of placenta and its functions in mammals |
| | | | 8 | Understand the mechanism of embryonic cell differentiation and gene action leading to differential potency of cells |
| | | | 9 | Understand the structure of reproductive organs of cockroach through dissections |
| | | | 10 | Calculate the fecundity and gonado-somatic index of fish |
| 6 | ZY6CRT10 & ZY6CRP10 | Microbiology & Immunology | 1 | Understand the basic concepts in the classification, structure and reproduction of bacteria and viruses |
| | | | 2 | Discuss the microbiological methods such as sterilization, culturing and preservation |

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| | | | 3 | Explain the types of infections, epidemiology, symptomatology, diagnosis and treatment of microbial diseases |
| | | | 4 | Describe the types and mechanism of immunity |
| | | | 5 | Explain the concept of antigen-antibodies interaction |
| | | | 6 | Summarize the types of immunological disorders and vaccines |
| | | | 7 | Identify the instruments used in microbiology and demonstrate basic microbiological techniques |
| | | | 8 | Determine the ABO blood group and Rh factor |
| 6 | ZY6CRT11 & ZY6CRP11 | Biotechnology, Bioinformatics And Molecular Biology | 1 | Understand the basic concepts of tools and techniques used in biotechnology |
| | | | 2 | Understand the applications of biotechnology in medicine, agriculture, environment and industry, analyze its benefits and potential hazards and identify the approaches involved in protection of biotechnological inventions. |
| | | | 3 | Understand the concept of various databases, sequence alignments and phylogenetic tree |
| | | | 4 | Understand basic concepts of RASMOL, drug discovery pipe line, computer aided drug discovery and its applications and Human Genome Project |
| | | | 5 | Understand the basic concepts of DNA, RNA and Prokaryotic/ Eukaryotic genome |
| | | | 6 | Understand the concept of Gene expression, Protein Synthesis and Operon concept |
| | | | 7 | Carryout the procedure for DNA Isolation |
| | | | 8 | Identify the genome, protein sequences |
| | | | 9 | Determine the structure of macromolecule using RASMOL |
| | | | 10 | Identify the models/ diagrams of DNA, RNA and DNA Replication |
| 6 | ZY6CRT12 & ZY6CRP12 | Occupational Zoology (Aquaculture, Apiculture, Vermiculture, & Quail Farming) | 1 | Understand the basic knowledge and skills in aquaculture, apiculture, vermiculture & Quail farming for the economic prosperity of the society |
| | | | 2 | Understand the social life and economic importance of honey bees |
| | | | 3 | Explain the life cycle and role of earthworms in solid waste management |

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| | | | 4 | Describe Quail farming |
| | | | 5 | Illustrate the procedure for setting up of a Vermicompost |
| | | | 6 | Develop awareness about the need for waste management and organic farming. |
| | | | 7 | Identify economically important species of fishes, honeybees, earthworms and shell fishes |
| | | | 8 | Describe the formulation of artificial feed for aquarium fishes |
| | | | 9 | Develop skills in designing and setting up of a fresh water aquarium |
| | | | 10 | Equip students for self employment opportunities with scientific knowledge. |
| | | | 1 | Understand the basic concepts of nutrition, mention classification of major nutrients |
| | | | 2 | Explain food safety, nutrition education, food adulteration |
| | | | 3 | Define health, understand the basic concepts and dimensions of health |
| | | | 4 | Understand health care parameters |
| | | | 5 | Identify various life style diseases |
| | | | 6 | Describe the causes and prevention of life style diseases |
| | | | 7 | Mention role of healthy diet and physical exercises in wellness |
| | | | 8 | Summarize health literacy as a public health goal |

BSc Chemistry - Program Specific Outcomes (PSO)

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| PSO 1 | Develop the application, analytical skills and research aptitude in inorganic, theoretical and analytical chemistry. |
| PSO 2 | Understand the basic concepts, mechanisms, synthesis and characterisation techniques in organic chemistry. |
| PSO 3 | Understand the basic principles, develop the application and analytical skills of spectroscopic techniques in physical chemistry |

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| PSO 4 | Understand the basic concepts of Environmental chemistry and human rights and create environmental awareness for sustainable development . |
| PSO 5 | Understand the basic concepts of Forensic Science and apply concepts for investigating a crime scene. |

BSc Chemistry - Course Outcomes (CO)

| SEMESTER | PAPER CODE | TITLE OF THE PAPER | CO | COURSE OUTCOME |
|----------|------------|---|----|--|
| 1 | CH1CRT01 | General & Analytical Chemistry | 1 | Discuss the evolution of chemistry |
| | | | 2 | Develop a research aptitude among students |
| | | | 3 | Understand the periodic properties of elements. |
| | | | 4 | Understand the theoretical concepts behind the experimental methods |
| | | | 5 | Discuss the methods of elimination of interfering radicals |
| | | | 6 | Explain common ion effect, ionic product, solubility product and its application in inorganic mixture analysis |
| | | | 7 | Discuss the various chromatographic techniques and their applications. |
| | | | 8 | Understand the concept of errors and statistical analysis of data |
| 1 | CH1CMT01 | Basic Theoretical And Analytical Chemistry | 1 | Understand the atomic structure and chemical bonding, Fundamental Concepts in Chemistry |
| | | | 2 | Apply the VB theory and VSEPR theory on molecules |
| | | | 3 | Understand the basic Principles of Analytical Chemistry |
| | | | 4 | Understand Chromatographic Techniques |
| 2 | CH2CRT02 | Basic Theoretical and Analytical Chemistry | 1 | Understand the basic concepts and theories to explain atomic structure |
| | | | 2 | Understand the different types of chemical bonding involved in molecules and their properties. |
| | | | 3 | Understand the chemistry of s and p block elements. |
| | | | 4 | Understand the chemistry of d and f block elements. |

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| 2 | CH2CRP01 | Volumetric analysis | 1 | Estimate the amount of unknown acid, alkali by acidimetry and alkalimetry titrations |
| | | | 2 | Estimate the amount of Zn,Mg,Ca,Ni and hardness of water using complexometric titration |
| | | | 3 | Estimate the ferrous iron, oxalic acid, sodium oxalate, calcium using permanganometry |
| | | | 4 | Estimate the mass of ferrous and ferric iron using dichrometry |
| | | | 5 | Estimate the mass of copper and arsenious oxide using iodimetry and iodometry |
| | | | 6 | Analyse the purity of gold and authenticity of diamond |
| 2 | CH2CMT02 | Basic Organic Chemistry | 1 | Understand the fundamental concepts of organic chemistry |
| | | | 2 | Explain different electron displacement effects |
| | | | 3 | Apply nucleophilic substitution reaction mechanism on organic molecules |
| | | | 4 | Analyze different isomerisms and conformations |
| | | | 5 | Understand different classification of polymers |
| | | | 6 | Understand the preparation and uses of different synthetic rubbers |
| 2 | CH2CMP01 | Volumetric analysis | 1 | Estimate the amount of unknown acid, alkali by acidimetry and alkalimetry titrations |
| | | | 2 | Estimate the mass of ferrous iron in Mohrs salt and crystalline ferrous sulphate using permanganometry |
| | | | 3 | Estimate the mass of ferrous and ferric iron using dichrometry |
| | | | 4 | Estimate the mass of copper and potassium permanganate using iodimetry and iodometry |
| 3 | CH3CRT03 | Organic Chemistry-I | 1 | Determine IUPAC name of organic molecules and understand bond cleavage, types of reagents, reactive intermediates, types of organic reactions. Explain electron displacement effects. |
| | | | 2 | Understand stereo isomerism-Geometrical and optical isomerism, Assign d,l designation, R and S notation, Explain enantiomeric mixture and methods of resolution, asymmetric synthesis |
| | | | 3 | Determine cis and trans, E and Z, syn and anti isomerism. Understand methods of distinguishing geometrical isomers |
| | | | 4 | Analyse conformational and configurational structures of molecules. |

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| | | | 5 | Understand the preparation and reactions of alkanes, alkenes, alkynes, alkyl halides, grignard reagents. |
| | | | 6 | Compare unimolecular and bimolecular nucleophilic reactions with mechanism |
| | | | 7 | Apply Hoffman and saytzeffs rules. Compare the electrophilic substitution reactions of naphthalene. |
| | | | 8 | Understand the concept of aromaticity and compare aromaticities of different organic compounds. |
| | | | 9 | Understand pericyclic reactions with mechanism. |
| 3 | CH3CMT04 | Inorganic And Organic Chemistry | 1 | Understand the basics of nuclear chemistry and applications of radio active isotops |
| | | | 2 | Understand the basics of bioinorganic chemistry , structures of metallo porphyrins, biochemistry of zinc and cobalt, action of sodium potassium pump |
| | | | 3 | Analyse different types of fertilizers, plant growth hormones, pesticides |
| | | | 4 | Understand different heterocyclic compound, its aromaticity |
| | | | 5 | Understand different classification of drugs and action of drugs |
| | | | 6 | Understand the basics of food additives and cosmetics |
| 3 | CH3CMT03 | Physical Chemistry 1 | 1 | Understand the classification of solids and symmetry of molecules |
| | | | 2 | Understand the basic concepts of liquids , liquid crystals and solutions |
| | | | 3 | Understand the colligative properties and basic concepts of phase equilibrium |
| | | | 4 | Apply Boyles law , Charles law , Vander Waals Equation of gases |
| | | | 5 | Understand the types of adsorption and classification of colloids |
| | | | 6 | Analyse the applications of adsorption and electrical, mechanical and optical properties of colloids |
| 4 | CH4CRT04 | Organic Chemistry II | 1 | Understand preparation properties and reaction of aliphatic and aromatic alcohols with mechanism. |
| | | | 2 | Explain the preparation, reactions and estimation of alkoxy group in ethers. |

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| | | | 3 | Determine cis and trans, E and Z ,syn and anti isomerism.Understand methods of distinguishing geometrical isomers |
| | | | 4 | Understand the preparation, properties and reactions of aldehydes, ketones, carboxylic acid, sulphonic acid and derivatives |
| 4 | CH4CRP02 | Qualitative Organic Analysis | 1 | .Determine the physical constants of solids and liquids – melting and boiling points |
| | | | 2 | .Detect the presence of elements-Nitrogen, Sulphur and Halogens and presence of unsaturation |
| | | | 3 | Identify the given organic compound by systematic analysis |
| | | | 4 | Prepare solid derivatives for organic compounds. |
| 4 | CH4CMT06 | Advanced Bio-Organic Chemistry | 1 | Understand the basic principles of terpenoids and alkaloids |
| | | | 2 | Analyze the classification of lipids |
| | | | 3 | Understand the classification of amino acids and proteins |
| | | | 4 | Understand the classification of enzymes, nucleic acids and its mode of action |
| | | | 5 | Understand the classification of carbohydrates and energy rich molecules |
| | | | 6 | Understand the classification of vitamins, steroids and hormones, its modes of action. |
| 4 | CH4CMP03 | Organic Chemistry Practicals | 1 | Determine the physical constants of solids and liquids – melting and boiling points |
| | | | 2 | Detect the presence of elements-Nitrogen, Sulphur and Halogens and presence of unsaturation |
| | | | 3 | Identify the given organic compound by systematic analysis |
| | | | 4 | Prepare solid derivatives for organic compounds. |
| | | | 5 | Isolation of organic compounds from natural source |
| 4 | CH4CMT05 | Physical Chemistry II | 1 | Understand the basic concepts of uv-Visible,IR,Rotational spectroscopy |
| | | | 2 | Understand the basic terminologies used in nano chemistry |
| | | | 3 | Analyse the different methods of preparation of nanomaterials and its applications |
| | | | 4 | Compare the factors influencing the rate of reactions ,order and molecularity |

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| | | | 5 | Understand the types of catalysis and laws of photochemistry |
| | | | 6 | Understand the basic concepts of electrical conductance and its applications |
| 4 | CH4CMP02 | Physical Chemistry Practical | 1 | Estimate the ,equivalent conductance of an electrolyte, mass of unknown acid by conductometry and mass of ferrous iron by potentiometry |
| | | | 2 | Determine the heat of neutralisation ,heat of solution of potassium nitrate and Ammonium Chloride |
| | | | 3 | Determine the partition co efficient ,transition temperature of salt hydrate, critical solution temperature of phenol-water system |
| | | | 4 | Determine the percentage composition of Sucrose solution |
| | | | 5 | Determine the molecular weight of solutes by Rast's Method |
| | | | 6 | Determine the kinetics of simple reactions |
| | | | 7 | Construct the phase diagram of two component system |
| 5 | CH5CRT05 | Environmental Studies and Human Rights | 1 | Impart awareness on various environmental aspects, with some glimpses of contemporary issues |
| | | | 2 | Understand the importance of environmental studies for sustainable development, need for public awareness. |
| | | | 3 | Analyse the cause, effects and preventive measures of various types of pollutions including; air, water, soil, marine, noise and thermal pollutions. |
| | | | 4 | Understand the scope of ecological chemistry, ecological stress posed upon ecosystems by the presence of chemic |
| | | | 5 | Introduce the concept of green chemistry and its twelve principles, atom economy and its principles |
| | | | 6 | Analyse the Structure- activity relationships in degradation and biodegradation of organic chemicals. |
| | | | 7 | Introduce the meaning, concept and development to Human Rights. |
| | | | 8 | Human Rights and United Nations and its National Perspective |
| | | | 1 | Compare the methods of preparation and properties of different nitrogen containing compounds. |
| | | | 2 | Compare the synthesis and reactions of furan,thophene,pyrole,pyridine,indole And quinoline |

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| 5 | CH5CRT06 | Organic Chemistry-III | 3 | Understand the general method of preparation and reaction of active methylene compound. |
| | | | 4 | Analyse the structure, properties, preparation and application of glucose, fructose, sucrose, cellulose and starch. |
| | | | 5 | Determine the Structure, therapeutic uses and mode of action of mpicillin,Chloramphenicaol,Sulphanilamide,Paracetamol, Aspirin, Ibuprofen, Chloroquine, Ranitidine, Chlorambucil : Azidothymidine |
| | | | 6 | Understand the Synthesis and applications of Methyl orange; Malachite green, Rosaniline;Phenolphthalein Fluorescein, Indigo tin and Alizarin.. |
| | | | 7 | Understand the different polymerisation reactions and mechanisms |
| | | | 8 | Compare the preparation and applications Phenol-formaldehyde, Urea-formaldehyde, PolyurethanePolythene, PVC,acrylic, polyamide, polyesterSBR, Nitrile rubber and Neoprene. |
| | | | 9 | Analyse the methods to recycle plastic and determine the environmental hazards and biodegradability of polymers. |
| | | | 1 | Understand the postulates of Kinetic theory of gases,Maxwell Boltzmann distribution laws of molecular velocities,different types of velocities,collision properties,Intermolecular forces in liquids,surface tension and factors affecting it,nature of solid state,crystal systemsand laws of crystallography,Liquid crystals and its thermographic behaviour and its applications |
| | | | 2 | Derive the kinetic gas equation,critical constants from vanderWaals equation. |
| 5 | CH5CRT07 | Physical Chemistry - I | 3 | Determine the viscosity by Oswald's Viscometer. |
| | | | 4 | Understand the surface chemistry ,colloidal state and its applications . |
| | | | 1 | Understand the basic concept and postulates of quantum mechanics |
| | | | 2 | Apply concept of quantum mechanics to simple systems |
| | | | 3 | Understand the basic principles of UV-Visible,IR,Raman,ESR and microwave NMR spectroscopy |
| | | | 4 | Discuss the fundamental of various type of molecular spectroscopy techniques |
| 5 | CH5CRT08 | Physical Chemistry - II | 5 | Discuss the basic ideas of MO theory and apply to H ₂ ⁺ ion and simple molecules |
| | | | 6 | Determination of force constant (vibrational spectroscopy) and moment of inertia(rotational spectroscopy) |

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| 5 | CH5OPT1. 3 | Forensic Science | 1 | Analyse the effect of poisons and the diagnosis techniques in human body. |
| | | | 2 | Understand the methods to analyse the metabolites and the different medical aspects to treat AIDS and burns |
| | | | 3 | Explain the different types of tracks and tracer analyse biological substance-blood saline,urine and hair |
| | | | 4 | Detect steroid consumption in athletes and race horses |
| | | | 5 | Analyse the purity of gold and authenticity of diamond |
| | | | 6 | Understand different types of explosion and causes of explosion |
| | | | 7 | Analyse the explosion |
| | | | 8 | Understand the making of different explosive and its analysis |
| | | | 9 | Differentiate the different type of forgeries and forged documents. |
| 6 | CH6CRT09 | Inorganic Chemistry | 1 | Introduce about coordination compounds and the concept of VB theory and Crystal field theory in coordination compounds. |
| | | | 2 | Classify the organometallic compound based on the nature of metal-carbon bond and on the basis of hapticity. |
| | | | 3 | Understand the preparation and properties of mononuclear carbonyls |
| 6 | CH6CRT10 | Organic Chemistry-IV | 1 | Understand the Structure, biological functions and deficiency diseases of vitamins A, B1, B2, B3, B5, B6, C and D. |
| | | | 2 | Understand the Structure and functions of cholesterol, steroid hormones, peptide hormones, amine hormones and Artificial hormones. |
| | | | 3 | Analyse and compare the different concepts and applications of UV Spectroscopy: IR Spectroscopy: NMR Spectroscopy and Mass Spectrometry: |
| 6 | CH6CRT11 | Physical Chemistry - III | 1 | Understand Basic concepts of thermodynamics |
| | | | 2 | Derive Joules-Thomson coefficient |
| | | | 3 | Define thermodynamic terms |
| | | | 4 | Discuss the details of second law |
| | | | 5 | Understand the basics of third law |
| | | | 6 | Derive the relation between k_p , k_c , and k_x |
| | | | 1 | Classify the binary liquid solutions |

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| 5 | CH6CRT12 | Physical Chemistry - IV | 2 | Explain the laws-Henry's law,Nernst Distribution law,Raoult's law |
| | | | 3 | Understand the partial molar quantities |
| | | | 4 | Understand the basic concepts of electrical conductance and its applications |
| | | | 5 | Analyse the different types of cells and its applications |
| | | | 6 | Understand the basic principles of photochemistry and different photochemical reactions |
| | | | 7 | Determine the point groups of different molecules |
| 6 | CH6CBT1.1 | Polymer Chemistry | 1 | Understand the different schemes of classification of polymers and mechanism of Polymerisation |
| | | | 2 | Understand the Reactions of Polymers, Polymer Degradation , Polymer Processing |
| | | | 3 | Understand the Chemistry of Commercial Polymers |
| | | | 4 | Understand the Specialty Polymers |
| 6 | CH6CRP03 | Qualitative Inorganic Analysis | 1 | Understand the methodology of analysis of inorganic salts. |
| | | | 2 | Determine the ions present in the given mixture. |
| 6 | CH6CRP04 | Organic Preparations and Basic Laboratory Techniques | 1 | Carry out basic laboratory techniques like crystallisation ,distillation,solvent extraction |
| | | | 2 | Prepare organic compounds involving Oxidation (benzaldehyde to benzoic acid). ,Hydrolysis (methyl salicylate or ethyl benzoate to the acid)., Nitration (m-dinitrobenzene and picric acid)., Halogenation (p-bromoacetanilide from acetanilide). |
| | | | 3 | Acylation (Benzoylation of aniline, phenol, β -naphthol). 6. Esterification (benzoic acid ester). 7. Iodoform from acetone or ethyl methyl ketone. 8. Side chain oxidation (benzyl chloride to benzoic acid). 9. Claisen – Schmidt reaction: Dibenzal acetone from benzaldehyde.Identify the compound from Rf value using chromatographic techniques |
| | | | 4 | Identify the compound from Rf value using chromatographic techniques |
| 6 | CH6CRP05 | Physical Chemistry Practical | 1 | Estimate the percentage composition of a mixture, equivalent conductance of an electrolyte,mass of unknown acid by conductometry and mass of ferrous iron by potentiometry |
| | | | 2 | Determine the heat of neutralisation ,heat of solution of potassium nitrate and Ammonium Chloride |

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| | | | 3 | Determine surface tension of a liquid ,transition temperature of salt hydrate,critical solution temperature of phenol-water system |
| | | | 4 | Determine the effect of electrolytes on the CST of phenol-water system |
| | | | 5 | Determine the molecular weight of solutes by Rast's Method |
| | | | 6 | Determine the kinetics of simple reactions |
| 6 | CH6CRP06 | Gravimetric Analysis | 1 | .Estimate the unknown mass of Barium as Estimation of Barium as barium sulphate |
| | | | 2 | Estimation of copper as cuprous thiocyanate and nickel as nickel dimethyl glyoxime |
| | | | 3 | Estimation of sulphate as barium sulphate |
| | | | 4 | Estimation of iron as Fe ₂ O ₃ |
| 6 | CH6PRP01 | Project, Industrial visit and comprehensive viva - voce | 1 | Create research aptitude in students |
| | | | 2 | Analyse the concepts of chemistry in industrial applications |

BSc Botany - Program Specific Outcomes (PSO)

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| PSO 1 | Scientific Knowledge: Apply the knowledge of basic science, life sciences and fundamental process of plants to study and analyze any plant form. |
| PSO 2 | Problem analysis: Identify the taxonomic position of plants, formulate the research literature, and analyze non reported plants with substantiated conclusions using first principles and methods of nomenclature and classification in Botany. |
| PSO 3 | Design/development of solutions: Design solutions from medicinal plants for health problems, disorders and disease of human beings and estimate the phytochemical content of plants which meet the specified needs to appropriate consideration for the public health. |
| PSO 4 | Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and development of the information to provide valid conclusions. Develop the application, analytical skills and research aptitude in inorganic, theoretical and analytical chemistry.Understand the basic concepts of Environmental chemistry and human rights and create environmental awareness for sustainable development . |

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| PSO 5 | Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern instruments and equipments for Biochemical estimation, Molecular Biology, Biotechnology, Plant Tissue culture experiments, cellular and physiological activities of plants with an understanding of the application and limitations. |
| PSO 6 | The Botanist and society: Apply reasoning informed by the contextual knowledge to assess plant diversity, its importance for society, health, safety, legal and environmental issues and the consequent responsibilities relevant to the biodiversity conservation practice. |
| PSO 7 | Environment and sustainability: Understand the impact of the plant diversity in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development. |

BSc Botany - Course Outcomes (CO)

| SEMESTER | PAPER CODE | TITLE OF THE PAPER | CO | COURSE OUTCOME |
|----------|------------|---|----|--|
| 1 | BO1CRT01 | Methodology Of Science And An Introduction To Botany | 1 | Understand the universal nature of science |
| | | | 2 | Demonstrate the use of scientific method |
| | | | 3 | To lay a strong foundation to the study in Botany |
| | | | 4 | Impart an insight into the different types of classifications in the living kingdom. |
| | | | 5 | Appreciate the world of organisms and its course of evolution and diversity. |
| | | | 6 | Develop basic skills to study Botany in detail. Discuss the evolution of chemistry |
| 1 | BO1CMT01 | Cryptogams, Gymnosperms And Plant Pathology | 1 | Acquire fundamental knowledge in plant science and to make the student to understand that Botany is an integral part of the human life and developments. |
| | | | 2 | Foster and encourage an attitude of curiosity, appreciation and enquiry of various life forms of plants. |
| | | | 3 | Understand the identifying characters of the different types included in the syllabus. |
| | | | 4 | Understand the diversity of plants with respect to Algae, Fungi, Lichens, Bryophytes, Pteridophytes and Gymnosperms. |

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| 2 | BO2CRT02 | Microbiology, Mycology And Plant Pathology | 1 | Understand the world of microbes, fungi and lichens |
| | | | 2 | Appreciate the adaptive strategies of the microbes, fungi and lichens |
| | | | 3 | To study the economic and pathological importance of microorganisms Estimate the amount of unknown acid, alkali by acidimetry and alkalimetry titrations |
| 2 | BO2CMT02 | Plant Physiology | 1 | Make the students realize the importance of all physiological processes which take place in plants. |
| | | | 2 | Understand the mechanism of various physiological processes related to plant life. |
| 3 | BO3CRT03 | Phycology And Bryology | 1 | To study the evolutionary importance of Algae as progenitors of land plants |
| | | | 2 | Understand the unique and general features Algae and Bryophytes and familiarize it |
| | | | 3 | To study the external morphology, internal structure and reproduction of different types of Algae and Bryophytes |
| | | | 4 | Realize the application of Phycology in different fields |
| 3 | BO3CMT03 | Angiosperm Taxonomy And Economic Botany | 1 | Acquaint the student with the objectives and components of Taxonomy. |
| | | | 2 | Help the student to understand the systems of classification of angiosperms. |
| | | | 3 | Help the student to identify the common angiosperm species of Kerala. |
| | | | 4 | Familiarize the student with plants of immense economic importance |
| 4 | BO4CRT04 | Pteridology, Gymnosperms And Paleobotany | 1 | Understand the diversity in habits, habitats and organization of various groups of plants. |
| | | | 2 | To impart an insight into the modern classifications in lower forms of plants. |
| | | | 3 | Understand the evolutionary trends in Pteridophytes and Gymnosperms. |
| | | | 4 | Study the anatomical variations in vascular plants. |
| | | | 5 | Understand the significance of Paleobotany and its applications. |
| | | | 1 | Understand different types of plant tissues. |

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| 4 | BO4CMT04 | Anatomy And Applied Botany | 2 | Understand the internal structure of different plant organs with reference to their functions. |
| 3 | Understand the process of normal and anomalous secondary thickening in plants. | | | |
| 4 | Know the morphological and anatomical adaptations of plants growing in different habitats. | | | |
| 5 | Understand how botanical knowledge could be applied for crop improvement. | | | |
| 5 | BO5CRT05 | Anatomy, Reproductive Botany And Microtechnique | 1 | Imparting an insight into the internal structure and reproduction of the most evolved group of plants, the Angiosperm. |
| | | | 2 | Understand the individual cells and also tissues simultaneously |
| | | | 3 | Understand the structural adaptations in plants growing in different environment. |
| | | | 4 | Understand the morphology and development of reproductive parts. |
| | | | 5 | Get an insight in to the fruit and seed development. |
| | | | 6 | Understand the techniques used to preserve and study plant materials. |
| 5 | BO5CRT06 | Research Methodology, Biophysics And Biostatistics | 1 | To equip the students to conduct independent research and prepare research reports. |
| | | | 2 | To make the students acquaint with different tools and techniques used in research work. |
| | | | 3 | To equip the students with basic computer skills necessary for conducting research. |
| | | | 4 | To enable the students to have enough numerical skills necessary to carry out research. |
| 5 | BO5CRT07 | Plant Physiology And Biochemistry | 1 | Acquire basic knowledge needed for proper understanding of plant functioning. |
| | | | 2 | Familiarize with the basic skills and techniques related to plant physiology. |
| | | | 3 | Understand the role, structure and importance of the bio molecules associated with plant life. |
| 5 | BO5CRT08 | Environmental Science And Human Rights | 1 | Acquaint the student with the significance of Environmental Science. |
| | | | 2 | Make the students aware about the extent of the total biodiversity and the importance of their conservation. |

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| | | | 3 | Help the student to design novel mechanisms for the sustainable utilization of natural resources. |
| | | | 4 | Enable the students to understand the structure and function of the ecosystems. |
| | | | 5 | Enable the students to understand various kinds of pollution in the environment, their impacts on the ecosystem and their control measures |
| | | | 6 | Make the students aware about various environmental laws in India and the role of various movements in the protection of nature and natural resources. |
| 5 | BO5OPT01 | Agri-Based Microenterprises | 1 | Provide basic information about the business opportunities in plant sciences. <input type="checkbox"/> |
| | | | 2 | Inform the student about sustainable agriculture and organic farming. |
| | | | 3 | Inculcate an enthusiasm and awareness about ornamental gardening, nursery management and mushroom cultivation |
| 6 | BO6CRT09 | Genetics, Plant Breeding And Horticulture | 1 | Imparting an insight into the principles of heredity |
| | | | 2 | Understand the patterns of inheritance in different organisms |
| | | | 3 | Understand the inheritance pattern of nuclear and extra nuclear genes |
| | | | 4 | Understand the methods of crop improvement |
| | | | 5 | Understand the importance of horticulture in human welfare |
| | | | 6 | Develop skill in gardening technique among students |
| 6 | BO6CRT10 | Cell And Molecular Biology | 1 | Understand the ultra structure and functioning of cell in the sub-microscopic and molecular level. |
| | | | 2 | Get an idea of origin, concept of continuity and complexity of life activities. |
| | | | 3 | Familiarization of life processes. |
| | | | 4 | Understand the basic and scientific aspect of diversity. <input type="checkbox"/> |
| | | | 5 | Understand the cytological aspects of growth and development. |
| | | | 6 | Understand DNA as the basis of heredity and variation |
| 6 | BO6CRT11 | Angiosperm Morphology, Taxonomy And Economic Botany | 1 | Acquaint with the aims, objectives and significance of taxonomy. |
| | | | 2 | Identify the common species of plants growing in Kerala and their systematic position. |

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| | | | 3 | Develop inductive and deductive reasoning ability. |
| | | | 4 | Acquaint with the basic technique in the preparation of herbarium. |
| | | | 5 | Familiarizing with the plants having immense economic importance. |
| 6 | BO6CRT12 | Biotechnology And Bioinformatics | 1 | Understand the current developments in the field of Biotechnology and Bioinformatics. |
| | | | 2 | Equip the students to carry out plant tissue culture. |
| | | | 3 | Introduce the vast repositories of biological data knowledge. |
| | | | 4 | Equip to access and analyze the data available in the databases |
| 6 | BO6PET02 | Plant Genetic Resources Management | 1 | Acquaint the student with the history and evolution of crop plants, and their diversity. |
| | | | 2 | Familiarize the student with the available plant genetic wealth and the measures adopted for the conservation of these resources. |
| | | | 3 | Help the student to identify the crop plants and their wild relatives. |
| | | | 4 | Help the student to explore the potentialities of various underutilized plants to project as the future food prospects. |
| | | | 5 | Understand the significance of modern technology to locate the distribution of endangered species. |

BSc Mathematics - Program Specific Outcomes (PSO)

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| PSO 1 | Understand the applications of Mathematics in other disciplines and basic concepts and tools of mathematical logic, set theory, methods of proof, geometry, calculus, abstract structures and analysis. |
| PSO 2 | Model real world problems into Mathematics problems and find solutions. |
| PSO 3 | Solve problems in Analysis, Combinatorics, Algebra, Differential Equations and Number theory. |
| PSO 4 | Develop logical, computational and typesetting skills and implement them practically. |
| PSO 5 | Understand the importance of an environmental friendly life and Mathematics of nature. |

BSc Mathematics - Course Outcomes (CO)

| SEMESTER | PAPER CODE | TITLE OF THE PAPER | CO | COURSE OUTCOME |
|----------|--------------|--|----|--|
| 1 | MM1CRT0 1 | Foundation of Mathematics | 1 | Develop knowledge in basic concepts of Mathematics. |
| | | | 2 | Understand the concepts of mathematical logic, sets, functions, relations and partial orderings. |
| | | | 3 | Apply proof techniques to prove simple theorems. |
| | | | 4 | Determine the solution of polynomial equation upto 4th degree. |
| | | | 5 | Solve real life problems |
| 1 | MM1CMT0 4 | Graphing Functions , Equations , Differential Calculus Logarithmic And Exponential Functions. | 1 | Understand the concept of Cartesian coordinate system and Linear equations. |
| | | | 2 | Solve Quadratic equations, system of equations |
| | | | 3 | Understand the concept of functions and graphing functions. |
| | | | 4 | Apply non linear functions in business and economics |
| | | | 5 | Understand the concepts of differential calculus |
| | | | 6 | Find derivatives using basic formulas, product rule, quotient rule and function of function rule |
| | | | 7 | Apply derivatives in business and economics |
| | | | 8 | Understand exponential and logarithmic functions |
| | | | 9 | Solve problems related to interest compounding, relative extrema , concavity and convexityUnderstand the concepts of elasticity and its relevance. |
| 1 | MM1CMT0 1 | Partial Differentiation , Matrices , Trigonometry and Numerical Methods | 1 | Understand functions of several variables |
| | | | 2 | Find domain and range of functions |
| | | | 3 | Apply chain rule to find partial derivatives |
| | | | 4 | Generate normal form of Matrix |
| | | | 5 | Find rank, Characteristic matrix , Characteristic equations , Characteristic roots , and characteristic vectors of a square matrix |

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| | | | 6 | Solve system of Linear equations using Matrices |
| | | | 7 | State Cayley Hamilton Theorem |
| | | | 8 | Determine expansion of Trigonometric functions, summation of infinite series and identify real and imaginary parts |
| | | | 9 | Apply Numerical methods to solve higher order algebraic equations and transcendental equations |
| 2 | MM2CRT0 1 | Analytic Geometry, Trigonometry & Differential Calculus. (72 hrs, 3 credits) | 1 | Understand the concept of conic sections |
| | | | 2 | Solve problems in analytic geometry |
| | | | 3 | Solve problems in circular and hyperbolic functions, separation into real and imaginary parts and summation of infinite series. |
| | | | 4 | Find the higher order derivative of standard functions and the product of two functions using Lebinitz Theorem |
| | | | 5 | Find limits of indeterminate forms |
| 2 | MM2CMT0 4 | Matrix, Linear Programming and Integral Calculus | 1 | Understand Matrices and operation on Matrices |
| | | | 2 | Apply Matrix method to solve linear equations |
| | | | 3 | Model Real life situation into Linear Programming Problems |
| | | | 4 | Solve maximization minimization problems |
| | | | 5 | Understand the concept of Integral Calculus |
| | | | 6 | Apply integration to find area under a curve and area between curves |
| | | | 7 | Apply integrals in Business and Economics |
| | | | 8 | Understand functions of several variables |
| | | | 9 | Apply optimization of multivariable functions in business and economics Understand the characteristic features of motion under gravity. |
| 2 | MM2CMT0 1 | Integral Calculus and Differential equations | 1 | Apply integration to find volume ,arc length ,area of surface of revolution |
| | | | 2 | Solve problems involving double and triple integrals |
| | | | 3 | Apply double integrals to find area |
| | | | 4 | Solve Ordinary Differential Equations |
| | | | 5 | Generate Partial Differential Equations |

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| | | | 6 | Solve Partial Differential Equations |
| 3 | MM3CRT0 1 | Calculus | 1 | Solve problems involving Taylor's series and Maclaurin's series. |
| | | | 2 | Solve problems involving concavity, points of inflection, Curvature, Evolute, Involute, Asymptotes and Envelopes. |
| | | | 3 | Compute partial derivatives. |
| | | | 4 | Apply Chain rule and Lagrange multiplier method. |
| | | | 5 | Evaluate single integrals and multiple integrals. |
| | | | 6 | Construct regions of integration and write limits of integration. |
| 3 | MM3CMT0 1 | Vector Calculus , Analytic Geometry and Abstract Algebra | 1 | Solve problems involving vector valued functions |
| | | | 2 | Understand integration in vector fields |
| | | | 3 | Apply Green's Theorem , Stoke's Theorem and Divergence Theorem |
| | | | 4 | Solve problems in conic sections |
| | | | 5 | Understand Groups , Subgroups and Homomorphism |
| 4 | MM4CRT0 1 | Vector Calculus, Theory of Numbers & Laplace Transform | 1 | Carry out vector differentiation. |
| | | | 2 | Carry out vector integration. |
| | | | 3 | Apply Green's Theorem, Stoke's Theorem and Divergence Theorem. |
| | | | 4 | Understand basic properties of congruence. |
| | | | 5 | Understand Fermat's Theorem, Wilson's Theorem and Euler's Phi function. |
| | | | 6 | Find Laplace Transforms of functions. |
| | | | 7 | Apply Laplace Transforms to solve Ordinary Differential Equations. |
| | | | 8 | Understand convolution. |
| | | | 9 | Produce Laplace Transform of integral of a function. |
| 4 | MM4CMT0 1 | Fourier Series ,Laplace Transforms and Complex Analysis | 1 | Solve problems involving Fourier Series and Legendre polynomials |
| | | | 2 | Apply Power series method to solve differential equations |
| | | | 3 | Find Laplace Transform of functions |

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| | | | 4 | Apply Laplace Transform to solve differential equations |
| | | | 5 | Solve problems involving complex numbers and functions |
| | | | 6 | Understand complex Integration |
| | | | 7 | Understand Analytic Functions |
| 5 | MM5CRT0 1 | Mathematical Analysis | 1 | Understand the basic concepts of finite and infinite sets and properties of real numbers |
| | | | 2 | Solve problems related to limits of sequences and series |
| | | | 3 | Understand the concepts of convergence and divergence of sequences and series |
| | | | 4 | Solve problems related to limit of a function |
| 5 | MM5CRT0 2 | Differential Equations | 1 | Understand nature of solutions of a differential equation. |
| | | | 2 | Solve Separable equations, Homogeneous equations, Exact equations and first order linear equations. |
| | | | 3 | Find orthogonal trajectories of family of curves. |
| | | | 4 | Apply method of variation of parameters, method of undetermined coefficients and use of a known solution to find the other, to solve a second order linear differential equation. |
| | | | 5 | Generate power series solution of differential equation. |
| | | | 6 | Apply Frobenius method to solve differential equations. |
| | | | 7 | Generate partial differential equations by eliminating arbitrary constants and arbitrary functions. |
| | | | 8 | Apply Lagrange method to solve partial differential equations.Explain the combinational logic and sequential logic |
| 5 | MM5CRT0 3 | Abstract Algebra | 1 | Understand Binary Operations, Group, Ring, Field, Integral Domain and Ideal. |
| | | | 2 | Understand the concepts of Homomorphism and Isomorphism. |
| | | | 3 | Understand normal subgroup, simple group, cyclic group, permutations, cosets. |
| | | | 4 | State and prove Cayley's Theorem, Theorem of Lagrange, Fundamental homomorphism Theorem. |
| | | | 5 | Construct group tables and subgroup diagrams. |
| | | | 6 | Construct product of two permutations and write orbits of permutations. |

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| | | | 7 | Understand zero divisors and characteristic of a ring. |
| 5 | MM5CRT0 4 | Environmental Mathematics & Human Rights | 1 | Understand how their decisions and actions affect the environment |
| | | | 2 | Builds knowledge and skills necessary to address complex environmental issues, as well as ways we can take action to keep our environment healthy and sustainable for the future, encourage character building, and develop positive attitudes and values. |
| | | | 3 | Develop the sense of awareness among the students about the environment and its various problems and to help the students in realizing the inter-relationship between man and environment for protecting the nature and natural resources. |
| | | | 4 | Acquiring the basic knowledge about environment and to inform the students about the social norms that provide unity with environmental characteristics and create positive attitude about the environment. |
| | | | 5 | Understand about the Mathematics of nature |
| | | | 6 | Awareness about human rights and duties |
| 5 | MM5OPT0 2 | Applicable Mathematics (Open Course) | 1 | Solve logical problems for competitive examinations |
| | | | 2 | Solve Quadratic equations |
| | | | 3 | Understand permutation and combination and its simple applications |
| | | | 4 | Solve problems on trigonometry |
| | | | 5 | Solve problems related to interest computing, time and work, work and wages, time and distance |
| | | | 6 | Understand exponential and logarithmic series |
| | | | 7 | Solve problems on elementary mensuration and elementary algebra |
| | | | 8 | Understand the basic concepts of differential calculus |
| | | | 9 | Find derivatives using basic formulas, product rule, quotient rule and function of function rule |
| 6 | MM6CRT0 1 | Real Analysis | 1 | Understand the concept of continuous function |
| | | | 2 | Solve problems related to monotone and inverse functions |
| | | | 3 | State and prove Mean Value Theorem and Taylor's theorem |
| | | | 4 | Problems related to derivatives and L'Hospital's rule |
| | | | 5 | Understand the concept of Riemann integration |

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| | | | 6 | Solve problems on point-wise and uniform convergence, interchange of limits and series of functions |
| 6 | MM6CRT0 2 | Graph Theory & Metric Spaces | 1 | Understand the basic concepts of graph theory – definition of a graph, properties of vertices and edges |
| | | | 2 | Application of graph theory to solve real life problems |
| | | | 3 | Understand the basic concepts of metric space, open set, closed set |
| | | | 4 | Solve problems related to convergence and completeness |
| | | | 5 | State and prove Baire's theorem and other theorems related to continuous mapping |
| 6 | MM6CRT0 3 | Complex Analysis | 1 | Understand the basic concepts of complex numbers |
| | | | 2 | Conceive the concept of analytic functions |
| | | | 3 | Understand the elementary complex functions and their properties |
| | | | 4 | Understand the theory and techniques of complex integration |
| | | | 5 | Understand the theory and application of the power series expansion of analytic functions |
| | | | 6 | Evaluate improper integrals using residue theorem |
| 6 | MM6CRT0 4 | Linear Algebra | 1 | Understand algebra of matrices. |
| | | | 2 | Solve system of linear equations by applying the process of Gaussian elimination, Hermite method. |
| | | | 3 | Find rank, left and right inverse of a matrix. |
| | | | 4 | Construct normal form of matrices. |
| | | | 5 | Check whether a matrix is invertible, orthogonal, diagonalizable. |
| | | | 6 | Understand vector spaces, spanning set, linear independence, basis, linear mappings, linear transformations, linear isomorphism, kernel, rank, nullity and nilpotency. |
| | | | 7 | Determine eigen values and their algebraic multiplicity, eigen vectors, characteristic polynomial. |
| | | | 8 | Find image of function, kernel of function, basis for image and basis for kernel. |
| | | | 9 | Check whether a mapping is injective, surjective. |
| | | | 10 | State and prove Dimension Theorem. |

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| 6 | MM6CBT03 | Numerical Analysis | 1 | Solve equations using Bisection Method, Method of False Position, Iteration Method, Aitken's Δ_2 _process, Newton-Raphson Method, Generalised Newton's Method and Ramanujan's Method |
| | | | 2 | Solve problems using interpolation formulas |
| | | | 3 | Solve problems related to Fourier series and Fourier transforms |
| | | | 4 | Understand the concepts of numerical differentiation and numerical integration |
| | | | 5 | Solve problems using Trapezoidal Rule, Simpson's 1/3 Rule, Simpson's 3/8 Rule, Boole's and Weddle's Rules. |
| | | | 6 | Applications to other branches of science |
| 6 | MM6PRT01 | Project | 1 | Understand the applications of Mathematics |
| | | | 2 | Develop effective communication skills |
| | | | 3 | Develop typesetting skills |
| | | | 4 | Explore new domains in Mathematics |
| | | | 5 | Create Mathematical models of real life problems |

Statistics - Course Outcomes (CO)

| SEMESTER | PAPER CODE | TITLE OF THE PAPER | CO | COURSE OUTCOME |
|----------|-----------------|-------------------------------|----------|--|
| 1 | ST1CMT01 | Descriptive Statistics | 1 | Understand the basic statistical concepts |
| | | | 2 | Understand types of data, methods of collection of data and scales of measurement. |
| | | | 3 | Identify sampling techniques for specific situations |
| | | | 4 | Compare different measures of central tendency |
| | | | 5 | Compare different measures of dispersion |
| | | | 6 | Evaluate skewness and Kurtosis |
| | | | 7 | understand index numbers as economic barometers |
| 2 | ST2CMT02 | Probability Theory | 1 | Understand the basic concepts of probability |

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| | | | 2 | Apply the definitions and theorems in probability suitably to solve problems |
| | | | 3 | Understand the concept of random variables, probability mass function and distribution function. |
| | | | 4 | Evaluation of conditional and unconditional probabilities |
| | | | 5 | Evaluate the pdf of function of a random variable |
| | | | 6 | Understand the concept of bivariate, marginal and conditional distributions |
| | | | 7 | Evaluate correlation and regression between two variables |
| | | | 8 | Apply the principle of least squares to obtain the functional relationship between variables |
| 3 | ST3CMT03 | Probability Distributions | 1 | Understand the concept of expectation |
| | | | 2 | Apply the concept of expectation to obtain the descriptive measures of a random variable |
| | | | 3 | Identify important discrete and continuous standard probability distributions |
| | | | 4 | Apply law of large numbers and central limit theorem to solve problems |
| | | | 5 | Understand the concept of sampling distribution, statistic and standard error. |
| | | | 6 | Illustrate sampling distributions Chi square, t and F |
| | | | 7 | Determine sampling distribution of mean and variance |
| 4 | ST4CMT04 | Statistical Inference | 1 | Understand the concept of Estimation, estimators and estimates |
| | | | 2 | Understand point estimation and interval estimation |
| | | | 3 | Apply various methods of point estimation |
| | | | 4 | Analyze significance of statistical hypothesis using large and small sample tests |
| 5 | EC5CRT07 | Quantitative Techniques | 1 | Understand the basic mathematical concepts of variables, constants, parameters, equations, exponents and logarithms, sequences & progressions and the real number system |
| | | | 2 | Apply the concept of derivatives in economics |
| | | | 3 | Understand the basic concepts of probability |
| | | | 4 | Apply the probability theorems to simple economic problems. |

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| | | | 5 | Estimation of probabilities using binomial theorem |
| | | | 6 | Identify normal probability distribution, its properties, uses and applications in Economics |
| | | | 7 | Understand set theory and know set operations |
| | | | 8 | Understand the theory of matrices and know matrix operations |
| 6 | EC6CRT11 | Quantitative Methods | 1 | Understand the Role of Statistics in Economics, its functions and limitations |
| | | | 2 | Understand methods of primary data collection, sample designs& the preparation of schedules and questionnaires. |
| | | | 3 | Identify classification, tabulation and presentation of Statistical data |
| | | | 4 | Identify the concepts of central tendency and dispersion and the tools used to measure them. |
| | | | 5 | understand the concept of correlation and know its measurement |
| | | | 6 | Apply regression analysis in prediction of one variable using the value of another related variable |
| | | | 7 | Understand index numbers as economic barometers |
| | | | 8 | Understand the meaning, definition and use of time series analysis and know the measurement of trend |

B.A ENGLISH - Program Specific Outcomes (PSO)

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| PSO 1 | Appraise the prose, poetry, drama and fiction in relation to their historical and cultural context. |
| PSO 2 | Respond to literature from a gender, cultural and political perspective. |
| PSO 3 | Basic awareness of political and international issues and awareness about the law and order and human rights. |
| PSO 4 | Identify the links between language history and culture. |

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| PSO 5 | Respond rationally and positively to the socio-political issues in society. |
| PSO 6 | Internalize human values and ethics. |
| PSO 7 | Evaluate the significance of history in the making of a nation/state/person. |
| PSO 8 | Compose and create literary and critical pieces. The student is able to understand the fundamentals of grammar and effective communication. |

B.A ENGLISH - Course Outcomes (CO)

| SEMESTER | PAPER CODE | TITLE OF THE PAPER | CO | COURSE OUTCOME |
|----------|------------|---|----|--|
| 1 | EN1CCT01 | Fine Tune Your English | 1 | Demonstrate an understanding of simple grammatical structures in conversations and discussions. |
| | | | 2 | Analyse the situations where different grammatical units are used |
| | | | 3 | Employ contextualized meaning of phrasal verbs, modals, and modal expressions. |
| | | | 4 | Generalise the principles evolved through study and practice of individual elements and examples of grammar |
| | | | 5 | Generate simple sentences containing learned vocabulary and using appropriate grammatical structures. |
| | | | 6 | Construct targeted grammatical structures meaningfully and appropriately in oral and written production |
| 1 | EN1CCT02 | Pearls From The Deep And Gems Of Imagination | 1 | Introduce different genres of English Literature |
| | | | 2 | To get familiarized with different authors and their works |
| | | | 3 | Identify the main writers and their works |
| | | | 4 | Analyse the text by comparing it with the real life situations |
| | | | 5 | Compare and contrast different features of different genres |
| 1 | EN1CRT01 | Methodology Of Literary Studies | 1 | Discern the major signposts in the historical evolution of literary studies from its inception to the current postcolonial realm |

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| | | | 2 | Appraise literature as a specific discipline in humanities |
| | | | 3 | Map the tenets of traditional approaches and new approaches like formalism |
| | | | 4 | Evaluate the shift towards contextual-political critiques of literary studies |
| | | | 5 | Analyse the questions raised by cultural studies |
| | | | 6 | Resolve the political domain of feminism |
| | | | 7 | Estimate the issues of subalternity in the literary domain |
| | | | 8 | Critique the nuances of regionality as depicted in the literary domain against the public domain |
| 2 (B.A.,B.Sc) | EN2CCT03 | Issues That Matter | 1 | Ability to interrogate one's own ethical values, and also be aware of major ethical issues |
| | | | 2 | Demonstrate a familiarity with kinds of writing which seek to represent and make sense of the experiences of the individual and his social context |
| | | | 3 | Identify major issues of contemporary significance |
| | | | 4 | Respond rationally and positively to the Socio-political issues in society |
| | | | 5 | Internalise the values imparted through the selections. |
| | | | 6 | Acquire the basic knowledge about environment issues Discuss the human values and culture Understand the historical developments in physics and its methodology. |
| 2 (B.A.,B.Sc) | EN2CCT04 | Savouring The Classics | 1 | Map the important world classics. |
| | | | 2 | Recognize important classic writers |
| | | | 3 | Understand time tested world classics. |
| | | | 4 | Learn the features of classics from various lands |
| | | | 5 | Recognize important formal elements of a world Classic |
| | | | 6 | Appreciate the tone, features and plot of a classic |
| | | | 7 | Analyse common features of world classics despite of geographical boundaries |
| | | | 1 | Discern the evolution of English language till the present time |
| | | | 2 | Evaluate the differential traits of English language along different time frames |

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| 2 (B.A.,B.Sc) | Core Course -2 | Introducing Language And Literature | 3 | Map the evolution of literature from antiquity to postmodern times |
| 2 (B.Com) | EN2CCT03 | Issues That Matter | 4 | Categorize the diversity of genres |
| | | | 5 | Execute the techniques of representation and narration |
| | | | 6 | Determine the links between literature and film as narrative expressions. |
| | | | 7 | Map the emergence of British and American Literature through diverse periods |
| | | | 8 | Integrate the nuances of English Language and the vast dimensions of English/English literature |
| 3 | EN3CCT05 | Literature And As Identity | 1 | Ability to interrogate one's own ethical values, and also be aware of major ethical issues |
| | | | 2 | Demonstrate a familiarity with kinds of writing which seek to represent and make sense of the experiences of the individual and his social context |
| | | | 3 | Identify major issues of contemporary significance |
| | | | 4 | Respond rationally and positively to the Socio-political issues in society |
| | | | 5 | Internalise the values imparted through the selections. |
| | | | 6 | Acquire the basic knowledge about environment issues |
| | | | 1 | Identify the subtle negotiations of Indigenous and Diasporic Identities with-in Literature |
| | | | 2 | Contrast the different identities that exist in our diverse society |
| | | | 3 | Draw examples from the lives of the South Asian regional identities as how to overcome the tensions and the interstices in the society |
| | | | 4 | Critique the fissures that exist in the society through the Life Writings and be aware of the importance of alternative/alternate/marginal identities. |
| 3 | EN3CRT03 | Harmony Of Prose | 1 | Identify different kinds of prose of different ages. |
| | | | 2 | Familiarise with the writing styles of masters of Prose writing. |
| | | | 3 | Evaluate the growth of prose writing in English |
| | | | 4 | Differentiate between the various kinds of language and diction of different ages. |

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| | | | 5 | Analyze the issues discussed in these prose pieces. |
| 3 | EN3CRT04 | Symphony Of Verse | 1 | Understand the rich texture of poetry in English. |
| | | | 2 | Categorise the representation of poetry in various periods of the English tradition |
| | | | 3 | Become aware of the emerging cultural and aesthetic expressions that poetry makes possible. |
| | | | 4 | Thematically explore and writer criticism about a taught poem |
| | | | 5 | Inspire the student to express her own emotions in the form of poetry |
| 3 | EN3CMT03 | Evolution Of Literary Movements The Shapers Of Destiny | 1 | Familiarise the impact of historical conquest on English Literature. |
| | | | 2 | Understand the times span of English Monarchs and their influence on English Society. |
| | | | 3 | Analyse the effect of different historical events on English Language and Literature. |
| | | | 4 | Describe the importance of historical events on English society and English culture |
| | | | 5 | Create an awareness about the classification of English literature. |
| | | | 6 | Understand the geography of Britain,its customs and traditions. |
| | | | 7 | Analyse the role of English language and its contributions in the modern world. |
| 3 | EN3CCT05 | Literature And As Identity | | |
| 4 (B.A.,B.Sc) | EN4CCT06 | Illuminations | 1 | Identify the positive and negative values in life |
| | | | 2 | Contrast positive and negative values |
| | | | 3 | Draw examples from the lives of the personalities in the text to overcome setbacks in life |
| | | | 4 | Critique the aspects of the society to make positive changes |
| 4 (B.A.,B.Sc) | EN4CRT05 | Modes Of Fiction | 1 | Understand the feature of the genre |
| | | | 2 | Interpret the cultural significance of a particular fictional work |
| | | | 3 | Distinguish various modes of fiction. |

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| | | | 4 | Comprehend the categories of British and non-British short fiction. |
| | | | 5 | Critically evaluate a work based on the theoretical framework. |
| 4 (B.A.,B.Sc) | EN4CRT06 | Language And Linguistics | 1 | Classify the speech sounds of English |
| | | | 2 | Distinguish the nature of language and linguistics |
| | | | 3 | Determine the role of speech organs in the production of speech sounds |
| | | | 4 | Analyse the structure of syllables |
| | | | 5 | Evaluate the importance supra segmental features in effective use of language |
| | | | 6 | Apply phonemic transcription |
| | | | 7 | Distinguish between different morphological structures |
| | | | 8 | Identify various sense relations in Semantics |
| | | | 9 | Differentiate between different basic notions in Syntax |
| | | | 10 | Evaluate the significance of different theories on grammar |
| 4 (B.A.,B.Sc) | EN4CMT04 | Evolution Of Literary Movements: The Cross Currents Of Change | 1 | Understand literature against the backdrop of history. |
| | | | 2 | Identify the historical and literary processes |
| | | | 3 | Reflect on the evolution of literature and to help them perceive the interplay of social processes and literature |
| | | | 4 | Evaluate the socio-cultural-economic influences on literary texts and writers |
| | | | 5 | Evaluate the influence of historical events on the personal and communal life |
| | | | 6 | Engage with the major genres and forms of English literature and develop fundamental skills required for close reading and critical thinking of the texts and concepts. |
| | | | 7 | To critically engage with culture, gender and marginality as well as recognise the importance of gender specificity in literature |
| | | | 8 | To understand feminism as a social movement and a critical tool. |
| | | | 1 | Map the important world classics. |
| | | | 2 | Recognize important classic writers |

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| 4 (B.Com) | EN4CCT08 | Revisiting The Classics | 3 | Understand time tested world classics. |
| | | | 4 | Learn the features of classics from various lands. |
| | | | 5 | Recognize important formal elements of a world Classic |
| | | | 6 | Appreciate the tone, features and plot of a classic |
| | | | 7 | Analyse common features of world classics despite of geographical boundaries |
| 5 | EN5CRT07 | Acts On The Stage | 1 | Introduce the major theatre forms and movements |
| | | | 2 | Familiarize with classical drama |
| | | | 3 | Introduce the features of the Elizabethan theatre |
| | | | 4 | Inculcate interest in classical literature |
| | | | 5 | Analyse the aspects of contemporary theatre |
| | | | 6 | Estimate the presentation of social issues through theatre |
| 5 | EN5CRT08 | Literary Criticism And Theory | 1 | Examine the major developments in literary criticism from the ancient times to the 20th century |
| | | | 2 | Identify the realm of literary theory and understand major theoretical schools |
| | | | 3 | State the chief strains of Indian literary criticism |
| | | | 4 | Critically analyse short poetical pieces |
| 5 | EN5CRT09 | Indian Writing In English | 1 | Identify the various ways in which English literature is written in the Indian subcontinent |
| | | | 2 | Discern how the Indian literature serves as a platform for forming, consolidating, critiquing and re-working the issue of 'national identity' at various levels |
| | | | 3 | understand the subtle flavours that distinguish the 'Indian' quotient in English writing from India |
| | | | 4 | Critically analyse the <i>locus standi</i> of diasporic Indian writers |
| | | | 5 | examine the different concerns that Indian English writers share, cutting across sub-nationalities and regionalities |
| 5 | EN5CRT01 | Environmental Studies And Human Rights | 1 | Understand the complex Environmental issues. |
| | | | 2 | Encourage the students to investigate and Research Environmental issues. |

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| | | | 3 | Discern how their decisions and actions affect the environment. |
| | | | 4 | Realize the inter-relationship between man and environment and helps to protect nature and natural resources. |
| | | | 5 | Encourages character building, and develops positive attitudes and values. |
| | | | 6 | Understand the basic concept and history of Human Rights. |
| | | | 7 | Discern Human rights relevant to different stratas of the society. |
| | | | 8 | Examine oneself and relates one's own rights and responsibilities. |
| 5 | EN5OPT02 | Theatre Studies | 1 | An understanding of a selection of well-discussed plays across the world. |
| | | | 2 | The classical and modern theatre in the West and the East. |
| | | | 3 | The form and content of various kinds of theatre. |
| | | | 4 | Colonial and subversive postcolonial aspects in Indian theatre. |
| | | | 5 | Issues of gender, identity, caste, tradition, morality, etc dealt with by modern theatre |
| 6 | EN6CBT02 | Modern Malayalam Literature In Translation | 1 | Evaluate the richness of Malayalam literature |
| | | | 2 | Establish a rapport with the cultural aspects of the living environs. |
| | | | 3 | Discern the diction, style and prosody of Malayalam Literature |
| | | | 4 | Critique the various genres in Malayalam |
| | | | 5 | Identify the modern trends in Malayalam literature |
| | | | 6 | Experiment with form in Malayalam poems and prose |
| | | | 7 | Infer the nuances of the process of translation |
| | | | 8 | Abridge the cultural gaps through translations |
| 6 | 10 EN6CRT10 | Postcolonial Literatures | 1 | recognize the social and political aspects of postcolonial societies |
| | | | 2 | categorize the diversity of genres in postcolonial studies |

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| | | | 3 | understand the impact of colonialism and imperialism on native cultural identities |
| | | | 4 | identify the links between language, history and culture |
| | | | 5 | Integrate the nuances about the cultural aspects of postcolonial societies |
| 6 | EN6CRT11 | Women Writing | 1 | examine the major concepts and theories of feminism and recognise its epistemological and methodological diversity and character |
| | | | 2 | understand the theoretical and literary responses of women and the concerns that govern feminist literature |
| | | | 3 | respond to literature from a feminist perspective |
| | | | 4 | understand how the patriarchal notions pervade in the social and cultural scenario |
| | | | 5 | identify how stereotypical representations of women are constructed and how these are subverted by feminist writing |
| | | | 6 | recognise the questions raised by cultural studies and feminism |
| 6 | EN6CRT12 | American Literature | 1 | Evaluate the heterogeneity of American culture |
| | | | 2 | Appraise the prose, poetry, drama, and fiction in relation to their historical and cultural contexts. |
| | | | 3 | Comprehend the various literary movements in American literature |
| | | | 4 | Critique the literary outputs of American literature |
| | | | 5 | Infer the literary and cultural scenario of American Literary History |
| 6 | EN6CRT13 | Modern World Literature | 1 | Identify those writings which cross the borders of its country of origin. |
| | | | 2 | Discern how the literatures deeply reflect the vicissitudes of life. |
| | | | 3 | Explain the diversity of cultures and the commonalities of human experience reflected in the literature of the world. |
| | | | 4 | Understanding of literary, historical, social and cultural movements associated with these texts. |
| | | | 5 | Identify the platform where poetics and politics fuse. |

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| | | | 6 | Infer the alternative notion of literary canon. |
| | | | 7 | Examine oneself and one's culture through multiple frames of reference, including the perception of others from around the world. |
| 6 | EN6PR01 | Project | 1 | To elicit specific information. |
| | | | 2 | Collect data and arrive at inferences using a small sample |
| | | | 3 | Discuss and draft a plan for carrying out a piece of work systematically |
| | | | 4 | Refer to authentic sources of information and document the same properly. |
| | | | 5 | Understand the Basic concept of research and the terminology involved |
| | | | 6 | Have a clear idea about research documentation and research ethics |
| | | | 7 | Develop reference skills including skills to use dictionaries, encyclopedias, library and net resources |

B.A Communicative English - Program Specific Outcomes (PSO)

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| PSO 1 | Understand the structure of language and develop the ability of the students to apply it in LSRW |
| PSO 2 | Identify the genres of literature and understand its significance in the contemporary world |
| PSO 3 | Understand the concept of media from print to online and explore the aspects of public relations, film to have a deep understanding about the subject. |
| PSO 4 | Carry out media exercises like newspaper, Radio, TV, Cinema production and internships which provide practical exposure and help students to be better placed while searching for media related jobs |

B.A Communicative English - Course Outcomes (CO)

| SEMESTER | PAPER CODE | TITLE OF THE PAPER | CO | COURSE OUTCOME |
|----------|------------|---------------------------------------|----|--|
| 1 | EN1CC01 | Fine Tune your English | 1 | Understand English grammar and usages both in written and spoken form. |
| | | | 2 | Use and produce grammatical structures appropriately. |
| | | | 3 | Use a variety of accurate sentence structures. |
| | | | 4 | Understand the overall and internal organization of letter writing |
| | | | 5 | Create an effective resume |
| | | | 6 | Develop effective and coherent paragraphs |
| | | | 7 | Understand the common errors in communication as non-native speakers of English. |
| 1 | EN1CS01 | English in Informal Situations | 1 | Develop English speaking skills in informal situations. |
| | | | 2 | Develop confidence to initiate, sustain and close conversation. |
| | | | 3 | Understand dos and don'ts in group discussion. |
| | | | 4 | Develop telephonic etiquette. |
| | | | 5 | Deliver an effective oral presentation. |
| | | | 6 | Study narrative and descriptive techniques. |
| 1 | EN1CR01 | Methodology | 1 | Analyze literary work using traditional method of criticism. |
| | | | 2 | Analyze literary work using formalist method of criticism. |
| | | | 3 | Analyze Kunti and Nishadin using Marxist theory. |
| | | | 4 | Apply feminist theory to read literary works. |
| | | | 5 | Analyze the impact of post colonial theory on literature. |
| | | | 6 | Apply subaltern criticism to re-read literary text. |
| | EN1CS02 | Conversational Skills | 1 | Understand the organs of speech and the production of sound. |
| | | | 2 | Classify vowels and consonants based on their production. |

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| | | | 3 | Compare syllabic and non syllabic speech sounds. |
| | | | 4 | Explain the role of suprasegmentals in speech |
| | | | 5 | Transcribe words and conversations. |
| | | | 6 | Differentiate between formal and informal speech situations. |
| | | | 7 | Adopt speech formats in day to day conversations. |
| | | | 1 | Understand the historical evolution of sociology. |
| | | | 2 | Understand the relevance of sociology in society. |
| | | | 3 | Familiarize with the subject matter of sociology. |
| | | | 4 | Understand the characteristics and types of society. |
| | | | 5 | Analyze the concepts of conformity, deviance and social control. |
| | | | 6 | Understand the concepts of social dynamics. |
| | | | 7 | Familiarize with the contributions made by Auguste Comte, Herbert Spencer, Emile Durkheim and Max Weber, |
| | | | 1 | Compare the significant political, historical and social topics through articles, passages, memoirs, short stories and poems from across the globe. |
| | | | 2 | Understand the human cost of war and psychological burden of refugees. |
| | | | 3 | Analyze the issues of survival and ecological conservation. |
| | | | 4 | Understand constraints on individuality in an authoritarian regime. |
| | | | 5 | Create an informed vision of the existentialist crisis of the marginalized subaltern groups around the globe. |
| | | | 6 | Connect theoretical learning in classrooms to current developments in the world and relate to their everyday lived experiences. |
| | | | 7 | Sharpen critical thinking skills by acquiring multiple perspectives. |
| | | | 8 | Develop a writing style that is imaginative, impactful, clear and accurate based on the selected texts. |

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| | | | 1 | Understand the evolution and differential traits of English language till the present time. |
| | | | 2 | Understand the development of English literature from antiquity to post modern times. |
| | | | 3 | Understand literary genres, techniques of representation and narration. |
| | | | 4 | Draw connection between literature and film as narrative expression. |
| | | | 5 | Classify American and British literature into time periods. |
| | | | 6 | Recognize varieties of English spoken around the globe. |
| | | | 1 | Explain what is meant by the word communication in general |
| | | | 2 | Understand the basic concepts of communication and its role in society |
| | | | 3 | Identify the main elements in the communication process |
| | | | 4 | Differentiate between Verbal and non-verbal communication |
| | | | 5 | Recognize the various models, theories and principles of communication |
| | | | 6 | Understand Indian communication theories and concepts of bhava, sadharanikaran-sahridaya. |
| | | | 7 | Understand the role of technology in communication |
| | | | 8 | Understand the process and means of communication in Organizations |
| | | | 1 | Define business communication. |
| | | | 2 | Understand the principles of communication. |
| | | | 3 | Define corporate communication. |
| | | | 4 | Understand cross cultural communication. |
| | | | 5 | Write effective business letters. |
| | | | 6 | Understand the role of technology in communication. |
| | | | 1 | Develop knowledge on the origin and growth of sociological theories. |

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| 2 | SOCIO 1CO2 | Development Of Sociological Theory | 2 | Understand the evolution of academic sociology. |
| | | | 3 | Familiarize methodological approaches laid by August Comte, Herbert Spencer, Emile Durkheim and Max Weber. |
| | | | 4 | Identify the elements that influenced the development of sociological thought. |
| | | | 5 | Analyze sociology as a study of social action. |
| | | | 6 | Identify the contribution of classical sociology interpreting and perceiving society. |
| 3 | EN3CS05 | Print Media and Journalism I | 1 | Understand the evolution of Print journalism in the world. |
| | | | 2 | Explain the history of print media and its role in Indian freedom movement. |
| | | | 3 | Recognize the Newspapers in India from the earliest times to the present day |
| | | | 4 | Understand the evolution and growth of Malayalam journalism and legends of Malayalam journalism |
| | | | 5 | Identify the Organizations related to Media |
| | | | 6 | Understand of the role of press in dealing with political and contemporary issues. |
| | | | 7 | Understand Post Independence Journalism |
| | | | 8 | Identify the Changing Face of Journalism and news Challenges |
| 3 | EN3CR03 | Harmony Of Prose | 1 | Familiarize with techniques and style of prose. |
| | | | 2 | Familiarize with the eminent essayists of the Elizabethan age, the reformation, renaissance and the twentieth century. |
| | | | 3 | Compare the writing style of Indian English writers with native writers. |
| | | | 4 | Identify the relevance of language in the process of colonization. |
| | | | 5 | Critique prose using eco- feminist perspective. |
| | | | 6 | Develop appropriate writing skills. |
| | | | 1 | Familiarize with features and narrative techniques of English poetry. |

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| 3 | EN3CR04 | Symphony Of Verse | 2 | Understand the representation of poetry in various periods of the English tradition. |
| 3 | EN3CR05 | Indian Writing in English | 3 | Compare the features of poetry from renaissance to contemporary period. |
| 3 | | | 4 | Familiarize with the historical background of literary periods in English literature. |
| 3 | | | 5 | Familiarize with the structural features of elegy, sonnet, ode, dramatic monologue, ballad and autobiographical poems |
| 3 | | | 6 | Understand poetry as a cultural and aesthetic expression. |
| 3 | | | 1 | Understand an overview of poetry, novel, drama and short fiction of Indian English literature. |
| 3 | | | 2 | Familiarize with the concerns of Indian English writers. |
| 3 | | | 3 | Understand the role of Indian English literature in redefining national identity. |
| 3 | | | 4 | Compare Indian English with British standardized form of English. |
| 3 | | | 5 | Critically appreciate Anita Nair's <i>Ladies Coupe</i> . |
| 3 | | | 6 | Study Indian English literature as the product of sub-nationalities and regionalities. |
| 3 | | | 7 | Adopt speech formats in day to day conversations. |
| 3 | EN3CM03 | Evolution Of Literary Movements: The Shapers Of Destiny | 1 | Understand the historical conquest that impacted English literature. |
| 3 | | | 2 | Remember the timeline of the English regents and their impact on English society. |
| 3 | | | 3 | Describe the impact of historical events on English language and literature. |
| 3 | | | 4 | Analyze the political events that impacted English literature. |
| 3 | | | 5 | Classify English literature based on the socio-political events. |
| 3 | | | 6 | Understand the geographical features of the united kingdom, its customs and practices. |
| 3 | | | 7 | Analyze the position of English language and the united kingdom in today's world. |

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| 4 | EN4CS06 | Print Media and Journalism II | 1 | Identify the role of the reporter/editor and their duties and responsibilities. |
| | | | 2 | Define News and understand its elements, news sources and different types of news |
| | | | 3 | Understand photo journalism and its importance, the role of a news photographer, news photo editing and caption writing |
| | | | 4 | Understand terms editor, editing, the principles of editing, copy testing, processing copies and computer editing |
| | | | 5 | Understand the Origin of magazine journalism and categories of magazines |
| | | | 6 | Analyze feature and different types of features and columns |
| | | | 7 | Develop provide students with a working knowledge of professional journalism in newspaper and magazine reporting, writing, editing and layout. |
| | | | 8 | Familiarize with the technological advancements in printing and production |
| 4 | EN4CR05 | Modes Of Fiction | 1 | Differentiate between British and non- British short fiction. |
| | | | 2 | Analyze fiction as a significant literary genre. |
| | | | 3 | Familiarize with literary modes and styles of short fiction. |
| | | | 4 | Discuss short fiction as the most compact and popular form of literary expression. |
| | | | 5 | Familiarize with the concepts of interior monologue, magic realism, psychological thriller and dystopian fantasy. |
| | | | 6 | Understand novel as a form of literary expression. |
| | | | 7 | Identify new historic aspects of Dicken's novels. |
| 4 | EN4CR06 | Language And Linguistics | 1 | Understand the organs of speech and the production of sound. |
| | | | 2 | Explain morphological processes and phenomena. |
| | | | 3 | Understand the process involved in meaning generation. |
| | | | 4 | Use English grammar in day to day life. |
| | | | 5 | Describe syntax and theories of grammar. |

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| | | | 6 | Transcribe words and conversations. |
| | | | 7 | Describe suprasegmental features of English speech. |
| 4 | EN4CR07 | Acts On The Stage | 1 | Familiar with works of Shaw, Chekov, Maeterlinck and Galsworthy. |
| | | | 2 | Understand the structural features of one act plays. |
| | | | 3 | Able to appreciate and critique drama as an art form. |
| | | | 4 | Understand literary, structural and linguistic features of Shakespearean drama. |
| | | | 5 | Identify the elements of tragedy in King Lear. |
| 4 | EN4CM04 | Evolution Of Literary Movements- Cross Currents Of Change. | 1 | Understand the events that led to the French revolution and the Russian revolution. |
| | | | 2 | Describe the impact of the French revolution and Russian revolution on English literature. |
| | | | 3 | Analyze the impact of the feminist movement on literature. |
| | | | 4 | Describe the Dalit movement and enumerate its influence on literature. |
| | | | 5 | Understand the literature produced in the Latin American countries. |
| | | | 6 | Understand post colonialism and its impact on the literature produced in the former colonies. |
| | | | 7 | Describe renaissance in Kerala and its impact in Malayalam literature. |
| 5 | EN5CROP G03 | English for careers | 1 | Write effective resumes and covering letters. |
| | | | 2 | Develop presentation, group discussion and interview skills. |
| | | | 3 | Use grammar effectively in day to day life. |
| | | | 4 | Understand the process of communication and its barriers. |
| | | | 5 | Structure and deliver types of presentations. |
| | | | 6 | Analyze the importance of communication in the corporate sector. |
| | | | 7 | Understand the significance of office management and the skills required. |

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| | | | 8 | Show professional ethics in classroom. |
| 5 | EN5CREN01 | environmental studies and human rights | 1 | Develop environmental awareness through the study of literary works. |
| | | | 2 | Analyze the impact of environment on human life through literature. |
| | | | 3 | Describe the human interventions on environmental conservation with the help of literature. |
| | | | 4 | Understand human rights and its significance in day to day life. |
| | | | 5 | Apply environmental values and ethics in life. |
| 5 | EN5CS07 | creative writing and translation studies | 1 | Understand different parts of speech and literary devices. |
| | | | 2 | Familiarize with formal and informal style in writing |
| | | | 3 | Understands the limitations of a translator and the strategies to overcome the problems. |
| | | | 4 | Understand the scope and significance of translation studies. |
| | | | 5 | Understand the evolution and history of translation studies. |
| | | | 6 | Familiarize with classification of translation. |
| | | | 7 | Differentiate practical and theoretical translation. |
| 5 | EN5CS08 | Mass Communication and Broadcasting Media Radio | 1 | Understand the concept of Broadcast Journalism and Broadcasting Production |
| | | | 2 | Learn the basics of radio as a mass media |
| | | | 3 | Understand the Evolution of Radio in India and abroad. All India radio services, the regional services and the local services. |
| | | | 4 | Understand FM Broadcasting |
| | | | 5 | Analyze Radio genres and radio presentation |
| | | | 6 | Learn the nuances of radio scripting |
| | | | 7 | Understand the Evolution of Television in India and abroad. |
| | | | 8 | Understand the Fundamentals of Cyber Media in comparison with Print, TV, Radio media and Web writing |
| 5 | EN5CS09 | Public Relations I | 1 | Learn about the basics of public relations |

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| | | | 2 | Develop practical skills required to execute a PR Campaign |
| | | | 3 | Understand the basic concepts of effective public relations which includes the study of public opinion, media relations, public communication and campaigns |
| | | | 4 | Study the concepts, history and the paradigms of public relations. |
| | | | 5 | Analyze the processes of communication in the PR sector |
| | | | 6 | Identify the functions of PR within organizations and its impact |
| | | | 7 | Determine what public relations is and what it is not; to identify the skills and education a successful practitioner requires and see the range of career opportunities in the profession |
| | | | 8 | Review the components of a public relations campaign and learn how to prepare the key materials that help to get the job done |
| 6 | EN6CS11 | Visual Media TV and Cinema | 1 | Understand the purposes and functioning of TV as mass media. |
| | | | 2 | Identify different television genres and stages of TV production |
| | | | 3 | Write and produce various kinds of TV programs. |
| | | | 4 | Identify the various principles of visual media |
| | | | 5 | Understand the functioning of a TV studio |
| | | | 6 | Understand the grammar of cinema, camera shots , angles, movements and related theories and concepts |
| | | | 7 | Identify different film genres and film censorship |
| | | | 8 | Understand different Stages of film production |
| 6 | EN5CS09 | Public Relations II | 1 | Understand the importance of values and ethics in public relations |
| | | | 2 | Understand integrity of the profession |
| | | | 3 | Understand communication between organizations and their constituencies |

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| | | | 4 | Appreciate how public relations can enable the government and the organizations in the public and private sector to achieve their objectives |
| | | | 5 | Acquire knowledge on the strategic issues and effective practices of corporate communication |
| | | | 6 | Understand the effective public relations skills that are essential for success in the private and public spheres |
| | | | 7 | Help gain firsthand knowledge of PR practice |
| | | | 8 | Help gain skills in the practical art of conducting PR campaigns |
| 6 | EN5CS13 | office administration | 1 | Understand the concepts of office administration and management. |
| | | | 2 | Identify the roles, responsibilities and duties of office manager. |
| | | | 3 | Develop an understanding about the knowledge, skills and aptitude required to effectively manage an office environment. |
| | | | 4 | Understand the structure, layout and functioning of an office. |
| | | | 5 | Differentiate between open and closed office. |
| | | | 6 | Acquire knowledge about the concepts of human resource management. |
| | | | 7 | Acquire knowledge about induction, human resource planning, job analysis, recruitment and selection, training and development, performance appraisal, and career development. |
| | | | 8 | Understand the roles and responsibilities of HR professionals. |
| 6 | EN6CB03 | Modern Malayalam Literature In Translation | 1 | Identify literary genres in Malayalam and their features. |
| | | | 2 | Understand modern trends in Malayalam literature. |
| | | | 3 | Identify major poets in Malayalam and their works. |
| | | | 4 | Identify major prose writers in Malayalam and their works. |
| | | | 5 | Analyze Legends of Khasak as a modern Malayalam novel. |
| | | | 6 | Critique Walls as a memoir/prison narrative. |

B.A. Malayalam - Program Specific Outcomes (PSO)

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| PSO 1 | Understand ancient –modern and post modern Malayalam literature and evaluate the historical and cultural elements of Kerala |
| PSO 2 | Understand the history and structure of language and develop language skills |
| PSO 3 | Analyze the contemporary issues in the society with a critical aspect. |
| PSO 4 | Understand the culture and aesthetics of other languages. |

B.A. Malayalam - Course Outcomes (CO)

| SEMESTER | PAPER CODE | TITLE OF THE PAPER | CO | COURSE OUTCOME |
|----------|----------------------------|----------------------------|----|---|
| 1 | ML1CCT01 (B.A.,B.Sc) | Kadhasahithyam | 1 | Understand the history and evolution of Short stories and Novels in Malayalam |
| | | | 2 | Understand the basic characteristics of Malayalam short stories |
| | | | 3 | Analyse the sensibility change in Malayalam short story writing |
| | | | 4 | Understand the influence of time and space in story writing |
| | | | 5 | Create or write a story with contemporary issues |
| 1 | ML1CCT05 (B.Com) | Kathayum Kavithayum | 1 | Understand the basic characteristics of Malayalam poetry and short stories |
| | | | 2 | Analyse the sensibility changes in Malayalam short stories and poems |
| | | | 3 | Understand the influence of time and space in literature |
| | | | 4 | Create or write a story and a poem with contemporary issues |
| 1 | ML1CCT09 (B.Sc Zoology) | Katha Kavitha | 1 | Understand the basic characteristics of Malayalam poetry and short stories |
| | | | 2 | Analyze the sensibility changes in Malayalam short stories and poems |
| | | | 3 | Understand the influence of time and space in literature |

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| | | | 4 | Create or write a story and a poem with contemporary issues |
| 1 | ML1CRT01 | Naveena Kavitha | 1 | Understand the different sensibilities in Malayalam Poetry |
| | | | 2 | Analyse the changes in poetic languages and themes |
| | | | 3 | Understand the Polyphonic nature of Poetry |
| | | | 4 | Understand the issues of marginalized world –Eco, Dalit, Women-through Malayalam modern Poetry |
| | | | 5 | Analyze the different readings of Poetry |
| 1 | ML1CMT01 | Malayala Padanathinte Reethisasthram | 1 | Understand the methodology of the study of Malayalam Language and Literature |
| | | | 2 | Understand the diversity of Malayalam Literature |
| | | | 3 | Understand the tools for the study of Malayalam Language and Literature |
| | | | 4 | Understand the new trends in the study of Malayalam Literature |
| | | | 5 | Create the concepts about Malayalam Literature and Literature Movements |
| 1 | ML1CMT02 | Nadakavum Cinemayum- | 1 | Understand the features of Theatre and Cinema |
| | | | 2 | Understand the history and evolution of history and cinema |
| | | | 3 | Understand the relation between Theatre and Cinema as art forms |
| | | | 4 | Understand the aesthetics and semiotics of Dramas and Cinemas |
| | | | 5 | Understand the concepts about Adaptation |
| 2 | ML2CCT02 (B.A.,B.Sc) | Kavitha | 1 | Understand the changes in sensibility of Malayalam Poetry |
| | | | 2 | Understand poet with his/her cultural background |
| | | | 3 | Analyze the influence of society and time in the poetry |
| | | | 4 | Understand the power and aesthetics of Malayalam Poetry |
| 2 | ML2CCT06 (B.Com) | Athmakadha, Lekhanam | 1 | Understand the power and aesthetics of Malayalam prose |
| | | | 2 | Create reading skills and develop writing skills |
| | | | 3 | Understand the writer and his/her writings |
| | | | 4 | Understand the strength of Malayalam Language and literature |

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| 2 | ML2CCT10 (B.Sc Zoology) | Gadhyaparichayam | 1 | Understand the power and aesthetics of Malayalam prose |
| | | | 2 | Understand the strength and scope of Malayalam as mother tongue |
| | | | 3 | Create reading skills and develop writing skills |
| | | | 4 | Understand the writer and his/her writings |
| 2 | ML2CRT01 2 | Malayala Kavitha Ezhuthachan Muthal Kavithrayam Vare | 1 | Understand ancient Malayalam Literature |
| | | | 2 | Understand the Literary forms in ancient literature |
| | | | 3 | Analyse the influence of ancient literature in contemporary writing |
| | | | 4 | Evaluate the Evolution of Malayalam Language |
| | | | 5 | Evaluate the historical and cultural elements in ancient literature |
| 2 | ML2CMT0 3 | Adhunika Loka Kavitha | 1 | Understand the Language ,Culture and Aesthetics of different Countries |
| | | | 2 | Understand the influence of Modernity in the society and literature |
| | | | 3 | Understand the characteristics of different forms in Poetry |
| | | | 4 | Understand the influences of colonization in different countries and analyse the impact of colonization in Literature |
| 2 | ML2CMT0 4 | Folklore Vinjanam | 1 | Understand Folklore as a Cultural discipline |
| | | | 2 | Analyse the traditional knowledge system of Kerala |
| | | | 3 | Understand folk art-forms and its cultural background |
| | | | 4 | Analyze the influence of folklore in Malayalam literature |
| 3 | ML3CCT03 | Dridhyakalasahithyam | 1 | Understand various forms of visual arts in Kerala |
| | | | 2 | Understand the characteristics of cinema and the theory of adaptation |
| | | | 3 | Understand and analyze the features of Classical and Popular art forms with an critical sense |
| 3 | ML3CRT03 | Kerala Samskaram - Poorva Ghattam | 1 | Understand the formation and evolution of Kerala society as a Cultural Process |
| | | | 2 | Analyze the concepts of cultural process with the help of historiography |
| | | | 3 | Understand and Analyze the medieval period Kerala with the help of historical tools |

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| 3 | ML3CMT05 | Oru Ezhuthukaran / Ezhuthukari-Madhavikkutty | 1 | Understand the writer – Madhavikkutty from her stories, poems, autobiographies etc. |
| | | | 2 | Analyze her writings with the theory of feminism |
| | | | 3 | Analyze the representation of women identity and subjectivity in her writings |
| | | | 4 | Understand the narration and narrative techniques in her writings |
| 3 | SC3CMT01 | Sanskrit- Poetry Rhetorics and Basics of Grammar- | 1 | Understand the structure of Sanskrit language |
| | | | 2 | Understand the principles and philosophy embedded in our ancient texts. |
| | | | 3 | Create language skill among students by learning the basic grammar in Sanskrit |
| | | | 4 | Understand the classical literary tradition of India and their influence in Malayalam Literature |
| 4 | ML4CCT04 | Malayala Gadhyarachana kal | 1 | Understand the aesthetics of Malayalam prose |
| | | | 2 | Understand the strength of Malayalam language to explain any knowledge in society |
| | | | 3 | Create reading skills and develop writing skills |
| | | | 4 | Understand various Malayalam writers and their writings |
| 4 | ML4CRT04 | Keralasamskaram- Utharaghattam | 1 | Understand the history and cultural elements of Kerala after Colonization |
| | | | 2 | Understand and analyze the period of renaissance and the influence of English education |
| | | | 3 | Understand the features of modern and postmodern society of Kerala |
| | | | 4 | Understands and analyze the political and social movements in Kerala |
| 4 | ML4CCTO6 | Adhunika Malayalabhasha | 1 | Understand the process of Modernization of Malayalam language |
| | | | 2 | Analyze the role and influence of print media in the modernization of Malayalam |
| | | | 3 | Understand the relevance of strengthening of Malayalam language |
| | | | 4 | Understand the new trends and techniques in Malayalam language |
| | | | 5 | Understand Malayalam as Cyber language |

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| 4 | SC3CMT02 | PROSE, Vrutha, Alankara And Theories Of Poetics And Grammar | 1 | Understand Sanskrit language and literature |
| | | | 2 | Understand the grammatical structure of Sanskrit language |
| | | | 3 | Analyze the history of Classical Sanskrit literature . |
| | | | 4 | Understand features of Alankaras and Vruthas in general and their role in the appreciation of poetry. |
| 5 | ML5CRT05 | Paristhithi vinjanavum Manushyavakas apadanavum | 1 | Understand environment and environmental issues |
| | | | 2 | Understand the multidisciplinary nature of Environment studies |
| | | | 3 | Analyse the relationship between environment and literature |
| | | | 4 | Understand human rights and its various dimensions |
| 5 | ML5CRT06 | Sahithya Meemamsa | 1 | Understand eastern and western esthetics and the change in sensibility |
| | | | 2 | Understand literary theories and literary movements |
| | | | 3 | Analyze the role of literary theories in literary criticism |
| | | | 4 | Evaluate the influence of literary theories in Malayalam literature |
| 5 | ML5CRT07 | Cherukadha, Novel | 1 | Understand the history and evolution of Malayalam novels and short stories |
| | | | 2 | Analyze the narration and techniques of Malayalam novels and short stories |
| | | | 3 | Evaluate the influence of modernism and post modernism in story writing |
| | | | 4 | Analyze the new forms of writings in cyber space |
| 5 | ML5CRT08 | Bhashasasthram | 1 | Understand language as science |
| | | | 2 | Understand the basic concept of Language and linguistics |
| | | | 3 | Understand the difference between grammar and Linguistics |
| | | | 4 | Understand the structure of Malayalam language and the concepts of Phonetics, Morpheme, Semantics etc |
| 5 | ML5OPT02 | Madhyamapada nam | 1 | Understand the origin and evolution of Medias |
| | | | 2 | Understand the role of Print media in the history of Malayalam |
| | | | 3 | Understand the history of Radio and the new trends in Radio Broadcasting |
| | | | 4 | Analyze the role of Television as a Popular Media |

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| | | | 5 | Analyze role of new generation /social media and its representation in popular culture |
| 6 | ML6CRT09 | Keraleeya Drushyakala | 1 | Understand the Visual Arts in Kerala |
| | | | 2 | Understand the classical art tradition in kerala |
| | | | 3 | Understand the origin and development of folk theatre in kerala |
| | | | 4 | Understand the origin and development of folk arts in kerala |
| | | | 5 | Understand the the rituals and social relevance of art forms in kerala |
| | | | 6 | Analyze the elements of kerala visual arts-artistry,literary value,music,theatre |
| 6 | ML6CRT10 | Pracheena Sahithyam | 1 | Understand the tradition of Malayalam in ancient period |
| | | | 2 | Understand the ancient literary forms- <i>Gadyam,Padyam,Mishram</i> |
| | | | 3 | Evaluate literary models as socio cultural representations in ancient period |
| | | | 4 | Analyse linguistic trends in early scripts-Pattu, Manipravalam- which leads to the formation of Modern Malayalam |
| | | | | Understand the contributions of various movements in ancient period |
| 6 | ML6CRT11 | Gadhyasahithyam,Niroopanam | 1 | Understand the origin and growth of Malayalam Criticism |
| | | | 2 | Understand autobiographies, memories and life experiences as narration |
| | | | 3 | Evaluate the new trends and methods in Malayalam Prose writing |
| | | | 4 | Understand the distinct features of Malayalam Prose |
| 6 | ML6CRT12 | Vyakaranam,Bhashacharithram | 1 | Understand the basic concepts of Malayalam Grammar |
| | | | 2 | Understand Malayalam phonetics and develop the concepts of Noun, Verb,Adjective,Case,Syntax etc. |
| | | | 3 | Understand the relevance of Keralapanineeyam and A.R.Rajarajavarma |
| | | | 4 | Understand the concept of Malayalam Syntax |
| | | | 5 | Create a grammatical foundation through practice |
| | | | 1 | Understand the history and evolution of Women writings in malayalam |

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| 6 | ML6CBT01 | Malayalathile Sthreerachanaka I | 2 | Understand the term feminism and possibilities of women writing |
| | | | 3 | Understand the difference in language and narration |
| | | | 4 | Analyze the gender politics of main stream writing |
| | | | 5 | Understand the relevance of Autobiographies and memories |
| | | | 6 | Understand the status of Indian women in different time period |

B.A. Economics - Program Specific Outcomes (PSO)

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| PSO 1 | Understand the theoretical, conceptual and methodological foundations of Micro Economics, Macro Economics, development economics, International trade, banking and finance. |
| PSO 2 | To equip students to understand and analyze economic problems using quantitative and qualitative tools and evaluate the effectiveness of economic policies to solve them. |
| PSO 3 | Critically analyze the features and issues of Indian economy in a global perspective. |
| PSO 4 | Acquire skills for evaluating alternative approaches to development including the principles of sustainable development. |

B.A. Economics - Course Outcomes (CO)

| SEMESTER | PAPER CODE | TITLE OF THE PAPER | CO | COURSE OUTCOME |
|-----------------|-------------------|--|-----------|--|
| 1 | EC1CRT01 | Perspectives and Methodology of Economics | 1 | Understand the basic methodology of social sciences, subjectivity and objectivity of social sciences and the need for interdisciplinarity. |
| | | | 2 | Understanding the basic methodology, concepts and tools of Economics as a social science and the relation of Economics with other social sciences such as history, political science, psychology, law and sociology. |
| | | | 3 | Understanding the foundations of major schools of economic thought such as Mercantilism, Physiocracy, Classical, Neoclassical, Socialist and Marxian, Keynesian and Monetarist economic thought. |

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| | | | 4 | Understanding the contributions of Indian economists such as Kautilya, Dadabai Naoroji, Amartya Sen and J.N. Bhagwathi. |
| | | | 5 | Understanding the meaning and objectives of research and types of research. |
| | | | 6 | Understand the basic steps in a research study. |
| 2 | EC2CRT02 | Micro Economic Analysis I | 1 | Understand the fundamentals of microeconomics. |
| | | | 2 | Understand the foundation for economic analysis and problem solving. |
| | | | 3 | Understand the basics of supply and demand analysis and the basic forces that determine equilibrium in a market economy. |
| | | | 4 | Develop the capacity to analyze consumer decisions. |
| | | | 5 | Develop the capacity to analyze firm's decisions about Optimal production. |
| | | | 6 | Understand the basic concepts of cost. |
| 3 | EC3CRT03 | Micro Economic Analysis II | 1 | Understand the features of all market forms. |
| | | | 2 | Analyze firms' behaviour under different types of market structures. |
| | | | 3 | Understand the basic concepts of the theory of distribution. |
| | | | 4 | Analyse the theories of rent, interest, wage and profit rate determination. |
| | | | 5 | Understand the nature and scope of welfare economics |
| | | | 6 | Analyze the important criteria of Welfare |
| 3 | EC3CRT04 | Economics Of Growth & Development | 1 | Acquaint with the basic concepts and issues of growth and development from Adam Smith. |
| | | | 2 | Understanding development as a social process |
| | | | 3 | Analyze the approaches to development |
| | | | 4 | Analyze the theories and Factors in the Development Process. |
| | | | 5 | Understand the connectedness between trade and development. |
| | | | 6 | Understand the basics of human resource development. |
| | | | 7 | Develop the capacity to identify the issues relating to gender and development. |

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| | | | 8 | Understand the relation between population and development |
| 4 | EC4CRT05 | Macro Economics I | 1 | Understand the theoretical foundations of macro economics. |
| | | | 2 | Understand the basic concepts and methods of National Income Accounting. |
| | | | 3 | Understand the concept of green accounting and Net Economic Welfare. |
| | | | 4 | Critically analyze Classical macroeconomics with special reference to the theories of J.B.Say and Pigou |
| | | | 5 | Understand the basic theoretical foundations of Keynesian macroeconomics. |
| | | | 6 | Analyze the Keynesian model of underemployment equilibrium. |
| | | | 7 | Understand the concept of multiplier- balanced budget and foreign trade multiplier |
| | | | 8 | Understand Two sector IS-LM model of income determination |
| 4 | EC4CRT06 | Public Economics | 1 | Understand the meaning, subject matter and basic concepts of public finance. |
| | | | 2 | Understand the types of public revenue. |
| | | | 3 | Understand the types, principles, and effects of taxation with special emphasis on GST. |
| | | | 4 | Understand the concepts and classifications of Budget with special emphasis on the budgetary procedure of India especially the current Central budget. |
| | | | 5 | Analyze the theoretical base of fiscal policy. |
| | | | 6 | Understand the concepts, theories and effects of public expenditure and public debt with special emphasis on public expenditure and public debt in India. |
| | | | 7 | Understand the principles of federal finance and the mode, criteria and institutions for transfer of resources between Centre and State in India. |
| 5 | EC5CRT07 | Quantitative Techniques | 1 | Understand the basic mathematical concepts of variables, constants, parameters, equations, exponents and logarithms, sequences & progressions and the real number system |
| | | | 2 | Understand derivatives and its applications in economics |
| | | | 3 | Understand the basic concepts of probability |

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| | | | 4 | Understand the probability theorems and apply it to simple economic problems. |
| | | | 5 | Understand about binomial distributions & estimation of probabilities using binomial theorem |
| | | | 6 | Understand about normal probability distribution, its properties, uses and applications in Economics |
| | | | 7 | Understand set theory and set operations |
| | | | 8 | Understand the theory of matrices and matrix operations |
| | | | 1 | Understand the post Keynesian consumption hypotheses like Relative income, permanent income and life cycle hypothesis and the views of Kuznets on long run consumption. |
| | | | 2 | Understand the theory of capital and investment, including accelerator theory, Tobins q theory and the present value criterion. |
| | | | 3 | Understand the concepts of money demand and money supply and the related Classical and Keynesian views. |
| | | | 4 | Understand the definition, types, causes, effects and control measures of inflation and the inflation-unemployment relationships as explained by Phillips. |
| | | | 5 | Understanding the types and phases of trade cycles and the effectiveness of fiscal and monetary stabilization measures using ISLM technique in a closed economy. |
| | | | 6 | Understand the basic principles of monetarism and the restatement of quantity theory of money. |
| | | | 7 | Understand the concepts of rational expectations and policy ineffectiveness proposition. |
| | | | 8 | Understand the basic principles of supply side economics, Laffer curve, New Keynesian School |
| | | | 1 | Understand the definition, scope and multi disciplinary nature of environmental Economics and economy environment linkages. |
| | | | 2 | Understand the types of natural resources, structure and functions of ecosystem and the concept of biodiversity-threats & its conservation. |
| | | | 3 | Understand the causes effects and control measures of all types of pollution and social issues related to environment |
| | | | 4 | Understand the international conventions on environment like the Stockholm conference, Helsinki Convention, Montreal protocol, Kyoto protocol, Rio summit, Paris convention and the environmental policies and legislations in India. |

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| | | | 5 | Understand the relation between population a growth and environment and the theory of market failure and tragedy of commons. |
| | | | 6 | Understand the concept, history, nature and value dimensions of human rights- UDHR, ICCPR, ICESCR |
| | | | 7 | To understand the role of UN in coordination of human rights with special emphasis on elimination of racial discrimination, discrimination against women, protection of economic, social and cultural rights. |
| | | | 8 | Understand human rights in the context of Indian constitution (fundamental rights, directive principles of State Policy), measures for protecting the rights of minorities, women, children, prisoners; Human Rights Commission; human rights awareness in education. |
| 5 | EC5CRT10 | Introductory Econometrics | 1 | Understand the Classical Linear Regression model, the concept of linearity and stochastic interpretation and significance |
| | | | 2 | Understand population regression function and sample regression function. |
| | | | 3 | Understand the OLS method and its statistical and numerical properties. |
| | | | 4 | Understand the Gauss Markov theorem and the assumptions of CLRM. |
| | | | 5 | Understanding the reliability and precision of OLS estimators; goodness of fit-R2; standard error. |
| | | | 6 | To understand the basics of point and interval estimation and hypothesis testing of OLS estimators. |
| | | | 7 | Understand the basics of multiple regression. |
| | | | 8 | Understand the effects of relaxing the assumptions of CLRM; autocorrelation, heteroscedasticity and multicollinearity |
| 5 | EC5OPT01 | Fundamentals of Economics | 1 | Understand the basic ideas and concepts related to demand, supply and national income. |
| | | | 2 | Understand the concepts of public revenue, public expenditure and budget. |
| | | | 3 | Understanding the functions and structure of banking and non banking institutions including the functions of RBI. |
| | | | 4 | Understanding the basic concepts of international economics such as balance of trade, foreign exchange rate and the background and structure of IMF, World Bank and WTO. |
| | | | 5 | Understand the basics of planning in India. |

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| | | | 6 | Understand the major institutional and policy changes in India since independence such as green revolution, LPG policy |
| | | | 7 | Understand the basic demographic features of Kerala and India and the Kerala Model of development. |
| 6 | EC6CRT11 | Quantitative Methods | 1 | Understand the Role of Statistics in Economics, its functions and limitations |
| | | | 2 | Understand the methods of primary data collection, sample designs& the preparation of schedules and questionnaires. |
| | | | 3 | Understand about classification, tabulation and presentation of Statistical data |
| | | | 4 | Know the concepts of central tendency and dispersion and the tools used to measure them. |
| | | | 5 | Understand the concept of correlation and know its measurement |
| | | | 6 | Apply regression analysis in prediction of one variable using the value of another related variable |
| | | | 7 | Understand index numbers as economic barometers |
| | | | 8 | Understand the meaning, definition and use of time series analysis and know the measurement of trend |
| 6 | EC6CRT12 | International Economics | 1 | Understanding the basic principles and theories that tend to govern the flow of trade in goods and services at the global level. |
| | | | 2 | Understand the meaning and structure of balance of payments and the monetary and non monetary measures to correct the disequilibrium in balance of payment |
| | | | 3 | Understand the functions of foreign exchange markets, the determination of equilibrium exchange rate types of exchange rates and the factors influencing exchange rates. |
| | | | 4 | Analyze the theories of exchange rate determination; mint parity theory, purchasing power parity and balance of payment theory |
| | | | 5 | Understand the concepts of hedging, speculation, arbitrage, futures, options, currency swaps, partial and full convertibility. |
| | | | 6 | Understanding the exchange rate system in India. |
| | | | 7 | Understanding the commercial policy; free trade and protection. |
| | | | 8 | Understanding the meaning and forms of economic integration; BRICS, gold standard, Bretton Woods, IMF, World Bank, GATT, WTO |

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| 6 | EC6CRT13 | Money & Financial Markets | 1 | Understand the structure of India's Financial system. |
| | | | 2 | Understand the concepts and functions of money and determinants of money supply. |
| | | | 3 | Understand the functions of RBI and the instruments of monetary policy. |
| | | | 4 | Understand the functions of commercial banks, the issue of NPAs and the structure of commercial banking including digital payment systems in India. |
| | | | 5 | Understand the structure and functions of money market and the features of Indian money market. |
| | | | 6 | Understand the structure and functions of capital market, both primary and secondary, including the methods of public issue and major investment groups. |
| 6 | EC6CRT14 | Indian Economy | 1 | Understand the structure and the major features of Indian Economy like demographic features, role of PSUs and the policy changes since 1990. |
| | | | 2 | Evaluate the performance and policy changes in Indian agricultural sector since Independence and the impact of reforms and influence of WTO on Indian agriculture. |
| | | | 3 | Analyse the growth trends and policy changes in India's industrial sector and role and performance of service sector since independence. |
| | | | 4 | Understand the strategies, objectives and achievements of Planning in India and NITI Ayog |
| | | | 5 | Identify the trends in India's national income and the impact of poverty, inequality, unemployment, inflation, black money and corruption on Indian Economy. |
| | | | 6 | Analyzing the importance of infrastructure in Indian economy |
| | | | 7 | Evaluate structural changes in Kerala Economy including land reforms, decentralized planning, unemployment, cropping pattern and Kerala model of development |
| | | | 8 | Analyze the impact of gulf migration, energy crisis, food crisis, agricultural indebtedness and fiscal crisis on Kerala Economy |
| 6 | EC6CBT02 | Business Economics | 1 | Understand the scope, methods and concepts of business economics and its role in managerial decision making. |
| | | | 2 | Application of basic concept of demand, its types, determinants, elasticity. |
| | | | 3 | Understand the concept of demand forecasting, types, methods and criteria for a good forecasting method. |

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| | | | 4 | Understanding production function with emphasis on Cobb Douglas production function |
| | | | 5 | Understanding the concept of cost and its classifications. |
| | | | 6 | Understand the managerial theory of firm. |
| | | | 7 | Understand the methods of pricing and theories of profit and application of break even analysis. |
| | | | 8 | Understanding the principles of long term business decisions. |

Political Science - Course Outcomes (CO)

| SEMESTER | PAPER CODE | TITLE OF THE PAPER | CO | COURSE OUTCOME |
|----------------------------|------------|--|----------|---|
| 1 (B.A. English) | PS3CMT01 | An Introduction To Political Science | 1 | To understand elementary knowledge in politics |
| | | | 2 | To understand prominent ideologies in the world |
| | | | 3 | To understand behavioural and post behavioural approach |
| | | | 4 | To compare the functioning of different political system |
| | | | 5 | To understand the concept of interdisciplinary perspective |
| | | | 6 | To understand the function of institutional structures and how they drive individual and organizational behaviors. |
| | | | 7 | To understand the basic concepts of liberty, equality, rights, law and justice. |
| | | | 8 | To assess the theories of state (origin, nature, functions): contract, idealist, liberal and neo-liberal theories |
| 2 (B.A. English) | PS4CMT05 | Indian Constitution And Social Issues | 1 | To understand the basic philosophy of Indian constitution |
| | | | 2 | To examine the fundamental rights and duties of Indian citizens with a study of the significance and status of directive principles |
| | | | 3 | To assess the nature of Indian federalism with focus on union-state relations |
| | | | 4 | To analyze the important institutions of the Indian union: the executive, legislature and judiciary |
| | | | 5 | To evaluate the role of various forces on Indian politics: religion; language; caste; tribe; regionalism |

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| | | | 6 | To investigate the judicial activism in india with particular reference to PIL |
| 3 (B.A. Economics) | PS3CMT01 | An Introduction To Political Science | 1 | To understand elementary knowledge in politics |
| | | | 2 | To understand prominent ideologies in the world |
| | | | 3 | To understand behavioural and post behavioural approach |
| | | | 4 | To compare the functioning of different political system |
| | | | 5 | To understand the concept of interdisciplinary perspective |
| | | | 6 | To understand the function of institutional structures and how they drive individual and organizational behaviors. |
| | | | 7 | To understand the basic concepts of liberty, equality, rights, law and justice. |
| | | | 8 | To assess the theories of state (origin, nature, functions): contract, idealist, liberal and neo-liberal theories |
| 4 (B.A. Economics) | PS4CMT05 | Indian Constitution And Social Issues | 1 | To understand the basic philosophy of indian constitution |
| | | | 2 | To examine the fundamental rights and duties of indian citizens with a study of the significance and status of directive principles |
| | | | 3 | To assess the nature of indian federalism with focus on union-state relations |
| | | | 4 | To analyze the important institutions of the indian union: the executive, legislature and judiciary |
| | | | 5 | To evaluate the role of various forces on indian politics: religion; language; caste; tribe; regionalism |
| | | | 6 | To investigate the judicial activism in india with particular reference to PIL |

B.A HINDI - Program Specific Outcomes (PSO)

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| PSO 1 | The student is able to understand the fundamentals of grammar and effective communication. |
| PSO 2 | The student is able to understand the technical terminology and mass communication. |
| PSO 3 | The student is able to understand the human values and culture by the study of poetry,prose and short story. |

B.A HINDI - Course Outcomes (CO)

| SEMESTER | PAPER CODE | TITLE OF THE PAPER | CO | COURSE OUTCOME |
|--------------------------|-------------------|---|-----------|---|
| 1 (B.Sc,B.A.) | HN1CCT01 | Prose And One Act Play | 1 | Discuss the human values and culture |
| 1 (B.Com.) | HN1CCT01 | Prose and Mass Media | 1 | Discuss the terms of technical terminology & mass media |
| 2 (B.Sc,B.A.) | HN2CCT02 | Short Stories And Novel | 1 | Discuss the human values and culture |
| 2 (B.Com.) | HN2CCT02 | Poetry Commercial Correspondence and Translation | 1 | Discuss the types of poetry, Letter writing and methods of transalation |
| 3 (B.Sc,B.A.) | HN3CCT03 | Poetry, Grammar And Translation | 1 | Discuss the basics of grammar and translation. and types of poetry. |
| 4 (B.Sc,B.A.) | HN4CCT04 | Drama and Long Poem | 1 | Define the types of poetry & analyse the poems and drama critically. |

Physical Education - Course Outcomes (CO)

| SEMESTER | PAPER CODE | TITLE OF THE PAPER | CO | COURSE OUTCOME |
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| | | | 1 | Recognise the importance of Physical fitness |
| | | | 2 | Understand the basic concepts of health , nutrition and first aid measures |
| | | | 3 | Identify healthy lifestyle |
| | | | 4 | Understand the various International and national sports events |
| | | | 5 | Generalise the importance of effects exercise on body systems |
| | | | 6 | Impart knowledge about various sports and games activities and their influence in the society |
| | | | 7 | Enable the students to lead a healthy life style |
| | | | 8 | Create awareness about the Scientific basis and benefits of Physical activity |

B.Com. Finance & Taxation (Regular & Self Financing) - Program Specific Outcomes (PSO)

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| PSO 1 | Understand the legal and applicational aspects of taxation and the management theron including GST |
| PSO 2 | Understand basic concepts and applicability in accounting and finance and acquire complementary skills in the practice of the same |
| PSO 3 | Understand and apply methodology of learning commerce, entrepreneurship and management |
| PSO 4 | Develop theoretical and practical skills in banking and financial services |

B.Com. Finance & Taxation (Regular & Self Financing) - Course Outcomes (CO)

| SEMESTER | PAPER CODE | TITLE OF THE PAPER | CO | COURSE OUTCOME |
|----------|------------|--|----|--|
| 1 | CO1CMT01 | Banking | 1 | Understand banking and its functions |
| | | | 2 | Understand Innovations and reforms in the Banking sector |
| | | | 3 | Understand the relationship of banker and customer and instruments used in banking |
| | | | 4 | Understand insurance, its principles and reforms in the sector |
| | | | 5 | Understand GST Registration, Returns and Assessments |
| | | | 6 | Understand various types of insurance and its conditions |
| 1 | CO1CRT01 | Dimensions And Methodology Of Business Studies | 1 | Understand business and its role in society |
| | | | 2 | Understand Business ethics and CSR |
| | | | 3 | Understand business environment and various dimensions |
| | | | 4 | Familiarise Technology integration in business |

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| | | | 5 | Introduce the importance and fundamentals of business research |
| 1 | CO1CRT03 | Corporate Regulations And Administration | 1 | Introduce legal environment and its importance to students |
| | | | 2 | Development of students' skills in legal reasoning and analysis through study of regulatory practice relating to Company Law. |
| | | | 3 | Understanding of the major core topics in Company Law including the legal nature of the company as a business structure, the legal implications of separate corporate personality including limited liability. |
| | | | 4 | Develop an appreciation of the legal basis of the control exercised by a company's board of directors over a company's management and affairs. |
| | | | 5 | Discuss the legal nature of the relationships between a company and its management on the one hand and the various groups with an interest in the affairs of the company (or 'stakeholders') on the other, these stakeholders including the company's shareholders, creditors and employees. |
| | | | 6 | Awareness about winding up of a company. |
| 1 | CO1CRT02 | Financial Accounting I | 1 | Understand the concepts and conventions of accounting |
| | | | 2 | Prepare final accounts using adjustment entries |
| | | | 3 | understand incomplete records |
| | | | 4 | Determine the profit and loss in single entry system |
| | | | 5 | compute royalty of accounts |
| | | | 6 | understand the concept of consignment |
| | | | 7 | create consignment account |
| | | | 8 | create farm accounts |
| 2 | CO2CRT06 | Business Management | 1 | Understand the concept of Management |
| | | | 2 | understand the various management principles |
| | | | 3 | understand the concept of planning |
| | | | 4 | Describe the meaning of organising |
| | | | 5 | Determine the relationship between Direction and Control |
| | | | 6 | understand various Management techniques |
| 2 | CO2CRT04 | | 1 | Understand concept of hire purchase ,sale and installment |

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| | | Financial Accounting-II | 2 | Understand default and various repossession |
| | | | 3 | Compute accounting for branches |
| | | | 4 | Prepare consolidated balance sheet |
| | | | 5 | Determine accounting procedures for departmental accounts |
| | | | 6 | Compute provision for unrealized profit |
| | | | 7 | Compute accounting for dissolution of partnership firm |
| | | | 8 | Understand applicability of accounting standards |
| | | | | |
| 2 | CO2CRT05 | Business Regulatory Framework | 1 | Understand the basic concepts of mercantile law |
| | | | 2 | Understand the concepts of framework of Indian Business laws |
| | | | 3 | Understand the difference between social contracts and contract law in day to day life. |
| | | | 4 | Enable the students to apply the provisions of business laws in business activities. |
| | | | 5 | Enable students to apply the provisions of law of agency to business activities |
| | | | 6 | Apply the knowledge of the sale of goods act to business situations. |
| | | Principles Of Business Decisions | 1 | Remember decision making and demand |
| | | | 2 | Understand demand forecasting, production function, cost and its determinants |
| | | | 3 | Understand price theory and various market forms |
| | | | 4 | Apply economic theories in decision making |
| | | | 5 | Analyse elasticities of demand and demand forecasting of new products |
| | | | 6 | Analyze optimum combination of input and cost output relationship. |
| | | | 7 | Evaluate price determination in different market conditions |
| 3 | CO3OCT01 | Goods And Service Tax | 1 | Understand GST and its concepts |
| | | | 2 | Understand levy and collection of tax |

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| | | | 3 | Understand supply and time of supply |
| | | | 4 | Understand various documents of GST |
| | | | 5 | Understand GST Registration, Returns and Assessments |
| | | | 6 | Understand Authorities and powers of GST |
| | | | 7 | compute time of supply and value of supply |
| | | | 8 | Compute Tax payable under GST |
| | | | 1 | Understand the concepts of statistics |
| | | | 2 | Understand the different methods of data collection |
| | | Quantitative Techniques For Business Research -I | 3 | Understand the measures and functions of measures of Central Tendency |
| | | | 4 | Compute the measures of Central Tendency |
| | | | 5 | Understand the measures and functions of Dispersion |
| | | | 6 | Compute the measures of Dispersion |
| | | | 7 | Understand methods of Interpolation |
| | | | 8 | Understand Forecasting using Extrapolation |
| | | | 1 | Understand the basic concepts of marketing |
| | | | 2 | Understand the product life cycle |
| | | Marketing Management | 3 | Understand the concept of marketing mix |
| | | | 4 | Understand the differences between logistics and supply chain management |
| | | | 5 | Apply the concept of new product development |
| | | | 6 | Apply principles of marketing management in business and industry |
| | | | 7 | Analyse pricing methods and strategies |
| | | | 8 | Evaluate recent trends in marketing |
| | | Financial Markets And Operations | 1 | Understand Indian Financial system and its components |
| | | | 2 | Remember financial markets and its importance. |
| | | | 3 | Understand primary market and innovative financial instruments |

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| | | | 4 | Understand secondary market and function |
| | | | 5 | Understand the functioning of online trading system |
| | | | 6 | Awareness of mutual funds and classification |
| | | | 7 | Understand the concept of derivatives and different types |
| 3 | CO3CRT07 | Corporate Accounts I | 1 | understand the redemption of preference shares |
| | | | 2 | Compute right issue and bonus issue |
| | | | 3 | Understand the buyback of shares |
| | | | 4 | Determine the underwriting of shares and debentures |
| | | | 5 | Compute the final accounts of joint stock companies |
| | | | 6 | Compute the profit prior to incorporation |
| 4 | CO4CRT11 | Corporate Accounts II | 1 | Understand accounts of Insurance and Banking Companies |
| | | | 2 | Understand internal and external reconstruction methods |
| | | | 3 | Determine merger and purchase methods of amalgamation |
| | | | 4 | Compute liquidating company's final accounts |
| | | | 5 | Compute alteration of share capital in case of internal reconstruction |
| | | | 6 | Compute purchase consideration by using all methods |
| | | | 7 | Create final accounts of Insurance companies |
| | | | 8 | Create final accounts of Banking companies |
| 4 | CO4CRT13 | Entrepreneurship Development And Project Management | 1 | Understand the meaning and importance of entrepreneurship |
| | | | 2 | Understand the classification of entrepreneurs and MSME |
| | | | 3 | Determine project identification sources and legal protections in India |
| | | | 4 | Determine formulation of a project and various stages |
| | | | 5 | Prepare project report and appraisal |
| | | | 6 | Understand entrepreneurial education and training |

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| | | | 7 | Understand Entrepreneurship Development Programme and methodology |
| | | | 8 | Understand institutional funding and support for start-ups in India |
| 4 | CO4OCT01 | Financial Services | 1 | Understand Financial Services and its types |
| | | | 2 | Understand Venture capitalisation and securitisation |
| | | | 3 | Understand leasing and factoring |
| | | | 4 | Understand credit rating and its process |
| | | | 5 | understand credit rating agencies in India |
| | | | 6 | Understand mergers and acquisitions |
| | | | 7 | Understand recent trends in Financial Services |
| | | | 8 | Analyze mergers in India |
| 4 | CO4CRT12 | Quantitative Techniques For Business-II | 1 | Understand the concepts and types of correlation |
| | | | 2 | Determine different types of correlations |
| | | | 3 | Identify the different algebraic methods of studying regression |
| | | | 4 | Analyse difference in usage of correlation and regression |
| | | | 5 | Compute Standard error of estimate |
| | | | 6 | Understand the meaning and importance of index numbers |
| | | | 7 | Compute different methods of indexes |
| | | | 8 | Determine the trends using time series analysis |
| 5 | CO5CRT15 | Environmental Management And Human Rights | 1 | Understand environmental management approaches in India. |
| | | | 2 | Demonstrate a general understanding of the breadth and interdisciplinary nature of environmental issues. |
| | | | 3 | Understand the multidisciplinary nature of environmental studies |
| | | | 4 | Discuss the importance of biodiversity and its conservation |
| | | | 5 | Analyse the effect of pollution on environment and take measures to control and avoid pollution in their own ways and methods. |
| | | | 6 | Understand the social issues and human rights. |
| | | | 7 | Create awareness on RTI and develop an understanding of the application of the same. |

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| | | | 8 | Develop an understanding of ecosystem its structure and function |
| 5 | CO5CRT16 | Financial Management | 1 | understand the students with the functional areas and principles of financial management |
| | | | 2 | Discuss the concept of finance and financing decisions |
| | | | 3 | Evaluate the various capital budgeting methods |
| | | | 4 | compute working capital |
| | | | 5 | identify the importance of dividend policy |
| | | | 6 | understand the concept of capital structure |
| | | | 7 | Evaluate cost of capital |
| | | | 8 | Develop best financial policy |
| 5 | CO5OPT03 | Fundamentals Of Accounting | 1 | Understand the concepts and conventions of accounting |
| | | | 2 | Understand the accounting equations |
| | | | 3 | Understand the golden rule of accounting |
| | | | 4 | Determine the journal entries |
| | | | 5 | Understand the ledger accounts |
| | | | 6 | Compute different kinds of cash books |
| | | | 7 | Determine the accuracy of transactions using trial balance |
| | | | 8 | create final accounts of a companies |
| 5 | CO5CRT14 | Cost Accounting | 1 | Understand various cost concepts, methods and techniques of cost accounting |
| | | | 2 | Understand accounting and control of material cost |
| | | | 3 | Compute material stock levels and pricing of materials |
| | | | 4 | Understand labour and direct expenses |
| | | | 5 | Determine labour cost and incentive plans |
| | | | 6 | Determine allocation and apportionment of overheads, machine hour rates and classification and allocation of overheads |
| | | | 7 | Prepare Cost sheet and reconciliation statements |
| 5 | CO5OCT01 | Income Tax Law & Practice | 1 | Understand a brief history of Income Tax Act |
| | | | 2 | Understand Concepts of Income Tax |

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| | | | 3 | Understand Impact and Incidence of Tax |
| | | | 4 | Understand the concepts under Income from Salary |
| | | | 5 | Calculate Income from Salary |
| | | | 6 | Understand the concepts under Income from House Property |
| | | | 7 | Calculate Income under House Property |
| | | | 8 | Compute Profits and Gains from Business or Profession |
| 6 | CO6CRT18 | Advertisement And Sales Management | 1 | Understand strategy and concept of advertising |
| | | | 2 | Understand different methods of sales promotion |
| | | | 3 | Understand functions of advertising and marketing |
| | | | 4 | Describe components of sales promotion mix |
| | | | 5 | Determine the effectiveness of advertising research |
| | | | 6 | Determine sales promotion strategies and budgets |
| 6 | CO6CRT17 | Cost Accounting-II | 1 | Understand application of Costing methods and techniques in business decision making |
| | | | 2 | Compute job costing and batch costing and process costing |
| | | | 3 | Understand contract costing and profit on incomplete contracts |
| | | | 4 | Prepare Contract account and balance sheet |
| | | | 5 | Determine break even point, Cost volume and profit analysis |
| | | | 6 | Application of marginal costing in decision making. |
| | | | 7 | Understand budget and budgetary control |
| | | | 8 | Prepare cash budget and flexible budgets |
| 6 | CO6CRT20 | Management Accounting | 1 | Understand characteristics of financial, management and cost accounting |
| | | | 2 | Understand various tools of management accounting |
| | | | 3 | Determine the various types and techniques of financial analysis |
| | | | 4 | Compute common size statement and comparative statements |
| | | | 5 | Prepare trading and profit and loss account and balance sheet by using ratios |

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| | | | 6 | Determine the need for fund flow statement and cash flow statement |
| | | | 7 | Create fund flow statement |
| | | | 8 | Create cash flow statement as per accounting standard 3 |
| 6 | CO6CRT19 | Auditing And Assurance | 1 | Understand the basic terms ,concepts and scope of auditing |
| | | | 2 | Identify different audit files,working papers,documentation |
| | | | 3 | Understand the nature of Government audit |
| | | | 4 | Evaluate internal control of an organisation |
| | | | 5 | Determine the role of auditor in limited company based on companies act 2013. |
| | | | 6 | Understand the nature of audit work undertaken in College ,charitable institutions. |
| | | | 7 | Understand the difference between investigation and auditing |
| | | | 8 | Equip students to undertake auditing work |
| 6 | CO6OCT01 | Income Tax -II | 1 | Understand concept of Capital Gain and Chargeability |
| | | | 2 | Compute income from capital gains |
| | | | 3 | Describe the scope of income from other sources |
| | | | 4 | Calculate income from other sources |
| | | | 5 | Understand the concept of clubbing of income and set off and carry forward of losses |
| | | | 6 | Explain the deductions under Chapter VI A |
| | | | 7 | Understand the concept of Assessment, agricultural income and partly agricultural income |
| | | | 8 | Understand assessment procedures and powers |
| | | | 9 | Understand different types and areas of assessment |

B.Com. Computer Application - Program Specific Outcomes (PSO)

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| PSO 1 | Understand the fundamental concepts of management entrepreneurship and commercial laws |
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| PSO 2 | Develop theoretical and practical skills in banking and financial market |
| PSO 3 | Develop the skill for applicability of accounting and finance |
| PSO 4 | Understand the theoretical concepts and practical applications of computerized accounting & SPSS |

B.Com. Computer Application (Self Financing) - Course Outcomes (CO)

| SEMESTER | PAPER CODE | TITLE OF THE PAPER | CO | COURSE OUTCOME |
|----------|------------|--|----|--|
| 1 | CO1CRT01 | Dimensions And Methodology Of Business Studies | 1 | Role of business and it's environment |
| | | | 2 | Development of business in indian economy |
| | | | 3 | E-commerce environment of business |
| | | | 4 | Social responsibility of business and business research |
| 1 | CO1CRT02 | Financial Accounting 1 | 1 | Basic concepts of accounting |
| | | | 2 | Finalisation of accuts of sole trader along with adjustments |
| | | | 3 | Accounting of incomplete records with single entry |
| | | | 4 | Accounting of incomplete records with double entry system |
| | | | 5 | Basic concepts of royalty accounts |
| | | | 6 | Adjustment regarding minimum rent in srtike and lock outs and governement subsidies in similar situation |
| | | | 7 | Consignment accouting system with adjustments regarding delcredre commission and with loses |
| | | | 8 | Basic accounting procedure for a farm accounts. |
| 1 | CO1CRT03 | Corporate Regulations And Administration Credit 3 | 1 | Introduction to concept of varioues forms of companies |
| | | | 2 | Awareness on history and frame work of company law in india |
| | | | 3 | Formation procedure of a company unsr the companies act |
| | | | 4 | Introduction to sources of income share issue procedures. |
| | | | 5 | Provisions in regarding membership of company |

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| | | | 6 | Rules regarding closure or winding up of companies. |
| 1 | CO1CMT01 | Banking And Insurance | 1 | Introduction to history of banking in india along with role of rbi |
| | | | 2 | Innovations and reforms in banking sector including e banking |
| | | | 3 | Relationship between banker and customer |
| | | | 4 | Dealing with cheques and its procedure of processing |
| | | | 5 | Concepts of insurance and assurance and institutional set up and reforms in insurance sector of india |
| | | | 6 | Different types of insurance schemes and assurance schemes |
| 2 | CO2CRT04 | Financial Accounting 2 | 1 | Basic concepts of hire purchase accounting |
| | | | 2 | Branch accounting concept and various systems of accounting |
| | | | 3 | Accounting procedure for branch accounts in the book of ho |
| | | | 4 | Departmental accounting procedure and inter depatrmatal transfer treatment |
| | | | 5 | Accounting regarding dissolution of partnership concerns |
| | | | 6 | Settlement of parnets in partnership in case of insolvency. |
| | | | 7 | Application of garner vs murray case in partership and principle of piecemeal distribution. |
| | | | 8 | Basic accounting starndards and its applicability. |
| 2 | CO2CRT05 | Business Regulatory Framework | 1 | Introduction to mercantile law- law of contract |
| | | | 2 | Concept of agreement and its legal procedures |
| | | | 3 | Special contract like bail, pledge |
| | | | 4 | Indemnity and guarentee concepts and its legal procedures |
| | | | 5 | Agency concept and legal side of agency |
| | | | 6 | Sale of goods act 1930 and its applicability in real life |
| 2 | CO2CRT06 | Business Mangement | 1 | Introduction to mangement concepts |
| | | | 2 | Varoius schools of thoughts anf principles of management |
| | | | 3 | Planning procedure and concepts of mbo |

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| | | | 4 | Organising principles of management and its applicability in business |
| | | | 5 | Principles of direction in management and forms of direction procedure |
| | | | 6 | Modern management techniques inside an organisation |
| 2 | CO2CMT02 | Principles Of Business Decisions | 1 | Decision making in business and various decision making procedure |
| | | | 2 | Business economics and applicability of economic principles in business |
| | | | 3 | Demand theory and planning of business according to demand |
| | | | 4 | Production development according to principles of economics. |
| | | | 5 | Cost analysis and planning of production according to theories of cost |
| | | | 6 | Pricing methods and production policy regarding pricing theories. |
| 3 | CO3CRT07 | Corporate Accounts 1 | 1 | Accounting procedure for shares redemption in companies |
| | | | 2 | Accounting procedure for buyback of shares in companies |
| | | | 3 | Accounting procedure for rights issue and bonus issue and esop |
| | | | 4 | Procedure for underwriting of shares and debentures of companies |
| | | | 5 | Accounting of joint stock companies and calculation of managerial remuneration |
| | | | 6 | Accounting of profit or loss prior to incorporation |
| | | | 7 | Accounting procedure for preparation of investment accounts |
| | | | 8 | Basic accounting of insurance companies including loss of profit. |
| 3 | CO3CRT08 | Quantitative Techniques 1 | 1 | Introduction to statistics |
| | | | 2 | Surveying method using statistics for research |
| | | | 3 | Editing, coding of data for interpretation and tabulation |
| | | | 4 | Data analysis: unit variable data: mean median mode etc |

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| | | | 5 | Data analisis : quatile devaiton, standard deviation |
| | | | 6 | Skewness and kurtosis and moments |
| | | | 7 | Interpolation and extrapolation |
| | | | 8 | Forecating using interpolation and extrapolation |
| 3 | CO3CRT09 | Finacial Markets And Operations | 1 | Introduction to finacial system in india |
| | | | 2 | Concept of financial markets in india |
| | | | 3 | Idea on fuctioning of sebi |
| | | | 4 | Primary market operation procedure in indial fancial sector |
| | | | 5 | Secondary market operation procedure in indial fancial sector |
| | | | 6 | Mutual funds and derivative market sector in indian economic system |
| 3 | CO3CRT10 | Marketing Management | 1 | Introduction to marketing management |
| | | | 2 | Concept of marketing mis and market segmentation procedure |
| | | | 3 | Concept of product mix and branding methods |
| | | | 4 | Setting up of pricing of a product |
| | | | 5 | Physical distribution of goods and services including logistics management |
| | | | 6 | Emerging trends and tendencies in marketing sector. |
| 3 | CO3OCT02 | Information Technology For Business | 1 | Introduction to informatics and operating systems |
| | | | 2 | It and society an ethical pratice |
| | | | 3 | Network and communication wan , lan, man |
| | | | 4 | Network security. Genetaion in communication |
| | | | 5 | Html and web page designing |
| | | | 6 | Internet , history and draw back |
| | | | 7 | Search engines and intranet and extranet |
| | | | 8 | Development of web page |
| 4 | CO4CRT11 | Corporate Accounts II | 1 | Understand accounts of Insurance and Banking Companies |
| | | | 2 | Understand internal and external reconstruction methods |
| | | | 3 | Determine merger and purchase methods of amalgamation |

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| | | | 4 | Compute liquidating company's final accounts |
| | | | 5 | Compute alteration of share capital in case of internal reconstruction |
| | | | 6 | Compute purchase consideration by using all methods |
| | | | 7 | Create final accounts of Insurance companies |
| | | | 8 | Create final accounts of Banking companies |
| 4 | CO4CRT13 | Entrepreneurship Development And Project Management | 1 | Understand the meaning and importance of entrepreneurship |
| | | | 2 | Understand the classification of entrepreneurs and MSME |
| | | | 3 | Determine project identification sources and legal protections in India |
| | | | 4 | Determine formulation of a project and various stages |
| | | | 5 | Prepare project report and appraisal |
| | | | 6 | Understand entrepreneurial education and training |
| | | | 7 | Understand Entrepreneurship Development Programme and methodology |
| | | | 8 | Understand institutional funding and support for start-ups in India |
| 4 | CO4OCT01 | Financial Services | 1 | Understand Financial Services and its types |
| | | | 2 | Understand Venture capitalisation and securitisation |
| | | | 3 | Understand leasing and factoring |
| | | | 4 | Understand credit rating and its process |
| | | | 5 | understand credit rating agencies in India |
| | | | 6 | Understand mergers and acquisitions |
| | | | 7 | Understand recent trends in Financial Services |
| | | | 8 | Analyze mergers in India |
| 4 | CO4CRT12 | Quantitative Techniques For Business-II | 1 | Understand the concepts and types of correlation |
| | | | 2 | Determine different types of correlations |
| | | | 3 | Identify the different algebraic methods of studying regression |
| | | | 4 | Analyse difference in usage of correlation and regression |

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| | | | 5 | Compute Standard error of estimate |
| | | | 6 | Understand the meaning and importance of index numbers |
| | | | 7 | Compute different methods of indexes |
| | | | 8 | Determine the trends using time series analysis |
| 5 | CO5CRT15 | Environmental Management And Human Rights | 1 | Understand environmental management approaches in India. |
| | | | 2 | Demonstrate a general understanding of the breadth and interdisciplinary nature of environmental issues. |
| | | | 3 | Understand the multidisciplinary nature of environmental studies |
| | | | 4 | Discuss the importance of biodiversity and its conservation |
| | | | 5 | Analyse the effect of pollution on environment and take measures to control and avoid pollution in their own ways and methods. |
| | | | 6 | Understand the social issues and human rights. |
| | | | 7 | Create awareness on RTI and develop an understanding of the application of the same. |
| | | | 8 | Develop an understanding of ecosystem its structure and function |
| 5 | CO5CRT16 | Financial Management | 1 | understand the students with the functional areas and principles of financial management |
| | | | 2 | Discuss the concept of finance and financing decisions |
| | | | 3 | Evaluate the various capital budgeting methods |
| | | | 4 | compute working capital |
| | | | 5 | identify the importance of dividend policy |
| | | | 6 | understand the concept of capital structure |
| | | | 7 | Evaluate cost of capital |
| | | | 8 | Develop best financial policy |
| 5 | CO5OPT03 | Fundamentals Of Accounting | 1 | Understand the concepts and conventions of accounting |
| | | | 2 | Understand the accounting equations |
| | | | 3 | Understand the golden rule of accounting |
| | | | 4 | Determine the journal entries |
| | | | 5 | Understand the ledger accounts |

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| | | | 6 | Compute different kinds of cash books |
| | | | 7 | Determine the accuracy of transactions using trial balance |
| | | | 8 | create final accounts of a companies |
| 5 | CO5CRT14 | Cost Accounting | 1 | Understand various cost concepts, methods and techniques of cost accounting |
| | | | 2 | Understand accounting and control of material cost |
| | | | 3 | Compute material stock levels and pricing of materials |
| | | | 4 | Understand labour and direct expenses |
| | | | 5 | Determine labour cost and incentive plans |
| | | | 6 | Determine allocation and apportionment of overheads, machine hour rates and classification and allocation of overheads |
| | | | 7 | Prepare Cost sheet and reconciliation statements |
| 5 | CO5OCT01 | Income Tax Law & Practice | 1 | Understand a brief history of Income Tax Act |
| | | | 2 | Understand Concepts of Income Tax |
| | | | 3 | Understand Impact and Incidence of Tax |
| | | | 4 | Understand the concepts under Income from Salary |
| | | | 5 | Calculate Income from Salary |
| | | | 6 | Understand the concepts under Income from House Property |
| | | | 7 | Calculate Income under House Property |
| | | | 8 | Compute Profits and Gains from Business or Profession |
| 6 | CO6CRT18 | Advertisement And Sales Management | 1 | Understand strategy and concept of advertising |
| | | | 2 | Understand different methods of sales promotion |
| | | | 3 | Understand functions of advertising and marketing |
| | | | 4 | Describe components of sales promotion mix |
| | | | 5 | Determine the effectiveness of advertising research |
| | | | 6 | Determine sales promotion strategies and budgets |
| 6 | CO6CRT17 | Cost Accounting-II | 1 | Understand application of Costing methods and techniques in business decision making |
| | | | 2 | Compute job costing and batch costing and process costing |

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| | | | 3 | Understand contract costing and profit on incomplete contracts |
| | | | 4 | Prepare Contract account and balance sheet |
| | | | 5 | Determine break even point, Cost volume and profit analysis |
| | | | 6 | Application of marginal costing in decision making. |
| | | | 7 | Understand budget and budgetary control |
| | | | 8 | Prepare cash budget and flexible budgets |
| 6 | CO6CRT20 | Management Accounting | 1 | Understand characteristics of financial, management and cost accounting |
| | | | 2 | Understand various tools of management accounting |
| | | | 3 | Determine the various types and techniques of financial analysis |
| | | | 4 | Compute common size statement and comparative statements |
| | | | 5 | Prepare trading and profit and loss account and balance sheet by using ratios |
| | | | 6 | Determine the need for fund flow statement and cash flow statement |
| | | | 7 | Create fund flow statement |
| | | | 8 | Create cash flow statement as per accounting standard 3 |
| 6 | CO6CRT19 | Auditing And Assurance | 1 | Understand the basic terms ,concepts and scope of auditing |
| | | | 2 | Identify different audit files,working papers,documentation |
| | | | 3 | Understand the nature of Government audit |
| | | | 4 | Evaluate internal control of an organisation |
| | | | 5 | Determine the role of auditor in limited company based on companies act 2013. |
| | | | 6 | Understand the nature of audit work undertaken in College ,charitable institutions. |
| | | | 7 | Understand the difference between investigation and auditing |
| | | | 8 | Equip students to undertake auditing work |
| 6 | CO6OCT01 | Income Tax -II | 1 | Understand concept of Capital Gain and Chargeability |
| | | | 2 | Compute income from capital gains |

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| | | 3 | Describe the scope of income from other sources |
| | | 4 | Calculate income from other sources |
| | | 5 | Understand the concept of clubbing of income and set off and carry forward of losses |
| | | 6 | Explain the deductions under Chapter VI A |
| | | 7 | Understand the concept of Assessment, agricultural income and partly agricultural income |
| | | 8 | Understand assessment procedures and powers |
| | | 9 | Understand different types and areas of assessment |

B.Com. Travel & Tourism (Self Financing)- Program Specific Outcomes (PSO)

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| PSO 1 | Understand the fundamentals of travel and tourism, its infrastructure, hospitality management and cultural heritage of India |
| PSO 2 | Understand basic concepts and applicability in accounting and finance and acquire complementary skills in the practice of the same |
| PSO 3 | Understand and apply methodology of learning commerce, entrepreneurship and management |
| PSO 4 | Develop theoretical and practical skills in banking and financial services |

B.Com. Travel & Tourism (Self Financing) - Course Outcomes (CO)

| SEMESTER | PAPER CODE | TITLE OF THE PAPER | CO | COURSE OUTCOME |
|----------|--------------|--------------------|----------|--|
| 1 | CO1CMT0 1 | Banking | 1 | Understand banking and its functions |
| | | | 2 | Understand Innovations and reforms in the Banking sector |
| | | | 3 | Understand the relationship of banker and customer and instruments used in banking |
| | | | 4 | Understand insurance, its principles and reforms in the sector |

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| | | | 5 | Understand GST Registration, Returns and Assessments |
| | | | 6 | Understand various types of insurance and its conditions |
| 1 | CO1CRT01 | Dimensions And Methodology Of Business Studies | 1 | Understand business and its role in society |
| | | | 2 | Understand Business ethics and CSR |
| | | | 3 | Understand business environment and various dimensions |
| | | | 4 | Familiarise Technology integration in business |
| | | | 5 | Introduce the importance and fundamentals of business research |
| 1 | CO1CRT03 | Corporate Regulations And Administration | 1 | Introduce legal environment and its importance to students |
| | | | 2 | Development of students' skills in legal reasoning and analysis through study of regulatory practice relating to Company Law. |
| | | | 3 | Understanding of the major core topics in Company Law including the legal nature of the company as a business structure, the legal implications of separate corporate personality including limited liability. |
| | | | 4 | Develop an appreciation of the legal basis of the control exercised by a company's board of directors over a company's management and affairs. |
| | | | 5 | Discuss the legal nature of the relationships between a company and its management on the one hand and the various groups with an interest in the affairs of the company (or 'stakeholders') on the other, these stakeholders including the company's shareholders, creditors and employees. |
| | | | 6 | Awareness about winding up of a company. |
| 1 | CO1CRT02 | Financial Accounting I | 1 | Understand the concepts and conventions of accounting |
| | | | 2 | Prepare final accounts using adjustment entries |
| | | | 3 | understand incomplete records |
| | | | 4 | Determine the profit and loss in single entry system |
| | | | 5 | compute royalty of accounts |
| | | | 6 | understand the concept of consignment |
| | | | 7 | create consignment account |
| | | | 8 | create farm accounts |
| | | | 1 | Understand the concept of Management |

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| 2 | CO2CRT06 | Business Management | 2 | understand the various management principles |
| | | | 3 | understand the concept of planning |
| | | | 4 | Describe the meaning of organising |
| | | | 5 | Determine the relationship between Direction and Control |
| | | | 6 | understand various Management techniques |
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| 2 | CO2CRT04 | Financial Accounting-II | 1 | Understand concept of hire purchase ,sale and installment |
| | | | 2 | Understand default and various repossession |
| | | | 3 | Compute accounting for branches |
| | | | 4 | Prepare consolidated balance sheet |
| | | | 5 | Determine accounting procedures for departmental accounts |
| | | | 6 | Compute provision for unrealized profit |
| | | | 7 | Compute accounting for dissolution of partnership firm |
| | | | 8 | Understand applicability of accounting standards |
| 2 | CO2CRT05 | Business Regulatory Framework | 1 | Understand the basic concepts of mercantile law |
| | | | 2 | Understand the concepts of framework of Indian Business laws |
| | | | 3 | Understand the difference between social contracts and contract law in day to day life. |
| | | | 4 | Enable the students to apply the provisions of business laws in business activities. |
| | | | 5 | Enable students to apply the provisions of law of agency to business activities |
| | | | 6 | Apply the knowledge of the sale of goods act to business situations. |
| 2 | CO2CMT02 | Principles of Business Decisions | 1 | Remember decision making and demand |
| | | | 2 | Understand demand forecasting, production function, cost and its determinants |
| | | | 3 | Understand price theory and various market forms |
| | | | 4 | Apply economic theories in decision making |
| | | | 5 | Analyse elasticities of demand and demand forecasting of new products |

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| | | | 6 | Analyze optimum combination of input and cost output relationship. |
| | | | 7 | Evaluate price determination in different market conditions |
| 3 | CO3OCT04 | Fundamentals of Tourism | 1 | Introduction To Tourism Industry |
| | | | 2 | Ministry Of Tourism-Aims And Functions |
| | | | 3 | Various Types Of Tourism |
| | | | 4 | Main Characteristics Of Types Of Tourism |
| | | | 5 | Meaning And Concepts Of Tourism Products |
| | | | 6 | Archaeological Sites And Monuments |
| | | | 7 | Tourism Planning And Development |
| | | | 8 | Positive And Negative Impact Of Tourism |
| 3 | CO3CRT08 | Quantitative Techniques for Business Research -I | 1 | Understand the concepts of statistics |
| | | | 2 | Understand the different methods of data collection |
| | | | 3 | Understand the measures and functions of measures of Central Tendency |
| | | | 4 | Compute the measures of Central Tendency |
| | | | 5 | Understand the measures and functions of Dispersion |
| | | | 6 | Compute the measures of Dispersion |
| | | | 7 | Understand methods of Interpolation |
| | | | 8 | Understand Forecasting using Extrapolation |
| 3 | CO3CRT10 | Marketing management | 1 | Understand the basic concepts of marketing |
| | | | 2 | Understand the product life cycle |
| | | | 3 | Understand the concept of marketing mix |
| | | | 4 | Understand the differences between logistics and supply chain management |
| | | | 5 | Apply the concept of new product development |
| | | | 6 | Apply principles of marketing management in business and industry |
| | | | 7 | Analyse pricing methods and strategies |

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| | | | 8 | Evaluate recent trends in marketing |
| 3 | CO3CRT09 | Financial Markets and Operations | 1 | Understand Indian Financial system and its components |
| | | | 2 | Remember financial markets and its importance. |
| | | | 3 | Understand primary market and innovative financial instruments |
| | | | 4 | Understand secondary market and function |
| | | | 5 | Understand the functioning of online trading system |
| | | | 6 | Awareness of mutual funds and classification |
| | | | 7 | Understand the concept of derivatives and different types |
| 3 | CO3CRT07 | Corporate Accounts I | 1 | understand the redemption of preference shares |
| | | | 2 | Compute right issue and bonus issue |
| | | | 3 | Understand the buyback of shares |
| | | | 4 | Determine the underwriting of shares and debentures |
| | | | 5 | Compute the final accounts of joint stock companies |
| | | | 6 | Compute the profit prior to incorporation |
| 4 | CO4CRT11 | Corporate Accounts II | 1 | Understand accounts of Insurance and Banking Companies |
| | | | 2 | Understand internal and external reconstruction methods |
| | | | 3 | Determine merger and purchase methods of amalgamation |
| | | | 4 | Compute liquidating company's final accounts |
| | | | 5 | Compute alteration of share capital in case of internal reconstruction |
| | | | 6 | Compute purchase consideration by using all methods |
| | | | 7 | Create final accounts of Insurance companies |
| | | | 8 | Create final accounts of Banking companies |
| 4 | CO4CRT13 | Entrepreneurship Development | 1 | Understand the meaning and importance of entrepreneurship |
| | | | 2 | Understand the classification of entrepreneurs and MSME |
| | | | 3 | Determine project identification sources and legal protections in India |
| | | | 4 | Determine formulation of a project and various stages |

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| | | and Project management | 5 | Prepare project report and appraisal |
| | | | 6 | Understand entrepreneurial education and training |
| | | | 7 | Understand Entrepreneurship Development Programme and methodology |
| | | | 8 | Understand institutional funding and support for start-ups in India |
| 4 | CO4OCT04 | Travel & Tourism Infrastructure | 1 | Tourism infrastructure |
| | | | 2 | Role of Govt. in tourism infrastructure development |
| | | | 3 | Historical growth, development, features and incentives of travel agencies |
| | | | 4 | Features and types of tour operators |
| | | | 5 | Tourism demand: Concept and measurement |
| | | | 6 | Concept of tourist statistics |
| | | | 7 | Travel formalities |
| | | | 8 | Various domestic and international regulations for travelling |
| 4 | CO4CRT12 | Quantitative techniques for business-II | 1 | Understand the concepts and types of correlation |
| | | | 2 | Determine different types of correlations |
| | | | 3 | Identify the different algebraic methods of studying regression |
| | | | 4 | Analyse difference in usage of correlation and regression |
| | | | 5 | Compute Standard error of estimate |
| | | | 6 | Understand the meaning and importance of index numbers |
| | | | 7 | Compute different methods of indexes |
| | | | 8 | Determine the trends using time series analysis |
| 5 | CO5CRT15 | Environmental management and Human rights | 1 | Understand environmental management approaches in India. |
| | | | 2 | Demonstrate a general understanding of the breadth and interdisciplinary nature of environmental issues. |
| | | | 3 | Understand the multidisciplinary nature of environmental studies |
| | | | 4 | Discuss the importance of biodiversity and its conservation |

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| | | | 5 | Analyse the effect of pollution on environment and take measures to control and avoid pollution in their own ways and methods. |
| | | | 6 | Understand the social issues and human rights. |
| | | | 7 | Create awareness on RTI and develop an understanding of the application of the same. |
| | | | 8 | Develop an understanding of ecosystem its structure and function |
| 5 | CO5CRT16 | Financial Management | 1 | understand the students with the functional areas and principles of financial management |
| | | | 2 | Discuss the concept of finance and financing decisions |
| | | | 3 | Evaluate the various capital budgeting methods |
| | | | 4 | compute working capital |
| | | | 5 | identify the importance of dividend policy |
| | | | 6 | understand the concept of capital structure |
| | | | 7 | Evaluate cost of capital |
| | | | 8 | Develop best financial policy |
| 5 | CO5OP02 | Open core Capital Market and Investment Management | 1 | Understand the financial system of India |
| | | | 2 | Evaluating the recent developments in the Indian capital market |
| | | | 3 | Understanding the primary and secondary markets |
| | | | 4 | Understanding the stock exchanges in India |
| | | | 5 | Understanding the investment management process and speculations |
| | | | 6 | Learning about the instruments used in the capital markets |
| 5 | CO5CRT14 | Cost Accounting | 1 | Understand various cost concepts, methods and techniques of cost accounting |
| | | | 2 | Understand accounting and control of material cost |
| | | | 3 | Compute material stock levels and pricing of materials |
| | | | 4 | Understand labour and direct expenses |
| | | | 5 | Determine labour cost and incentive plans |
| | | | 6 | Determine allocation and apportionment of overheads, machine hour rates and classification and allocation of overheads |

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| | | | 7 | Prepare Cost sheet and reconciliation statements |
| 5 | CO5OCT04 | Hospitality Management | 1 | Introduction to hospitality management |
| | | | 2 | Hospitality management in the Indian scenario |
| | | | 3 | Various functional departments of hotel industry |
| | | | 4 | Housekeeping and front office management |
| | | | 5 | Role of accommodation in tourism |
| | | | 6 | Various trends in promotion of hotel accommodation |
| | | | 7 | Concept of managerial issues in hospitality management |
| | | | 8 | Changing scenario and challenges of hospitality industry |
| 6 | CO6CRT18 | Advertisement And Sales Management | 1 | Understand strategy and concept of advertising |
| | | | 2 | Understand different methods of sales promotion |
| | | | 3 | Understand functions of advertising and marketing |
| | | | 4 | Describe components of sales promotion mix |
| | | | 5 | Determine the effectiveness of advertising research |
| | | | 6 | Determine sales promotion strategies and budgets |
| 6 | CO6CRT17 | Cost Accounting-I | 1 | Understand application of Costing methods and techniques in business decision making |
| | | | 2 | Compute job costing and batch costing and process costing |
| | | | 3 | Understand contract costing and profit on incomplete contracts |
| | | | 4 | Prepare Contract account and balance sheet |
| | | | 5 | Determine break even point, Cost volume and profit analysis |
| | | | 6 | Application of marginal costing in decision making. |
| | | | 7 | Understand budget and budgetary control |
| | | | 8 | Prepare cash budget and flexible budgets |
| | | | 1 | Introduction to auditing and auditor |
| | | | 2 | Various types of audit |
| | | | 3 | Concept of audit planning and audit documentation |
| | | | 4 | Various methods of obtaining audit evidence |

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| 6 | CO6CRT19 | Auditing and Assurance | 5 | Concept of internal control |
| | | | 6 | Concept, object, auditors duty in verification and valuation |
| | | | 7 | Audit of limited companies |
| | | | 8 | Various special audits and its investigation |
| 6 | CO6CRT20 | Management Accounting | 1 | Introduction to management accounting |
| | | | 2 | Distinction between cost accounting and management accounting |
| | | | 3 | Analysis and interpretation of financial statements |
| | | | 4 | Different types of financial analysis |
| | | | 5 | Types and classification of ratios |
| | | | 6 | Concept and ideas of fund flow analysis |
| | | | 7 | Preparation of fund flow statement |
| | | | 8 | Cash flow statement and its accounting treatment |
| 6 | CO6OCT04 | Tourism and Cultural Heritage of India | 1 | Introduction to Indian culture |
| | | | 2 | Various cultural awareness and history |
| | | | 3 | Historical evolution of tourism |
| | | | 4 | Harappan, Vedic, Buddhist, Gupta periods |
| | | | 5 | Conservation and significance of culture |
| | | | 6 | Various archaeological sites and monuments |
| | | | 7 | Art and architecture under Mughal period |
| | | | 8 | Modern Kerala political and cultural change |

M.A. English - Program Specific Outcomes (PSO)

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| PSO 1 | Analyze the discursive domain of Colonial and Postcolonial Studies. |
| PSO 2 | Analyze literary works from the political, historical and sociological perspectives. |
| PSO 3 | Critique the gender dynamics. |

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| PSO 4 | Comprehend various literary movements and theoretical perspectives. |
| PSO 5 | Integrate the nuances of cultural domain. |
| PSO 6 | Locate English Literature within the context of various literatures. |
| PSO 7 | Carry out independent research, demonstrate mastery of critical and creative thinking skills, and develop oral proficiency in seminars and presentations. |
| PSO 8 | Demonstrate media literacy by synthesizing theoretical and practical sessions. |
| PSO 9 | Locate the terrain of translation studies. |

M.A. English - Course Outcomes (CO)

| SEMESTER | PAPER CODE | TITLE OF THE PAPER | CO | COURSE OUTCOME |
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| 1 | EN010101 | Up Until Chaucer Early Literatures In English | 1 | The student will be able to make sense of the major themes in Ancient and Medieval English literature as an expression of Anglo-Saxon culture and society as it emerges into a Britain-consciousness |
| | | | 2 | Equipped to access and understand the personal experiences of people living in a society very different from our own. |
| | | | 3 | Understand what English Literature like before Shakespeare? Before Chaucer? And from our current vantage point what was Chaucer and his peers doing? |
| | | | 4 | Understand the literature of the Anglo-Saxons written over a thousand years ago. |
| | | | 5 | Express the consolidation initiated by Chaucer and his peers; a paradigm shift that made possible the emergence of English literature with a purpose and identity of its own. |
| 1 | EN010102 | Literatures Of The English Renaissance | 1 | Examine the literature and culture of the Renaissance period in England |
| | | | 2 | Learn to appreciate Renaissance writings bearing the stamp of radical changes in the outlook and ways of life |
| | | | 3 | Analyse the texts in the light of recent theoretical interventions |

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| | | | 4 | Discern how literary luminaries like William Shakespeare and Christopher Marlowe emerged and influenced each other ,leaving their mark on their own time and time to come |
| | | | 5 | Identify the relationship between Renaissance writings and its socio-political context |
| 1 | EN010103 | Literature Of The English Revolution Enlightenment | 1 | Understand the puritanical contexts of 17th century English texts |
| | | | 2 | Examine the influence of the neoclassical movement on Eighteenth century English literature/culture |
| | | | 3 | Acquaint with various writers and genres of the age |
| | | | 4 | Discern the contexts for the rise of the genre novel |
| | | | 5 | Analyze the transitional literature of the period |
| | | | 6 | Critique the philosophy of enlightenment and its influence on texts and culture at large |
| 1 | EN010104 | 19 Th Century English Literatures | 1 | Understand the fundamental premises of the Romantic Movement and Victorian literature, their theoretical and ideological frameworks, and the major trends and offshoots across various genres. |
| | | | 2 | Understand the initial flowering of Romanticism, followed by the rapid growth of industrialization, scientific thinking and materialism all of which find expression in the texts chosen for study. |
| | | | 3 | Critically analyse the works of the period and understand the peculiarities of the age. |
| | | | 4 | Compare various ages and movements and critically evaluate the given literary text. |
| | | | 5 | Express the emotions of the writers and reproduce them in very powerful literary language. |
| 1 | EN010105 | Literary Criticism | 1 | Get an overview of classical western criticism from Plato to Reader response theories. |
| | | | 2 | Familiarize the students with the key concepts and texts of literary criticism ever since its emergence, and to provide theoretical familiarity with the range, approaches, and mechanics of critique. |
| | | | 3 | Understand the issues like canon formation, evolution of the genres, methods of literary analysis. |
| | | | 4 | Recognize the historical, political and aesthetic dimensions of the growth of literary criticism. |

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| 2 | EN010201 | Modernity And Modernisms | 1 | Understand the change in Literary perspectives in the twentieth century with social, economic and political background. |
| | | | 2 | Comprehend the various historical and political movements which shaped modern literary movements. |
| | | | 3 | Locate the impact of World War I, Soviet experiment, Marxism, Fascism, Nazism and communism. |
| | | | 4 | Differentiate Romanticism and Victorianism with Modernism. |
| | | | 5 | Identify experimentation in all genres. |
| | | | 6 | Explain Avant Garde and the Pink Decade. |
| | | | 7 | Compare and contrast the characteristic and conventions of traditional and modern literature and make a critical appraisal of all genres. |
| | | | 8 | Demonstrate the ability to contextualize the modern literature. |
| | | | 9 | Interpret the thematic and stylistic elements of modern literature. |
| 2 | EN010202 | Postmodernism And Beyond | 1 | Define Postmodernism |
| | | | 2 | Map the evolution of Postmodernism from/after modernism |
| | | | 3 | Situate major works and writers in the context of different socio-political-cultural discourses |
| | | | 4 | Discriminate between various strands of Postmodernism |
| | | | 5 | Identify the theoretical underpinnings of the postmodernist movement |
| | | | 6 | Determine the different kinds of postmodernist techniques and experiments |
| | | | 7 | Recognize the interaction of Postmodernism with other literary movements like postcolonialism, Gender Studies etc. |
| | | | 8 | Evaluate the subversive/political nature of postmodernist literature |
| 2 | EN010203 | American Literatures | 1 | Understand the most important branch of English Literature belonging to the non British Tradition |
| | | | 2 | Understand the evolution process of American Literature. |
| | | | 3 | Learn and identify the characteristic features of American Literature. |

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| | | | 4 | Map the diversity of American Culture |
| | | | 5 | Determine the struggle of America to unite itself to a single nation. |
| 2 | EN010204 | English Language History And Contemporary Linguistics | 1 | Recognise the relationship between different Indo European languages |
| | | | 2 | Discriminate between different views of linguistic phenomena |
| | | | 3 | Identify and recognise the variations in speech sounds |
| | | | 4 | Classify the speech sounds of English |
| | | | 5 | Ascertain the structural analysis of language used by different linguistic schools |
| | | | 6 | Evaluate the significance of Structuralism , P.S Grammar and TG Grammar |
| | | | 7 | Determine the morphological structure and word formation techniques |
| | | | 8 | Differentiate the branches of linguistics |
| 2 | EN010205 | Thinking Theory | 1 | Classify the core aspects of literary theory |
| | | | 2 | Identify the inception of literary theory |
| | | | 3 | Situate the theoretical ruminations on authorship and discourse |
| | | | 4 | Evaluate the role of psychoanalysis in the rich understanding of contemporary cultures |
| | | | 5 | Evaluate the gender dynamics |
| | | | 6 | Validate the liminality and transitivity and to deconstruct the gender constructs |
| | | | 7 | Integrate the post-postcolonial turn in the literary and critical scenario |
| | | | 8 | Disavow the concept of Self from the binary of Othered-Marginal |
| 3 | PC 11 | American Literature | 1 | Understand the most important branch of English Literature belonging to the non British Tradition |
| | | | 2 | Understand the evolution process of American Literature. |
| | | | 3 | Learn and identify the characteristic features of American Literature. |

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| | | | 4 | Map the diversity of American Culture |
| | | | 5 | Determine the struggle of America to unite itself to a single nation. |
| 3 | PC 12 | Cultural Studies | 1 | understand the terms, analytical techniques and interpretive strategies commonly employed in Cultural Studies |
| | | | 2 | discern the overt interdisciplinary approaches in the field |
| | | | 3 | analyse the different cultural processes and artefacts which are produced, shaped, consumed and responded to in different ways. |
| | | | 4 | map out the terrain of Cultural studies |
| | | | 5 | examine the issues of what constitutes culture, as it is discussed in academia |
| | | | 6 | analyse the position of cultural studies in the context of Kerala and to show how such analyses can broaden insights into the immediate life-world |
| | | | 7 | understand the terms, analytical techniques and interpretive strategies commonly employed in Cultural Studies |
| 3 | PC 13 | Gender Studies | 1 | Familiarise with the emergence of gender as a concept of reading literature. |
| | | | 2 | Understand the relevance of gender studies in the present scenario the concept that gender is fluid and not fixed. |
| | | | 3 | Analyse a wide variety of literary works that define and redefine the notion of gender. |
| | | | 4 | Understand the role of history in shaping gender identities. |
| | | | 5 | Create an awareness about gender fixity by culture and society. |
| | | | 6 | Familiarise the students to cite and use important theories and methodologies to analyse text. |
| | | | 7 | understand the concept that gender is fluid and not fixed |
| 3 | PC 14 | Modes Of Fiction | 1 | Categorise and examine various narrative across cultures and continents |
| | | | 2 | Examine the influences and the narrative devices that shaped narrative fiction in its present form. |
| | | | 3 | Analyze various fictional narrative in the light of theories of literature. |

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| | | | 4 | Understand the major theoretical interpretations of the modes of narrative fiction attempted across centuries, continents and languages. |
| | | | 5 | Analyze the texts from various cultures in the light of theoretical approaches |
| | | | 6 | Examine and understand the socio,cultural and political background of fiction from diverse cultures. |
| 3 | PC 15 | Texts And Performance | 1 | Identify various dramatic traditions, as well as various adaptations and appropriations |
| | | | 2 | Understand Indian aesthetics, its history, in terms of its dramatic structure, its performance and audience in the ancient period and its significance to contemporary theatre. |
| | | | 3 | Analyze, and interpret texts and performances both in writing and orally. |
| | | | 4 | Demonstrate knowledge of theatre and literature and draw connections between theatrical practices and social contexts in both modern and pre modern periods. |
| | | | 5 | Discuss and explain major theories of performance from Aristotle to the present, and apply that understanding the analysis of texts and performance |
| | | | 6 | Demonstrate thorough knowledge of theatre history from the Greeks to the present by analyzing, interpreting, and writing about plays, performances |
| 4 | PC 16 | Literature And The Empire | 1 | define the terminology specific to colonial and postcolonial discourses |
| | | | 2 | state the discursive nature of colonialism and the counter-discursive impulses of postcolonial theory, narratives and performance texts |
| | | | 3 | identify the writing, reading and the critical –theoretical practices of the representative texts based on the colonial experience |
| | | | 4 | understand the consequences of European expansion and the creation and exploitation of the “other” worlds |
| | | | 5 | identify the internal colonisations of diverse kinds, including the double colonisation of the women of colour |
| | | | 6 | discern the issues of subalternity in literary domain |
| 4 | PE 02 | Shakespeare Across Cultures | 1 | Analyse Shakespeare by using discourses of language, race, gender, identity and geopolitics |
| | | | 2 | Explore how Shakespeare is negotiated on page, stage and screen |

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| | | | 3 | Understand how different cultures interpret Shakespeare according to their literary and cultural environment. |
| | | | 4 | Understand the need for adapting Shakespeare into various cultures |
| | | | 5 | Understand the impact of Shakespeare at the theoretical and textual levels. |
| | | | 6 | Analyse the conspicuous absences, racial prejudices, and ethnic intolerances in Shakespearean drama |
| | | | 7 | Recognize the modes in which diverse cultures reacted to the Eurocentric representations and imperial overtones in Shakespearean drama |
| 4 | PE 03 | Studying Translations: Aspects And Contexts | 1 | Identify the contextual diversity of Translation |
| | | | 2 | Interpret the theoretical positions related to the field |
| | | | 3 | Recognize the political positions related to the field |
| | | | 4 | Locate the terrain of Translation studies both as a global phenomenon and as a subject of special activity |
| | | | 5 | Comprehend the over reaching issues that constitute the very notion of Translation studies |
| | | | 6 | Categorize the issue of postcoloniality as it is felt in the discussion of translation |
| | | | 7 | Map various translation samples from poetical, fictional and dramatic terrains |
| | | | 8 | Evaluate the extant readings that discuss the global issues at stake in this emergent field |
| 4 | PE 05 | Understanding Cinema: Film Theory | 1 | Identify and describe key terms and concepts and major trends and periods related to various modes of production (narrative, documentary, experimental, and/or animation), film history, and theory. |
| | | | 2 | Recognize formal elements; they acquire and apply tools (terminology, methods) to carry out rigorous formal analysis of film. |
| | | | 3 | Explain how film has changed over time as an aesthetic form, as an industry, and as a social institution. |
| | | | 4 | Construct focused knowledge in one area and reflect on its relation to Film Studies as a field of interdisciplinary inquiries about cinema. |
| | | | 5 | Develop general conclusions by synthesizing specific cases and by utilizing film-studies methods. |

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| | | | 6 | Compose convincing written arguments backed by evidence from films and secondary sources. |
| 4 | PE 09 | Modern European Fiction | 1 | Map the evolution of European fiction over the latter half of the |
| | | | 2 | Nineteenth and early twentieth century |
| | | | 3 | Understand the major movements that influenced the genre of fiction |
| | | | 4 | Analyse the depiction of different cultures |
| | | | 5 | Know the major writers in the field |
| | | | 6 | Learn the features of modern European Fiction |

M.A. Malayalam - Program Specific Outcomes (PSO)

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| PSO 1 | Understand ancient –modern and post modern Malayalam literature and evaluate the historical and cultural elements of Kerala |
| PSO 2 | Understand the history and structure of language and develop language skills |
| PSO 3 | Analyze the contemporary issues in the society with a critical aspect. |
| PSO 4 | Understand the culture and aesthetics of other languages |

M.A. Malayalam - Course Outcomes (CO)

| SEMESTER | PAPER CODE | TITLE OF THE PAPER | CO | COURSE OUTCOME |
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| 1 | ML010101 | Kavitha - Pracheenam, Madhyakalam | 1 | Understand the evolution of Malayalam Literature till 18 th century |
| | | | 2 | Understand the poetic tradition of Sanskrit and Tamil and its influence in Malayalam |

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| | | | 3 | Analyze the peculiarities of early scripts which leads to the formation of Modern Malayalam |
| | | | 4 | Analyze the style and poetic imagination of Ezhuthachan and Poonthanam |
| | | | 5 | Analyze the distinctive features of different literary movements |
| | | | 6 | Analyze the oral tradition and its influence in early Malayalam poetry |
| 1 | ML010102 | Malayala Bhasha Charithravum Varthamanavum | 1 | Understand the origin, development and sustainability of Malayalam Language |
| | | | 2 | Understand the distinct features of Malayalam Prose |
| | | | 3 | Understand the influences of different languages in the development of Malayalam |
| | | | 4 | Understand the contributions of Christian missionaries in the growth of Malayalam Prose |
| | | | 5 | Analyze the possibilities of Malayalam as official language |
| | | | 6 | Analyze the influences of social media-blog, twitter- in our language |
| 1 | ML010103 | Malayala Cherukatha | 1 | Understand the narrative techniques of short story writing |
| | | | 2 | Understand the history of Malayalam Short Stories |
| | | | 3 | Analyze and compare the theme, style and social commitment of our short stories |
| | | | 4 | Analyze the post modern writing strategies including Dalit ,Ecology and Women literature |
| 1 | ML010104 | Sahithyarachana Sankethangal | 1 | Understand the basic structure of different literary forms |
| | | | 2 | Understand eastern literary devices |
| | | | 3 | Understand the western literary devices |
| | | | 4 | Understand the basic concepts of narratology |
| 1 | ML010105 PC 5 | | 1 | Create language skill by learning the basic grammar in Sanskrit. |

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| | | Sanskruham: Bhashayum Sahithyavum | 2 | Analyze the Panchamahakavyas in Sanskrit and create an atmosphere of the influence of Panchathandra stories among world - wide literature |
| | | | 3 | Evaluate the poetical works of Kalidasa's world famous work Kumarasambavam, and analyze the role of Bhasa's Madhyamavyayoga among Sanskrit Dramas |
| | | | 4 | Develop skill in translating Sanskrit to regional language |
| 2 | ML010201 | Aadhunika Malayalakavitha - Onnam Ghattam | 1 | Understand the features of Malayalam poetry in the first phase of modernity |
| | | | 2 | Understand the influence of English education, printing and emergence of periodicals in the development of Malayalam language |
| | | | 3 | Analyze the influence of renaissance , Nationalism and labour movements in Malayalam litearture |
| | | | 4 | Analyze the different poetic devices such as romanticism, mysticism , symbolism, imagism and realism. |
| | | | 5 | Analyze the works of Asan,Ulloor and Vallathol and compare the tools they used to create poems |
| 2 | ML010202 | Bhashasasthram | 1 | Understand the basic concepts of language and linguistics |
| | | | 2 | Understand the concepts about Mother tongue, official language and First language |
| | | | 3 | Analyze the concept of synchronic and diachronic methods |
| | | | 4 | Understand the concepts of phonology ,morphology and syntax |
| | | | 5 | Analyze the new trends in language technology - Computational Linguistics, Internet Linguistics, Neuro linguistic Programme, Natural Language Processing, Eco-linguistics, Clinical-linguistics, Forensic-linguistics |
| 2 | ML010203 | Kerala Samskaram | 1 | Understand the historical and cultural elements of Kerala. |
| | | | 2 | Understand the culture of Sangham Period through the Sangam literature |
| | | | 3 | Understand the customs and rituals in medieval Kerala |
| | | | 4 | Analyse the influence of Gulf migration in Kerala society |
| | | | 5 | Understand the cultural distinctiveness of Kerala |

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| 2 | ML010204 | Malayala Novel | 1 | Understand the origin and growth of Malayalam Novels |
| | | | 2 | Analyze the style and tools used in the previous models |
| | | | 3 | Analyze different milestones of Malayalam novels and compare the writing style of famous writers |
| | | | 4 | Analyze the changes in sensibility of modern novels |
| | | | 5 | Analyze the influence of different theories of modernity and post modernity in Malayalam novel |
| 2 | ML010205 PC8 | Bharatheeya Sahithya Sidhanthangal | 1 | Understand the concepts of Poet and Poetry in eastern esthetics |
| | | | 2 | Understand the Eastern Literary theories such as Rasa, Dhvani, Vakrokthi, Auchithya etc... and its influence among other languages |
| | | | 3 | Analyze Classical Sanskrit works |
| | | | 4 | Evaluate the influence of Rasa theory among the western literary theories. |
| 3 | PC-11 | Malayalakavitha - Aadhumikatha Randam Ghattam | 1 | Understand the second phase of modernity in Malayalam Literature |
| | | | 2 | Understand the scenario of Post Colonial Literature |
| | | | 3 | Understand the influence of feminism and eco feminism in Malayalam Literature, |
| | | | 4 | Understand the modern Malayalam poetry in the perspective of World literature |
| 3 | PC 12 | Malayalabhasha a Vyakaranam | 1 | Evaluate the basic concepts of Malayalam Grammar |
| | | | 2 | Analyze the concepts of Noun, Verb, Adjective, Case, Syntax etc |
| | | | 3 | Understand the relevance of Keralapanineeyam, Malayala Bhashavyakaranam, Vyakarana mithram etc |
| | | | 4 | Understand the history of language through ages |
| | | | 5 | Understand the evolution of Malayalam Syntax |
| 3 | PC 13 | Malayalaniroopanam | 1 | Understand the history and diversity of Malayalam literary criticism |
| | | | 2 | Understand the concepts of Dravidian aesthetics |
| | | | 3 | Understand the influence of Western and Eastern theories among criticism |

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| | | | 4 | Analyze the impacts of cultural transition of gender equality, Liberalization and globalization in Malayalam literature |
| 3 | PC 14 | Drisya Kalasaahithyam | 1 | Understand the history of ritualistic and non ritualistic folk art forms of Kerala. |
| | | | 2 | Understand the history and development of classical art forms |
| | | | 3 | understand the distinct features of different art forms through the detailed study of its literature . |
| | | | 4 | Analyze the possibilities or cultural impacts that leads to the formation of folk arts |
| 3 | PC 15 | Kerala Samskarapadan am | 1 | Understand the history and formation of society of ancient Kerala |
| | | | 2 | Understand the different methods to historical research |
| | | | 3 | Analyze the concepts of Feudalism , Class divisions and Equality |
| | | | 4 | Analyze the political movements – Marxism, Naxalism, Nationalism |
| | | | 5 | Evaluate the concept-kerala model |
| 4 | PC 16 | Natakavum Cinemayum | 1 | understand the distinct features of Drama and Cinema |
| | | | 2 | Understand the various foreign theatres and possibility and limitations of these theatre |
| | | | 3 | Understand the social and political background of the evolution of Kerala theatre |
| | | | 4 | understand the new trends in world cinema |
| | | | 5 | understand the basic techniques of Script writing |
| 4 | PC 17 | Janasamskara Padanam | 1 | Analyze the term Folk and Lore with a critical sense |
| | | | 2 | Analyze folklore as a Cultural Discipline |
| | | | 3 | Understand the theories related to folklore |
| | | | 4 | Analyse the Tradition of folksongs , Folk tales, Folk visual arts, Ritual etc |
| | | | 5 | Understand the influence of Folklore in literature |
| 4 | PE-2 | Pribhasha Sidhanthavum Prayogavum | 1 | Understand the process of translation as a socio-cultural discourse. |
| | | | 2 | Understand the western theoretical studies about translation. |

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| | | | 3 | Analyze different postcolonial methods of translation like Mirror translation, Formal equivalence, Dymanic equivalence ...etc |
| | | | 4 | Analyze the problems regarding the translation |
| | | | 5 | Create the capacity to translate the texts |
| 4 | PE-3 | Sthreepaksharac hanakal | 1 | Understand different concepts about of feminism and feminist writing |
| | | | 2 | Understand the different ideologies about feminism. |
| | | | 3 | Apply various feminist theories in literary criticism |
| | | | 4 | Analyze the women literature in Malayalam |
| 4 | PE 4 | Putusahithyasam eepanangal | 1 | Understand new trends in Malayalam Literature |
| | | | 2 | Analyze the influence of Ecology, Dalit movements and feminism in Malayalam Literature |
| | | | 3 | Evaluate the influence of power and politics in mainstream literature |
| | | | 4 | Understand the protest against the mainstream literarture and the development of parallel movements in Malayalam |

M.Com. Finance & Taxation (Regular & Self Finance) - Program Specific Outcomes (PSO)

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| PSO 1 | Inculcating managerial skills and theoretical knowledge for managing business units with special focus on functional areas of business and management |
| PSO 2 | Imparting advanced accounting knowledge and skills and provide awareness regarding latest developments in the field of accounting |
| PSO 3 | Enabling learners to acquire advanced theoretical knowledge on research methods and techniques and also developing capabilities in the application of research in solving business related problems |
| PSO 4 | Acquisition of expertise in specialized fields like finance, taxation, marketing, management and information technology |
| PSO 5 | Development of quantitative aptitude and analytical skills of the learner |

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| PSO 6 | Facilitating learner to pursue career in professional areas of commerce and management such as taxation, financial services, consultancy etc |
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M.Com. Finance & Taxation (Regular & Self Finance) - Course Outcomes (CO)

| SEMESTER | PAPER CODE | TITLE OF THE PAPER | CO | COURSE OUTCOME |
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| 1 | | Specialised Accounting | 1 | Providing an in depth understanding about theoretical and practical aspects of major Accounting Standards to apply the same in different practical situations |
| | | | 2 | Apply the concept Accounting Standards in different practical situations |
| | | | 3 | Ascertain the value of goodwill and value of companies based on the value of shares and compare the real value of shares and with the market prices and identify the mispricing. |
| | | | 4 | In depth understanding about the determination of purchase consideration in the event of amalgamation |
| | | | 5 | prepare post amalgamation financial statements |
| | | | 6 | Develop a clear understanding about different types of NBFCs, their provisioning norms |
| | | | 7 | understand the concept of NAV of mutual funds through its computation. |
| | | | 8 | Acquaint with the theoretical aspects of emerging areas in accounting |
| 1 | | Methodology For Social Science Research | 1 | Develop a thorough understanding about the basic concepts of social science research. |
| | | | 2 | After completing this module, the learner should be able to formulate a research design. |
| | | | 3 | After studying the theoretical aspects of sampling design, the learner should be able to draw a sampling design. |
| | | | 4 | Detailed knowledge about the instrument development, its validation and different forms of scaling. |
| | | | 5 | Understand the technique of research reporting. |
| | | | 6 | Understand the concepts of bibliography styles, Plagiarism . |

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| | | | 7 | Good understanding about product line product mix, brand equity, brand identity, brand personality and brand image. |
| | | | 8 | Develop sound ideas regarding services marketing and service quality. |
| 1 | | Management Optimisation Techniques Credits Given | 1 | Develop theoretical understanding about various business optimisation models. |
| | | | 2 | Ability to develop Linear Programming Models for business problems and Solve the same |
| | | | 3 | Application of Linear Programming in the areas of transportation and assignment |
| | | | 4 | Develop decision making skills under uncertainty, risk and replacement of assets |
| | | | 5 | Understand and apply network analysis techniques for project implementation. |
| 1 | | Organisational Behaviour | 1 | Basic understanding about the concepts of organisation behaviour |
| | | | 2 | A very good understanding about individual behaviour, personality and motivation |
| | | | 3 | Imparting deep understanding about group behaviour and leadership related to organisational behaviour. |
| | | | 4 | Add the knowledge base of the learner regarding change management and deal with stress. |
| | | | 5 | Impart knowledge about the role of organisational culture and conflict on organizational behavior |
| 2 | | International Business And Finance | 1 | Familiarisation with globalisation, internationalisation of business and the international business environment. |
| | | | 2 | Understanding about theories of international trade, trade barriers and trade blocks. |
| | | | 3 | Imparting idea about various economic institutions related to international trade |
| | | | 4 | Achieve high level knowledge about various aspects of international monetary system |
| | | | 5 | Develop an understanding about the international investment environment |
| 2 | | Human Resource Management | 1 | Understand theoretical foundations of Human Resource Management |
| | | | 2 | Familiarise with the Human Resource Development |

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| | | | 3 | Develop idea about training and development in HRM |
| | | | 4 | Understand the various performance appraisal techniques and industrial relations |
| | | | 5 | Understand modes of HR outsourcing,Records Accounting and Auditing |
| | | | 6 | Discuss case studies on Human Resource Management |
| 2 | | Advanced Corporate Accounting | 1 | Understand the preparation of accounts of special lines of business like shipping , hospitals and hotels. |
| | | | 2 | Understand accounting procedure of liquidation of companies |
| | | | 3 | Apply special kind of business |
| | | | 4 | Evaluate accounting procedure of liquidating companies |
| | | | 5 | Understand bankruptcy procedure |
| | | | 6 | Apply financial statements of public utility companies |
| | | | 7 | Apply consolidated financial statements of group companies |
| | | | 8 | Create Liquidators Final statement of Accounts |
| 2 | | Quantitative Techniques | 1 | This course intends to give understanding about the applications of quantitative techniques |
| | | | 2 | This course intends to give understanding about the applications of quantitative techniques |
| | | | 3 | After learning this course, the student should be in a position to identify appropriate parametric test for testing the hypotheses. |
| | | | 4 | The learner should be equipped with the skills to identify the most suitable non parametric test for testing a hypothesis |
| | | | 5 | The learner should be equipped with the skills to apply the principles of SQC |
| 3 | | Security Analysis & Portfolio Management | 1 | Able to understand the concepts of investments,different types of investments, views of investment and process of investment and apply the theoretical knowledge in investment information for selecting the securities. |

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| | | | 2 | Understanding the types of risk in security market and Applying various tools for the valuation of bonds as well as economic indicators to predict the market. |
| | | | 3 | Understand the tools of technical analysis, analyse the patterns and trends in the market by using various tools and enable to take investment decisions after understanding market efficiency level also. |
| | | | 4 | Applying Modern portfolio theories and construct optimum portfolios. |
| | | | 5 | Revising constructed portfolios as per risk and return association by using different strategies. |
| | | | 1 | Learn the theoretical foundations of financial management and financial management decisions. |
| | | Strategic Financial Management | 2 | Evaluate the feasibility of different options regarding discount, credit period, storage cost etc related to current assets and current liabilities |
| | | | 3 | Evaluate working capital requirements |
| | | | 4 | Evaluate long term proposals |
| | | | 5 | Evaluate the risk associated with long term investment |
| | | | 6 | Evaluate the decisions regarding leasing of capital assets. |
| | | | 7 | Evaluate the performance of business entities. |
| | | | 8 | Compare the performance of business entities. |
| | | | 1 | Acquire knowledge regarding the basic concepts of Income Tax. |
| | | Income Tax | 2 | Able to compute the income from salary and house property. |
| | | | 3 | Determine taxable profit of a business or profession. |
| | | | 4 | Able to compute capital gain and income from other sources. |
| | | | 5 | Able to calculate Gross Total Income of an individual. |
| | | | 6 | Learner shall be able to determine eligible deductions and compute Taxable Income and tax liability of an individual. |
| | | | 1 | Understand the basic concepts of the Goods and Services Tax |
| | | Indirect Tax Laws | 2 | Develop a clear idea about the levy and collection of tax and tax credit |

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| | | | 3 | Develop the knowledge about the provisions regarding registration , preparations of books of accounts and filing of returns under the Act |
| | | | 4 | Understand about the powers of GST authorities regarding inspection, search and seizure |
| | | | 5 | Basic understanding about the Customs Law in India. |
| 4 | | Assessment And Procedures | 1 | Describe Assessment procedures and returns |
| | | | 2 | Understand Income Tax Authorities and Powers |
| | | | 3 | Understand advance tax, TDS, TCS & refund |
| | | | 4 | Understand appeals, revision, penalties and double taxation |
| | | | 5 | Describe tax planning |
| | | | 6 | Compute Income Tax of firms, AOP, BOI and companies |
| 4 | | Financial Markets & Derivatives | 1 | Remember Indian financial system, components and modern financial instruments |
| | | | 2 | Understand primary and secondary market functions intermediaries |
| | | | 3 | Understand derivatives, forwards and futures terminologies |
| | | | 4 | Determine pricing of future contracts |
| | | | 5 | Determine settlement of futures and pricing patterns |
| | | | 6 | Understand options and its classification |
| | | | 7 | Compute pricing for American and European options |
| | | | 8 | Understand swaps and its applications |
| 4 | | Assessment And Procedures | 1 | Describe Assessment procedures and returns |
| | | | 2 | Understand Income Tax Authorities and Powers |
| | | | 3 | Understand advance tax, TDS, TCS & refund |
| | | | 4 | Understand appeals, revision, penalties and double taxation |
| | | | 5 | Describe tax planning |
| | | | 6 | Compute Income Tax of firms, AOP, BOI and companies |
| 4 | | Advanced Cost Accounting | 1 | Understand higher adjustments regarding process accounting |
| | | | 2 | Evaluate the application of differential costing in business decisions |

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| | | | 3 | Apply break even point ,Marginal costing to business situations |
| | | | 4 | Apply different budgetary control methods to control cost |
| | | | 5 | compute standard costing and variance |
| | | | 6 | Understand integral costing |
| | | | 7 | Compute reconciliation of cost and financial accounting. |
| 4 | | Security Analysis And Portfolio Management | 1 | Able to understand the concepts of investments, different types of investments, views of investment and process of investment and apply the theoretical knowledge in investment information for selecting the securities |
| | | | 2 | Understanding the types of risk in security market and Applying various tools for the valuation of bonds as well as economic indicators to predict the market |
| | | | 3 | Understand the tools of technical analysis, analyse the patterns and trends in the market by using various tools and enable to take investment decisions after understanding market efficiency level also. |
| | | | 4 | Applying Modern portfolio theories and construct optimum portfolios |
| | | | 5 | Revising constructed portfolios as per risk and return association by using different strategies. |

M.Sc. Microbiology - Program Specific Outcomes (PSO)

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| PSO 1 | Describe the role and interaction of microorganisms in the ecosystem and its usefulness as a ‘model system’ to study basic biology, genetics, metabolism and ecology. |
| PSO 2 | Identify role of microorganism in disease and in the environment including elemental cycles, biodegradation, etc. |
| PSO 3 | Cite examples of the vital role of microorganisms in fermentation, biotechnology, medicine, and other industries important to human well being. |
| PSO 4 | Explain the reason for ubiquitous distribution of microorganism in wide range of ecological habitat including extreme environments in nature |
| PSO 5 | Attain laboratory skills in microbiological practices including immunological and molecular microbiological methods |

M.Sc. Microbiology - Course Outcomes (CO)

| SEMESTER | PAPER CODE | TITLE OF THE PAPER | CO | COURSE OUTCOME |
|----------|------------|--|----|---|
| 1 | MG030101 | FUNDAMENTALS OF MICROBIOLOGY | 1 | Understand the diversity of microbial world and their interactions with the environment. |
| | | | 2 | Know about the genetic materials and different genetic mechanisms in bacteria and their role in the transmission of characters. |
| | | | 3 | Emphasize the importance of sterilization and disinfection and the methods used in a microbiology laboratory and premises |
| | | | 4 | Categorize microorganisms based on their characteristics. |
| 1 | MG030102 | FUNDAMENTALS OF BIOCHEMISTRY | 1 | Understand the basic concepts and significance of Biomolecules |
| | | | 2 | Understand the interactions between macromolecules |
| | | | 3 | Analyse the structure-function relationships of Biomolecules |
| 1 | MG030103 | ANALYTICAL TECHNIQUES, BIOSTATISTICS AND BIOINFORMATICS | 1 | Understand the biochemical techniques used in research and industry |
| | | | 2 | Handle various instruments used in laboratories |
| | | | 3 | Appraise the role of statistics in research |
| | | | 4 | Demonstrate the in silico analytical tools for biological data analysis |
| 1 | MG030104 | CELL BIOLOGY | 1 | Understand the various organelles of a cell and its functions |
| | | | 2 | Know about the different cellular receptors and signal transduction pathways |
| | | | 3 | Understand the cell cycle and apoptosis |
| | | | 4 | Understand the etiology of cancer |
| 1 | MG030105 | LABORATORY COURSE -I | 1 | To prepare molar, normal and percentage solutions |
| | | | 2 | To identify unknown samples by systematic analysis |
| | | | 3 | To quantify samples, present in solutions by selecting appropriate methods |

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| | | | 4 | To isolate and identify samples present in a mixture, by various separation techniques |
| 2 | MG030201 | IMMUNOLOGY | 1 | To conceptualize cellular and molecular basis of the immune system. |
| | | | 2 | To understand how the innate and adaptive immune responses coordinate to fight against invading pathogens. |
| | | | 3 | To appreciate the structure and functions of MHC molecules and Immunoglobulins. |
| | | | 4 | To understand the complement system, its activation and biological consequences of complement activation. |
| | | | 5 | To understand about the vaccines in use and the strategies to develop vaccines of the future. |
| 2 | MG030202 | MOLECULAR BIOLOGY & RECOMBINANT DNA TECHNOLOGY | 1 | To acquire knowledge on various molecular mechanism underlying the transmission of genetic information |
| | | | 2 | To understand the theoretical aspects of rDNA technology and genetic engineering |
| | | | 3 | To custom the different molecular tools and strategies explored in rDNA technology |
| | | | 4 | To interpret the outcome of various molecular biology experiments |
| 2 | MG030203 | ENZYMES | 1 | Describe structure, functions and mechanism of action of enzymes |
| | | | 2 | Understand the classification of enzymes based on the reactions catalysed |
| | | | 3 | Understand kinetics of enzyme catalysed reactions and enzyme.inhibitory and regulatory processes |
| 2 | MG030204 | MICROBIAL PHYSIOLOGY AND METABOLISM | 1 | Understand the principle of metabolic processes of growth and solute transport |
| | | | 2 | Comprehend various physiological adaptations and intracellular signaling |
| | | | 3 | Explain the energy yielding central metabolic pathways and its regulations |
| | | | 4 | Know the metabolic pathways of lipid, protein and nucleic acid |
| 2 | MG030205 | LABORATORY COURSE -II | 1 | Learn good microbiological practices in the laboratory |
| | | | 2 | Know various Culture media and their applications and also understand various physical and chemical means of sterilization |

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| | | | 3 | Master aseptic techniques and be able to perform routine culture handling tasks safely and effectively |
| | | | 4 | Perform staining, biochemical and cultural tests to characterize and identify microorganisms |
| | | | 5 | Understand procedures for sterilization, cultivation procedures and enumeration methods of microorganism. |
| | | | 6 | Understand the principle and practices of immunological tests |
| | | | 7 | Know and practice basic technique in molecular biology |
| 3 | MG030301 | FOOD AND INDUSTRIAL MICROBIOLOGY | 1 | Understand the beneficial role of microorganisms in fermented foods, dairy and food products. Principles involving various methods of food preservation |
| | | | 2 | Identify the spoilage mechanisms in foods and important microorganisms in spoilage of foods. |
| | | | 3 | Understand source for microorganisms of industrial importance from the environment |
| | | | 4 | Know about design of bioreactors, factors affecting growth and production, understand the rationale in medium formulation and the principles in downstream processing. Appreciate the different types of fermentation processes |
| | | | 5 | Identify techniques applicable for Improvement of microorganisms based on known biochemical pathways and regulatory mechanisms |
| | | | 6 | Appreciate how microbiology is applied in manufacture of industrial products |
| | | | 7 | Understand the beneficial role of microorganisms in fermented foods, dairy and food products. Principles involving various methods of food preservation |
| 3 | MG030302 | ENVIRONMENTAL AND AGRICULTURAL MICROBIOLOGY | 1 | Know the beneficial and harmful role of microorganisms in agriculture and environment. |
| | | | 2 | Understand various biogeochemical cycles occurring in soil |
| | | | 3 | Know plant – microbe interactions and microbe - microbe interactions in soil and there by improve the fertility of soil and yield. |
| | | | 4 | Comprehend various plant diseases caused by bacteria, fungi and viruses and their control measures |
| | | | 5 | Appreciate genetically modified crops and their importance in various aspects such as pest resistance, high nutrient value, easy to grow under unfavorable weather conditions, etc |

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| | | | 6 | Grasp the process of extraction of metals using microorganisms in an economic and ecofriendly manner |
| | | | 7 | Recognize the pollutants in the environment using microorganisms |
| 3 | MG870301 | MARINE MICROBIOLOGY | 1 | Understand the marine ecosystem and familiarize the structure and various habitat of marine environment. |
| | | | 2 | Comprehend water borne diseases and water borne pathogen. |
| | | | 3 | Understand various biotechnology applications of marine microbiology such as biosensor,transgenic,biosurfactant etc. |
| | | | 4 | Realize marine pollution and control measure, bio-corrosion and bioremediation |
| 3 | MG870302 | MICROBIAL QUALITY ASSURANCE, BIOSAFETY AND INTELLECTUAL PROPERTY RIGHTS | 1 | Comprehend the basic issues of Bioethics, Biosafety, Food safety and IPR. |
| | | | 2 | Understand the ethical underpinnings of bioethics and to develop ethical intuitions on bioethical issues. |
| | | | 3 | Recognize safety concerns and ethical issues on application of biotechnology |
| | | | 4 | Understand current food safety programs that are used in the food industry inorder to assure a safe food supply. |
| | | | 5 | Understand different types of Intellectual Property Rights like patents, copy right, trademarks, designs, information Technology |
| 3 | MG030303 | LABORATORY COURSE -III | 1 | Learn the occurrence, abundance and distribution of microorganism in the environment and their role in the environment and also learn different methods for their detection and characterization |
| | | | 2 | Acquire, discover, and apply the theories and principles of food microbiology in practical |
| | | | 3 | Learn various methods for their isolation, detection and identification of microorganisms in food |
| | | | 4 | Identify ways to control microorganisms in foods and thus know the procedures for the microbiological analysis of food |
| | | | 5 | Get equipped with a theoretical and practical understanding of industrial microbiology |
| 4 | MG030401 | SYSTEMATIC BACTERIOLOGY | 1 | Know the morphology, culture, antigenic structure and virulence factors of microorganisms of medical importance and the diseases they produce |
| | | | 2 | Understand the identifying characteristics of major classes of bacteria |

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| | | | 3 | Learn the epidemiology and pathogenesis, lab diagnosis and treatment of different classes of bacteria. |
| | | | 4 | Assimilate and apply the information on lab diagnosis and treatment of different classes of bacteria |
| 4 | MG030402 | MEDICAL VIROLOGY, MYCOLOGY AND PROTOZOOLOGY | 1 | Understand the general characteristics and pathobiology of different classes of viruses. |
| | | | 2 | Learn lab diagnosis, prophylaxis and treatment of viral diseases. |
| | | | 3 | Describe different fungal infections |
| | | | 4 | Describe protozoal diseases |
| 4 | MG870403 | CLINICAL MICROBIOLOGY | 1 | Comprehend the concept of safe microbiology |
| | | | 2 | Elicit the infections of various organs and systems of the human body |
| | | | 3 | Learn etiology, pathogenesis and laboratory diagnosis of local infections |
| | | | 4 | Understand and analyse various infections of skin, soft tissue and wound |
| | | | 5 | Compare and evaluate serological and molecular diagnostic methods |
| | | | 6 | Understand antibacterial therapy and prophylaxis |
| 4 | MG030403 | LABORATORY COURSE -IV | 1 | Learn standard laboratory procedures in clinical microbiology |
| | | | 2 | Understand how to handle and identify medically important bacteria |
| | | | 3 | Learn to culture, isolate and identify fungi |
| | | | 4 | Understand and practices the procedures of viral cultivation |
| | | | 5 | Identify haemoflagellates and malarial parasites from blood smears |
| | | | 6 | Perform antimicrobial sensitivity tests |

M.Sc. Physics - Program Specific Outcomes (PSO)

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| PSO 1 | Provided high quality education as well as a supportive learning environment for the students to reach their full academic potential. |
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| PSO 2 | Enabled the students to acquire real insight into physics and become self-confident, committed and adaptable graduates. |
| PSO 3 | Attains a common level understanding in mathematical methods employed in Physics |
| PSO 4 | Attain a strong foundation in classical, quantum and statistical mechanics and Analyse the problems apply the mathematical and computational methods for solving physical systems. |
| PSO 5 | Understand the principles and techniques of condensed matter physics, thermodynamics, electronics and electrodynamics; Attain the knowledge of atomic, molecular, nuclear and particle physics. |
| PSO 6 | Understand design and construct electronic circuits, Develop the experimental and data analysis skills through a wide range of lab experiments. |
| PSO 7 | Provided a firm foundation in every aspect of Physics and explained a broad spectrum of modern trends in Physics and developed analytical, experimental, computational and mathematical skills of students. |
| PSO 8 | Experience independent work through projects; seminars and assignments |
| PSO 9 | Obtained effective communication skills. |

M.Sc. Physics - Course Outcomes (CO)

| SEMESTER | PAPER CODE | TITLE OF THE PAPER | CO | COURSE OUTCOME |
|----------|------------|--|----|---|
| 1 | PH010101 | Mathematical Methods In Physics-1 | 1 | Apply the theorems in vector analysis in potential theory. |
| | | | 2 | Understand rectangular and curvilinear coordinates and the transformations in between. |
| | | | 3 | Understand mathematical operations in linear vector space and Schwarz inequality |
| | | | 4 | Understand probability theory, binomial, Gaussian and Poisson distributions and Central Limit theorem. |
| | | | 5 | Understand types of matrices, and tensors, matrix transformation and Christoffel symbols' transformation. |
| 1 | PH010102 | | 1 | Apply Lagrangian and Hamiltonian methods to various problems. |

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| | | Classical Mechanics | 2 | Understand canonical transformations and Poisson brackets. |
| | | | 3 | Understand physics of small oscillations, two coupled pendula and CO ₂ molecules. |
| | | | 4 | Apply central force principle to various classical problems. |
| | | | 5 | Understand various concepts in Rigid body dynamics. |
| | | | 6 | Apply Hamilton-Jacobi theory and action angle variables to classical problems. |
| | | | 7 | Understanding Classical mechanics of relativity and its applications. |
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| 1 | PH010103 | Electrodynamics | 1 | Understand the concepts of Electrostatics, Magnetostatics and Electrodynamics; Derive Poynting's theorem and Maxwell stress tensor. |
| | | | 2 | Understand Maxwell's equations, Electromagnetic Boundary conditions and its outcomes laws of reflection & refraction. |
| | | | 3 | Understand the propagation of em waves in conducting and non-conducting medium; estimate the reflectance and transmittance at normal & oblique incidence; Distinguish between metal and dielectric. |
| | | | 4 | Understand potential formulation of electrodynamics and gauge transformations. |
| | | | 5 | Familiarise radiation from point charge, electric and magnetic dipoles, and arbitrary distribution of charges and Abraham- Lorentz formula. |
| | | | 6 | Understand the idea of electromagnetic wave propagation through waveguides and transmission lines. |
| | | | 7 | Extend the understanding of the special theory of relativity by including the relativistic electrodynamics. Understand four vectors, Field tensor and Maxwell's equations & Potential formulation in tensor notation. |
| 1 | PH010104 | Electronics | 1 | Understand the basic operational amplifier in the ideal and practical situations, characteristics, parameters and applications such as inverter, converters, integrator, differentiator. |
| | | | 2 | Understand frequency response of an op-amp, circuit stability and slew rate. |
| | | | 3 | Design first order and second order low pass and high pass Butterworth filters and their characteristics. |
| | | | 4 | Design Wien bridge, Phase shift, square, triangular, sawtooth and voltage controlled oscillators. |

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| | | | 5 | Design comparators, Schmitt trigger, Voltage to frequency and frequency to voltage circuits, D/A and A/D circuits and Sample and Hold circuits. |
| | | | 7 | Familiarise IC 555, IC565, IC 78XX and IC79XX and their applications. |
| | | | 8 | Understand AM and FM receivers. |
| 1 | PH0101P | General Physics Practicals | 1 | The set of experiments gave an insight into the topics optics, properties of matter and mechanics and will provide the students an experiential learning platform. |
| | | | 2 | Develop a strong foundation in experimental and analytical skills of students. |
| 2 | PH010201 | Mathematical Methods In Physics - II | 1 | Understand Cauchy-Reimann equation, Cauchy theorem, Cauchy's integral formulae, Residue theorem and principle value theorem. |
| | | | 2 | Apply Fourier series and Fourier transform for waves, convolution theorem in Hydrogen atom and the Harmonic oscillator, Laplace and inverse Transform in Damped oscillator and LCR circuit. |
| | | | 3 | Discuss Gamma and Beta functions and Bessel, Legendre, Laguerre and Hermite polynomials. |
| | | | 4 | Solve partial differential equations and Laplace equation in Cartesian, Spherical Polar and Curvilinear coordinates |
| | | | 5 | Solve Heat equation and Nonhomogeneous equation |
| | | | 6 | Become familiar with the method of Green's function to solve linear differential equations with inhomogeneous term and apply Green's equation in scattering Problem. |
| 2 | PH010202 | Quantum Mechanics - I | 1 | Understand the fundamental concept of Dirac Formalism, types of operators & eigenvalue equations. |
| | | | 2 | Understand the time evolution of quantum systems, wavefunction in position and momentum space and dispersion in position and momentum space. |
| | | | 3 | Solve Schrodinger equation for the time evolution operator and time-energy uncertainty relation. |
| | | | 4 | Understand Schrodinger & Heisenberg picture and Ehrenfest theorem. |
| | | | 5 | Understand commutation relations and eigenvalue problem for angular momentum operators |
| | | | 7 | Computation of Clebsch-Gordan coefficients. |

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| | | | 8 | Solve the hydrogen atom problem. |
| 2 | PH010203 | Statistical Mechanics | 1 | Explain statistical physics and thermodynamics as logical consequences of the postulates of statistical mechanics. |
| | | | 2 | Understand the basics of ensemble theory, statistics of canonical, microcanonical and grand canonical ensembles with examples. |
| | | | 3 | Understand energy fluctuations in canonical ensembles and equipartition theorem. |
| | | | 4 | Understand phase space of classical and quantum states and Liouville's theorem; Formulate quantum statistics and Density matrix. |
| | | | 5 | Understand ideal gas in quantum microcanonical and quantum mechanical ensembles. |
| | | | 6 | Understand thermodynamic behaviour of ideal Bose and Fermi gases; study important examples of ideal Bose systems and Fermi systems. |
| | | | 7 | Understand the basics of first and second order phase transitions and derive thermodynamic potentials and Clapeyron equation. |
| 2 | PH010204 | Condensed Matter Physics | 1 | Understand Bragg's diffraction, Ewald construction, Brillouin zones and reciprocal lattices. |
| | | | 2 | Understand crystal symmetry elements ordered phases of matter and quasicrystals. |
| | | | 3 | Explain Heat Capacity, Ohm's law and Franz- Lorentz equation using free electron theory |
| | | | 4 | Understand band theory; Explain Kroning Penney model and nearly free electron model |
| | | | 5 | Understand the theoretical explanation of intrinsic and extrinsic conductivity in semiconductor |
| | | | 6 | Understand inelastic scattering , heat capacity and density of states and thermal conductivity of phonons. |
| | | | 7 | Understand Debye and Einstein model for density of states and Umklapp processes. |
| | | | 8 | Understand the quantum theoretical explanation of paramagnetism, ferromagnetism, antiferromagnetism, Geomagnetism, Biomagnetism and superfluidity |
| 2 | PH0102P | Electronics Practicals | 1 | Design and analyze electronics circuits for amplifiers, oscillators, filters and other op amp experiments and microprocessors |

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| 3 | PH010301 | Quantum Mechanics - II | 1 | Apply the non-degenerate perturbation theory to a harmonic oscillator under an electric field and degenerate perturbation theory to Stark effect and Zeeman effect. |
| | | | 2 | Understand Variational method and WKB method and their applications. |
| | | | 3 | Apply time dependent perturbation theory in semi-classical theory of atom-radiation interaction. |
| | | | 4 | Understand Fermi's Golden rule and Harmonic perturbation. |
| | | | 5 | Apply the basic theory of identical particles in He atom. |
| | | | 6 | Understand differential scattering cross-section and scattering amplitude. |
| | | | 7 | Understand the idea of Born approximation and the method of partial waves. |
| | | | 8 | Understand the basic concepts of relativistic quantum mechanics. |
| 3 | PH010302 | Computational Physics | 1 | Understand the least square fitting method for straight lines, power curves and exponential curves. |
| | | | 2 | Understand Newton's forward, backward and divided difference and Cubic spline interpolation techniques. |
| | | | 3 | Understand numerical differentiation and the errors in it. |
| | | | 4 | Apply Trapezoidal, Simpson's 1/3rd and 3/8th methods of numerical integration. |
| | | | 5 | Solve ordinary differential equation using Euler's and R-K methods. |
| | | | 6 | Solve systems of equations by Gauss-Jordan, Gauss-elimination, Gauss-Seidel iteration, ,Gauss-Jordan and Jacobi's methods. |
| | | | 7 | Solve partial differential method using Schmidt, Crank - Nicholson and Weighted average implicit methods. |
| | | | 8 | Understand Buffon's needle problem and Monte-Carlo integration. |
| 3 | PH010303 | Atomic And Molecular Physics | 1 | Understand atomic spectra of one electron and two electron systems. |
| | | | 2 | Illustrate normal and anomalous Zeeman effect, Stark effect and Paschen-Back effect. |
| | | | 3 | Analyse microwave spectra of rigid and non-rigid rotator. |

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| | | | 4 | Analyse infrared spectra of diatomic vibrating rotator and polyatomic molecules. |
| | | | 5 | Apply Raman and IR spectroscopy in structure determination. |
| | | | 6 | Understand non-linear, hyper and inverse Raman effect. |
| | | | 7 | Understand the principles of NMR and ESR spectrometer and MRI |
| | | | 8 | Understand the ideas of Mossbauer spectroscopy. |
| 3 | PH8003P | Advanced Practical In Electronics | 1 | Design and analyze advanced electronic and optoelectronic circuits. |
| 4 | PH800301 | Digital Signal Processing | 1 | Understand the classification of signals and its examples. |
| | | | 2 | Learn about discrete time signals and linear systems. |
| | | | 3 | Learn about DFT, FFT and its algorithms. |
| | | | 4 | Comprehend Z-transform and ROC properties. |
| | | | 5 | Use Z-transform and ROC properties for various problems. |
| | | | 6 | Understand the design techniques for FIR and IIR digital filters. |
| 4 | PH010401 | Nuclear And Particle Physics | 1 | Understand the basic properties of the nucleus and the nuclear forces. |
| | | | 2 | Understand proton-proton and neutron-neutron interactions. |
| | | | 3 | Understand the major models of the nucleus. |
| | | | 4 | Understand the Fermi-theory of beta decay and the physics behind gamma decay. |
| | | | 5 | Understand the interaction between elementary particles and the conservation laws in particle physics. |
| | | | 6 | Understand Rutherford reaction cross-section, Scattering cross-section in terms of partial wave amplitude, Compound-nuclear reactions and Resonance reactions. |
| | | | 7 | Learn classification of elementary particles and symmetries and conservation laws for the different interactions. |

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| | | | 8 | Learn quark model and the unification schemes. |
| 4 | PH800402 | Micro Electronics And Semiconductor Devices | 1 | Understand the fundamental architecture and system design of 8 and 16 bit microprocessors and micro- controllers |
| | | | 2 | Learn the instruction sets of 8085 and 8086 microprocessor and 8051 microcontroller. |
| | | | 3 | Apply the concepts of micro-electronics to design programs. |
| | | | 4 | Understand the IC fabrication techniques and its features. |
| | | | 5 | Understand the concept of metal semiconductor diodes and its relative properties. |
| | | | 6 | Learn the fundamentals of semiconductor hetero junctions and related characteristics. |
| 4 | PH800403 | Communication Systems | 1 | Understand the concept of Pulse communication systems, information theory, and multiplexing techniques. |
| | | | 2 | Understand the fundamentals of wireless communication systems. |
| | | | 3 | Learn the fundamentals of satellite communication systems. |
| | | | 4 | Comprehend the concepts of fibre optics and its applications in communication. |
| | | | 5 | Understand the fundamental principles of RADAR systems and its various kinds. |
| 4 | PH0104P | Computational Physics Practicals | 1 | Enable the students to comprehend problems in computational physics, methods in C++ and in graphics |
| | | | 2 | Create programs using C++ language |

