# Payyanur College, Payyanur

# Affiliated to Kannur University

# Programme Outcomes

**DEGREE PROGRAMME**

**PROGRAMME OUTCOMES (PO)**

**PO1. Critical Thinking:**

1.1. Acquire the ability to apply the basic tenets of logic and science to thoughts, actions and interventions.
1.2. Develop the ability to chart out a progressive direction for actions and interventions by learning to recognize the presence of hegemonic ideology within certain dominant notions.
1.3 Develop self-critical abilities and also the ability to view positions, problems and social issues from plural perspectives.

**PO2. Effective Citizenship:**

2.1. Learn to participate in nation building by adhering to the principles of sovereignty of the nation, socialism, secularism, democracy and the values that guide a republic.
2.2. Develop and practice gender sensitive attitudes, environmental awareness, empathetic social awareness about various kinds of marginalization and the ability to understand and resist various kinds of discriminations.
2.3. Internalize certain highlights of the nation and region history. Especially of the freedom movement, the renaissance within native societies and the project of modernization of the post-colonial society.

**PO3. Effective Communication:**

3.1. Acquire the ability to speak, write, read and listen clearly in person and through electronic media in both English and in one Modern Indian Language
3.2. Learn to articulate, analyze, synthesize, and evaluate ideas and situations in a well-informed manner.
3.3. Generate hypotheses and articulate assent or dissent by employing both reason and creative thinking.

**PO4. Interdisciplinarity:**

4.1. Perceive knowledge as an organic, comprehensive, interrelated and integrated faculty of the human mind.
4.2. Understand the issues of environmental contexts and sustainable development as a basic interdisciplinary concern of all disciplines.
4.3. Develop aesthetic, social, humanistic and artistic sensibilities for problem solving and evolving a comprehensive perspective.

## BSc CHEMISTRY PROGRAMME

**PROGRAMME SPECIFIC OUTCOMES (PSOs)**

**PSO1** Understand the fundamental concepts, principles and processes underlying the academic field of chemistry, its different subfields (analytical, inorganic, organic and physical), and its linkages with related disciplinary areas/subjects.
**PSO2** Demonstrate procedural knowledge that creates different types of professionals in the field of chemistry and related fields such as pharmaceuticals, chemical industry, teaching, research, environmental monitoring, product quality, consumer goods industry, food products, cosmetics industry, etc.

**PSO3** Employ critical thinking and the scientific method to design, carry out, record and analyze the results of chemical experiments and get an awareness of the impact of chemistry on the environment and the society.
**PSO4** Use chemical techniques relevant to academia and industry, generic skills and global competencies, including knowledge and skills that enable students to undertake further studies in the field of chemistry or a related field, and work in the chemical and non-chemical industry sectors.
**PSO5** Undertake hands on lab work and practical activities which develop problem solving abilities required for successful career in pharmaceuticals, chemical industry, teaching, research, environmental monitoring, product quality, consumer goods industry, food products, cosmetics industry, etc.
**PSO6** Understand safety of chemicals, transfer and measurement of chemical, preparation of solutions, and find out the green route for chemical reaction for sustainable development.
**PSO7** Create an awareness of the impact of chemistry on the environment, society, and development outside the scientific community.

## COURSE OUTCOMES (COs)

### 1B01CHE: THEORETICAL AND INORGANIC CHEMISTRY

CO1: Correlate the structure and behavior of atom.
CO2: Differentiate the various chemical interactions in molecules through bonding concepts.
CO3: Analyze and interpret the gradation in the properties of elements in the periodic table.
CO4: Predict the nuclear transmutations.
CO5: identify the role of radioactive materials in different applications.

### 2B03CHE: ANALYTICAL AND INORGANIC CHEMISTRY – I

CO1: Determine the error, standard deviation and relative standard deviation of analytical data.
CO2: Understand statistical treatment of analytical data and the principles underlying volumetric titrations.
CO3: Understand basic principles behind selective precipitation of cation.
CO4: Summarize the characteristics of s- and p- block elements.
CO5: Compare the various concepts of acids and bases.

### 3B04CHE/PCH: ORGANIC CHEMISTRY – I

CO1: Explain the types of electron displacement in organic molecules and predict the properties of molecules based on electron displacement effect.
CO2: Distinguish aromatic, anti-aromatic and nonaromatic compounds and ions and analyze the mechanistic details of aromatic electrophilic substitution.
CO3: Classify stereo isomers, understand the property of chirality, apply CIP rules to recognize the configuration and explain the stability of conformations drawing energy profile diagram.
CO4: Explain the mechanism of polymerization, synthesis and application of industrially important Polymers.
CO5: Explain the classification and the methods of preparation of important dyes.
CO6: Illustrate the preparative methods and synthetic applications of important synthetic Reagents.

### 4B06CHE/PCH: ORGANIC CHEMISTRY – II

CO1: Describe mechanisms for substitution and elimination reactions, and predict the effect of nucleophile, leaving group, and solvent on the relative rates of SN1 versus SN2 reactions, and E1 versus E2 reactions, as well as on the relative rates of substitution versus elimination.

CO2: Explain Chagaev and Cope eliminations and E1CB mechanism.
CO3: Illustrate the preparative methods and important properties of Hydrocarbons, halogen compounds, Hydroxy compounds and Carbonyl Compounds.
CO4: Explain the mechanism of important name reactions including rearrangements involving hydroxyl and Carbonyl functional groups.

**5B07CHE/PCH: ANALYTICAL AND INORGANIC CHEMISTRY-II**

CO1: Understand the qualitative and quantitative aspects of analysis and separation techniques
CO2: Explain instrumentation and working principle of different analytical techniques – TGA, DTA and radio chemical method of analysis.
CO3: Familiarize with the preparation, properties and uses of some inorganic compounds like hydrides of boron, sulphur and silicon based inorganic polymers and understand their importance.
CO4: Explain the classification of refractories.
CO5: Know the position, electronic configuration and physical properties of noble gases and explain hybridization and geometry of different xenon compounds.
CO6: Explain various steps involved in metallurgical operations and power metallurgy and understand Corrosion, theories of Corrosion and factors affecting Corrosion.

**5B08 CHE/PCH: INORGANIC CHEMISTRY**

CO1: Understand the behavior of transition and inner transition elements and explain the separation of lanthanides by ion exchange method and lanthanide contraction.
CO2: Understand key features of co-ordination compounds and illustrate the theories of coordination complexes, stability of complexes and explain factors affecting crystal field splitting.
CO3: Explain biological functions of metal ions.
CO4: Familiarize new elements in periodic table and understand recent developments in inorganic chemistry.

**5B09 CHE/PCH: PHYSICAL CHEMISTRY I**

CO1: Recognize and relate the properties of ideal and real gases.
CO2: Describe the properties of liquids.
CO3: Identify and distinguish the types of solutions.
CO4: Explain colligative properties of dilute solution and determine the molecular weight of a solute.
CO5: Identify different crystallographic systems and various types of crystal defects.
CO6: Describe X ray diffraction to explain internal structure of solids.

**5B10 CHE/PCH: PHYSICAL CHEMISTRY II**

CO1: Identify the fundamental concepts of thermodynamics.
CO2: Relate and Interpret the various laws of thermodynamics.
CO3: Understand the concept of entropy and how the whole universe is related to it.
CO4: Construct phase diagrams and study the equilibrium exists between various states of matter. and apply principles phase diagram to separation processes and for property modification of different type of system.
CO5: Understand basic principles of surface chemistry and its application in various fields.
CO6: Correlate the types of colloids with its properties and to explore the applications in day today life.

## 6B14CHE/PCH: ORGANIC CHEMISTRY – III

CO1: Acquaint with the classification, structures and properties of carbohydrates, explain the configuration of glucose and fructose, their inter conversion, illustrate Killiani-Fischer synthesis and Ruff degradation.
CO2: Illustrate the preparative methods and the properties of different classes of organic acids, nitrogen containing compounds and heterocyclic compounds.
CO3: Classify amino acids and peptides and explain the synthesis of simple peptides by *N*protection (t-butyloxycarbonyl and phthaloyl) &C-activating groups and Merrifield solid phase synthesis. Explain the methods of determination of primary structure of peptides.
CO4: Distinguish the components of nucleic acids and lipids and their roles in biological system and the biological importance of various natural products. Familiarize with important drugs and their therapeutic applications.
CO5: Recognize the types and characteristics of pericyclic reaction and analyze the pericyclic reactions by FMO methods. Understand the photochemistry of carbonyl compounds.
CO6: Understand the principles of Green Chemistry and the importance of green synthesis and recognize the impact of green chemistry on human health and the environment.

## 6B15CHE/PCH: PHYSICAL CHEMISTRY – III

CO1: Understand the mechanism of electrical conductance, theories of electrical conductance, and conductometric titrations.
CO2: Understand the basic principle of ionic equilibrium and its application in laboratories.
CO3: Design different types of electro chemical cell and able to calculate its potential.
CO4: Familiarize with electro analytical methods.
CO5: Acquaint with kinetics of simple, complex, enzymatic and surface reactions.
CO6: Understand basic principles of photochemistry and its application in spectrophotometry.

## 6B16CHE/PCH: PHYSICAL METHODS IN CHEMISTRY

CO1: i) Explain the important principles of spectroscopy. ii) Apply spectroscopic techniques in analyzing the structure of simple organic molecules.
CO2: Acquainting the working principles of various instruments and their functions.
CO3: Understand the basic principles of symmetry and group theory and its applications in Chemistry.
CO4: Study the basic principles of nanochemistry and understand the various nanofabrication Methods.
CO5: Explain the important principles for quantum chemical and molecular mechanic methods of computing the geometry and energy of molecules.

## DISCIPLINE SPECIFIC ELECTIVE COURSE

## 6B17CHE/PCH- A: ENVIRONMENTAL CHEMISTRY

CO1: Know the importance of environmental studies and methods of conservation of natural resources.
CO2: Describe the structure and function of an ecosystem and explain the values and Conservation of bio-diversity.
CO3: Explain the sources, environmental effects and control measures of various types of pollutions.
CO4: Identify the toxic chemicals in environment and understand the sources, effects and treatment of heavy metal poisoning.

CO5: Understand the methods of domestic water treatment, Sewage analysis and Sewage Treatment.

**6B17CHE/PCH- B: APPLIED CHEMISTRY**

CO1: Explain the origin of coal, coal products, petroleum products and their applications.
CO2: Explain the manufacture of fertilizers, pesticides and their applications.
CO3: Understand the manufacture of glasses, cement, ceramics and the formulations of paints and varnishes.
CO4: Familiarize with the chemistry of fats and oils and explain the production of soaps and detergents.
CO5: Understand the chemistry of food additives and explain the manufacture and refining of pulp.
CO6: Understand importance of industrial safety and industrial pollution control.

**6B17CHE/PCH- C: POLYMER CHEMISTRY**

CO1: Classify polymers and explain the configuration of polymers and properties like glass transition temperature and melting point of polymers.
CO2: Illustrate the preparation, properties and applications of polymers.
CO3: Interpret the mechanism of polymerization.
CO4: Acquaint various polymer processing technologies and explain thermal methods of analysis of polymers.
CO5: Know the recent advances in polymer chemistry.

**6B17CHE/PCH – D: NANOCHEMISTRY**

CO1: Understand the basic concepts and classification of nanomaterials.
CO2: Analyze different nano systems and their properties.
CO3: Understand the various techniques adopted for the synthesis and characterization of nanomaterials.
CO4: Characterize the nanomaterials using various microscopic techniques.
CO5: Understand the application of nanomaterials in various fields including catalysis, photonics, and medicine.

**1B02CHE/PCH & 2B02CHE/PCH: CORE COURSE PRACTICAL I**

CO1: Apply the theoretical concepts while performing experiments.
CO2: Acquire practical skill to estimate acid, base, oxidizing agents etc by volumetric titration method.
CO3: Estimate the metallic ions by complexometric titration method.
CO4: Acknowledge experimental errors and their possible sources.
CO5: Able to prepare inorganic complexes.
CO6: Design, carry out, record and analyze the results of chemical experiments.

**3B05CHE/PCH & 4B05CHE/PCH: INORGANIC QUALITATIVE ANALYSIS**

CO1: Apply the theoretical concepts while performing experiments.
CO2: Acquire practical skill to analyze the anions and cations qualitatively present in a mixture of inorganic salts.
CO3: Able to design, carry out, record and analyze the results of chemical experiments.
CO4: Learns the effective usage of chemicals.

**5B11 CHE /PCH & 6B11 CHE/PCH: GRAVIMETRIC ANALYSIS**

CO1: Make use of standardized procedures for the Gravimetric analysis.
CO2: learn the skills of Precipitation process, digestion, filtration, incineration etc.
CO3: Acquire practical Knowledge of co-precipitation.
CO4: Handle sintered glass vessels.
CO5: Acknowledge experimental errors and their possible sources.
CO6: Able to design, carry out, record and analyze the results of chemical experiments.

**5B12 CHE/PCH& 6B12 CHE/PCH: ORGANIC CHEMISTRY**

CO1: Apply the theoretical concepts while performing experiments.
CO2: Acquire practical skill in qualitative analysis of organic compounds.
CO3: Acquire practical skill in preparing organic compounds and in their purification by crystallization.
CO4: Separate organic compounds in a mixture –by steam distillation, TLC and Column Chromatography.
CO5: Acquire the habit of working safely with the chemicals and handling of equipment.

**6B18CHE/PCH: PHYSICAL CHEMISTRY**

CO1: Acquire practical skill in physical chemistry experiments such as Cryoscopy, Transition Experiments, Phase Rule Experiments, Conductometric titrations, Potentiometric titrations, colorimetry and Chemical Kinetics.
CO2: Learn statistical approach for evaluating data.
CO3: Able to carry out and record these experiments in a skillful manner.
CO4: Acquire the habit of working safely with the chemicals and handling of equipment.

**PROJECT**

CO1: Able to enhance the skills of managing the resources, time and team work.
CO2: Students will be able to function as a member of an interdisciplinary problem-solving team.

**5D01CHE/PCH: CHEMISTRY IN SERVICE TO MAN**

CO1: i) Understand the classification, structure, function and applications of polymers. ii) Understand the importance of biodegradable polymers.
CO2: Acquaint with different types of fertilizers and pesticides and understand the effect of fertilizers and pesticides on the environment.
CO3: Explain the classification of fuels and composition of petroleum and familiarize the fuel cells and batteries and understand their applications in modern life.
CO4: Explain different types of glasses, their applications and the composition of Portland Cement.
CO5: Identify the harmful chemicals present in cosmetics and understand their effects in human Body.

**5D02CHE/PCH: DRUGS - USE & ABUSE**

CO1: Familiarize the classes of drugs and their examples.
CO2: Distinguish prescription drugs and over the counter drugs.
CO3: Understand the roots of administration of drugs and their importance.
CO4: Familiarize various synthetic drugs and their uses.

CO5: Understand the consequences of misuse of antibiotic.
CO6: Recognize the drugs of abuse and understand the consequences of drug abuse.

**5D03CHE/PCH: ENVIRONMENTAL STUDIES**

CO1: Differentiate the environmental segments and understand the importance of environmental segments.
CO2: Identify the types of environmental pollution and the various sources of the pollution.
CO3: Understand the consequences of environmental pollutions.
CO4: Explain the measures of control of environmental pollution.
CO5: Recognize various sustainable energy sources.

**5D04CHE/PCH: NANOMATERIALS**

CO1: Understand the basic concepts of nanoscale science and technology.
CO2: Inculcate the enquiry-based learning and increase the level of interest in nanoscience.
CO3: Understand the societal implications and the scope of nanotechnology.

**5D05CHE/PCH: CHEMISTRY IN EVERYDAY LIFE**

CO1: Identify the harmful ingredients and their effects of cleansing agent and cosmetics.
CO2: Familiarize adulterants in food, food additives and food preservatives.
CO3: Explain the harmful effects of modern food habits.
CO4: Classify the drugs and familiarize the applications of various drugs.
CO5: Understand the consequences of misuse of antibiotics.
CO6: Prepare toilet soap using vegetable oil.

**COMPLEMENTARY ELECTIVE COURSE**

**1C01CHE/PCH: CHEMISTRY FOR PHYSICAL & BIOLOGICAL SCIENCES**

CO1: Understand the atomic structure, basics of quantum chemistry and its applications.
CO2: Explain theories of chemical bonding and molecular structure.
CO3: Classify environmental pollution and recognize the causes of pollution.
CO4: Understand the basic concept of Chemical equilibrium and theories of acids and bases.
CO5: Calculate pH values.
CO6: Explain common ion effect and solubility product.

**2C02CHE/PCH: CHEMISTRY FOR PHYSICAL & BIOLOGICAL SCIENCES**

CO1: Understand the basic concept of classification, IUPAC nomenclature, bonding and structure of Organic compounds.
CO2: Explain the concept of aromaticity and non-benzenoid aromatics.
CO3: Understand the basic concepts of chemical equilibrium. Explain colloids, their properties and applications.
CO4: Illustrate the laws of photochemistry and explain the photochemical phenomena such as Photosensitization, quenching, Fluorescence, Phosphorescence, Chemiluminescence and bioluminescence.
CO5: Familiarize different types of analytical methods in chemistry and explain the principle of colorimetry.
CO6: Explain the principles underlying the qualitative and quantitative analysis.

**3C03CHE/PCH(PS): CHEMISTRY FOR PHYSICAL SCIENCE**

CO1: Understand the basic principle underlying various spectroscopy.
CO2: Understand the basic concepts of thermodynamics and laws of thermodynamics.
CO3: Explain the formation, nomenclature and applications of coordination complexes, Illustrate the valance bond theory of coordination complexes and explain the factors affecting the stability of complexes.
CO4: Understand the basic concepts of chemical kinetics and calculate the value of Ea from the values of k at two temperatures. Illustrate the types of Catalysis and understand the Characteristics of catalytic reactions.
CO5: Understand the basic concept of nuclear chemistry, and explain the detection of isotopes using Aston's mass spectrograph and separation of isotopes by diffusion methods.
CO6: Explain the principle and applications of different types of Chromatography.

**4C04CHE/PCH(PS): CHEMISTRY FOR PHYSICAL SCIENCE**

CO1: Understand the basic concept in gaseous state Explain the deviation of real gases from ideal behavior and Maxwell distribution of velocities and its use in calculating molecular velocities. Distinguish average velocity, RMS velocity and most probable velocity.
CO2: Understand the basic concepts of internal structure of Crystals (crystallography) and explain X-ray analysis of crystals.
CO3: Understand the basic concepts in liquid state and solutions. Illustrate Henry's law and explain its applications. Identify colligative properties and apply colligative properties to determine molecular mass.
CO4: Distinguish Specific conductance – molar conductance and equivalent conductance and explain laws of electrolysis, conductometric titrations and its applications.
CO5: Explain electrochemical cell, electrode potential, types of electrodes, EMF Nernst equation and potentiometric titration.
CO6: Acquaint with various instrumental methods in chemistry and understand basic concepts of Nanochemistry.

**3C03CHE/PCH: CHEMISTRY FOR BIOLOGICAL SCIENCES**

CO1: i) Understand the basic concept of Coordination Chemistry, nomenclature, Werner's coordination theory and Valance bond theory of coordination complexes. ii) Write the name of Coordination compounds. iii) Explain Werner's coordination theory and Valance bond theory of coordination complexes. iv) Explain the application of coordination complexes.
CO2: i) Understand the electron displacement effects in organic molecules. ii) Explain the mechanism of nucleophilic substitutions and eliminations in alkyl halides. iii)Explain the mechanism of aromatic electrophilic substitution reactions.
CO3: i) Classify the isomerism in organic molecules. ii) Distinguish the geometrical isomers and explain their stability. iii) Explain the characteristics of chiral compound. iv) Explain the conformational isomers in alkanes and cycloalkanes
CO4: i) Explain the important types of polymerizations, thermoplastics and thermosetting plastics. ii) Understand the characteristics of biodegradable plastics.
CO5: Understand the basic concept of thermodynamics and laws of thermodynamics
CO6: i) Understand the basic concept of chemical kinetics. ii)Calculate Ea from the values of k at two temperatures. iii) Explain homogeneous catalysis, heterogeneous catalysis and Characteristics of catalysis reactions.

**4C04CHE /PCH: CHEMISTRY FOR BIOLOGICAL SCIENCES**

CO1: Illustrate the preparatory methods of glucose and fructose and explain their configurations. Familiarize the structure and properties of sucrose and polysachrides.

CO2: Know the structure of important five membered and six membered heterocyclic compounds and explain their reactivity and important reactions. Explain the preparation and properties of Quinoline and iso quinoline.
CO3: Understand the structure and functions of neuclic acids, classify amino acidsand explain the structure of protein and its importance.
CO4: Understand the mechanism of enzyme action, enzyme catalysis.
CO5: Know the structure of Vitamin A, B and C. and hormones progesterone, Testosterone, cortisone, adrenaline and Thyroxin.
CO6: Understand the importance of metal ions in biological systems and Mechanism of $O_2$ and $CO_2$ transportation – Nitrogen Fixation Na-K pump.

**4C05 CHE/PCH- COMPLEMENTARY ELECTIVE - CHEMISTRY PRACTICAL**

CO1: Apply the theoretical concepts while performing experiments.
CO2: Acquire practical skill to estimate acid, base, oxidizing agents etc by volumetric titration method.
CO3: Acknowledge experimental errors and their possible sources.
CO4: Design, carry out, record and analyze the results of chemical experiments.
CO5: Acquire practical skill to analyze the anions and cations qualitatively present in a mixture of inorganic salts.
CO6: Learns the effective usage of chemicals.

## BSc PHYSICS PROGRAMME

**PROGRAMME SPECIFIC OUTCOMES (PSOs)**

**PSO1:** Understand and apply the principles of Classical mechanics, Quantum mechanics, Thermodynamics, Nuclear physics and Electrodynamics
**PSO2:** Understand and apply the principles of Solid-state physics, Optics, Photonics and Spectroscopy
**PSO3:** Understand the principles of Electronics, Design and test electronic circuits
**PSO4:** Understand and apply the principles of Mathematical Physics and Computational Physics and do Error analysis in measurements.

**COURSE OUTCOMES (COs)**

**1B01PHY MECHANICS I**

CO1: Understand Newton's laws of motion, the concepts of linear and angular momentum and torque
CO2: Determine the Centre mass of a given configuration
CO3: Understand the principle of work, energy and power
CO4: Determine angular momentum of a body about any given axis

**2B02PHY MATHEMATICALPHYSICS AND ERROR ANALYSIS**

CO 1: Understand vector operations and vector algebra
CO2: Determine derivative and integral of various functions
CO3: State fundamental theorems of calculus
CO4: Compare differential operators in various coordinate systems
CO5: Understand the basic concepts of modeling
CO6: Solve first order and second order ODEs
CO7: Estimate uncertainties in measured values

**3B03PHY MECHANICS II**

CO1: Understand the concept of Galilean transformations and uniformly accelerating systems
CO2: Determine the trajectory of a body in central force problem using Newton's laws
CO3: Understand Kepler's laws of planetary motion
CO4: Formulate the mathematical equation of waves
CO5: Understand the concept and consequences of special theory of relativity

**4B04PHY ELECTRONICS I**

CO1: Understand the basics of PN junction diode, Zener diode and their applications
CO2: Understand the structure, operations and characteristics of BJT and FET
CO3: Understand the biasing methods and design of BJT and FET circuits
CO4: Understand the different number systems, conversions and binary arithmetic operations
CO5: Understand the basic combinational logic gates
CO6: Understand the Boolean algebra &logic simplification using Boolean Algebra

**4B05PHY GENERAL PHYSICS PRACTICAL I**

CO1: Familiarize with apparatus for mechanical, electrical, magnetic and optical experiments.
CO2: Develop skill in setting up of apparatus for accurate measurement of physical quantities.
CO3: Understand multiple experimental techniques for determining physical quantities.
CO4: Develop skill in systematic way of measurements by minimizing possible errors.
CO5: Develop skill to analyze by plotting graphs using software.
CO6: Develop skill for systematic trouble shooting.

**5B06PHY QUANTUM MECHANICS**

CO1: Understand the limitations of classical mechanics
CO2: Explain Blackbody radiation problem, Photoelectric effect and Compton Effect using quantum theory of radiation
CO3: Understand Rutherford, Bohr atom models and concept of energy and angular momentum quantization
CO4: Understand de-Broglie hypothesis, concept of wave nature of matter and Heisenberg uncertainty principle
CO5: Determine probability of finding a particle and expectation values of variable using its wave function
CO6: Write and solve Schrodinger equation for simple quantum mechanical systems
CO7: State and explain Pauli's exclusion principle

**5B07PHY ELECTROSTATICS AND MAGNETOSTATICS**

CO1: Understand the concept of Electric field, electric potential, magnetic field and magnetic potentials
CO2: Use the principle of superposition and law of Gauss to calculate electric field Intensity
CO3: Determine Electric potential of charge distributions and hence specify electric field intensity
CO4: Understand the basic properties of conductors and capacitors
CO5: Calculate the magnetic fields due to currents using Biot-Savart and Ampere laws.
CO6: Compare Magnetostatics and Electrostatics.
CO7: Understand Diamagnets, Paramagnets and Ferro magnets.

**5B08PHY THERMODYNAMICS AND STATISTICAL MECHANICS**

CO 1: Understand the concept of temperature, the thermodynamic state and equilibrium.
CO2: Explain the first law of thermodynamics through work and heat and its Mathematical Formulation.
CO3: Understand the ideal gas equation and kinetic theory of gases
CO4: Understand the second law of thermodynamics and thermodynamic temperature scale.
CO5: Define entropy and thermodynamic potentials
CO6: Understand the basic concepts of Statistical mechanics

**5B09PHY ELECTRONICS II**

CO1: Understand the AC analysis of BJT circuits and CE amplifiers
CO2: Understand the feedback circuits, oscillators and power amplifiers
CO3: Understand OPAMP basics and different OPAMP circuits
CO4: Understand the standard forms Boolean Expressions, Functions of Combinational Logic and K map simplifications.

**6B10PHY SOLID STATE PHYSICS & SPECTROSCOPY**

CO1: Understand basic crystal structure and compare various crystal systems
CO2: State and prove Bragg's law
CO3: Explain X-ray diffraction and various methods to obtain diffraction pattern
CO4: Understand basic properties of semiconductors and band structure of solids
CO5: Discuss Hall Effect and list its applications
CO6: Describe various regions of EM spectrum
CO7: Distinguish between microwave and infrared spectroscopy
CO8: Define Raman Effect and explain its quantum theory

**6B11PHY OPTICS &PHOTONICS**

CO 1: Understand the concept of interference and diffraction
CO2: Distinguish between Fresnel and Fraunhoffer diffraction
CO3: Analyze mathematically diffraction pattern due to slits and apertures
CO4: Understand the concept of polarization and double refraction
CO5: Understand the basic principle and working of lasers
CO6: Explain different types of lasers
CO7: Understand the principle of holography and its applications
CO8: Understand the principle of total internal reflection and propagation of light through optical fibres
CO9: Compare different types of optical fibres and their applications Optics and Photonics

**6B12 PHY NUCLEAR, PARTICLE & ASTROPHYSICS**

CO 1: Understand the structure nucleus and nuclear constituents
CO2: Define nuclear forces and nuclear reactions
CO3: Familiarize elementary particles and their properties
CO4: Understand stellar classifications
CO5: Understand basic concepts of birth of the star
CO6: Identify different stars in HR diagram
CO7: Understand the theory of death of the star
CO8: Define white dwarf, neutron star and black hole

**6B13PHY ELECTRODYNAMICS AND CIRCUIT THEORY**

CO1: Understand the basic concepts of Electrodynamics
CO2: Explain the mathematical theory of Electromagnetic waves
CO3: Understand different Network theorems
CO4: Understand the basic concepts of Transient currents

**DISCIPLINE SPECIFIC ELECTIVE**

**6B14PHY(1) PYTHON PROGRAMMING**

CO1: Develop skills in creating program sketches of scientific problems
CO2: Develop basic skills in logical thinking and programming
CO3: To make real-life scientific problems easier on a computer with user interaction and graphics

**6B14PHY(2) NANOSCIENCE**

CO 1: Understand the basic concepts of Nanoscience
CO2: Understand the properties of materials in the nano range
CO3: Identify different techniques for the production of nanomaterials
CO4: Understand characterization techniques & applications of nanomaterial.

**6B14PHY(3) MATERIAL SCIENCE**

CO 1: Understand the basic concepts of material science
CO2: Understand the properties of materials
CO3: Identify different engineering materials & their properties
CO4: Understand the properties & characteristics of semiconducting, insulating &magnetic materials

**6B14PHY(4): COSMOLOGY**

CO 1: Understand history of cosmology at different era
CO2: Explain general theory of relativity and curvature of space
CO3: Understand cosmological principle and Friedmann model
CO4: Explain expansion of universe based on Hubble's law and to state big bang theory

**6B14PHYS(5) PLASMA PHYSICS**

CO1: Define plasma and plasma parameters
CO2: Understand applications of plasma
CO3: Determine the behavior of plasma in various E and B Fields
CO4: Determine the nature of plasma as a fluid

**6B15PHY PRACTICAL II GENERAL PHYSICS II**

CO1: Familiarize with apparatus for mechanical, electrical, magnetic and optical experiments.
CO2: Develop skill in setting up of apparatus for accurate measurement of physical quantities.
CO3: Understand multiple experimental techniques for determining physical quantities.
CO4: Develop skill in systematic way of measurements by minimizing possible errors.
CO5: Develop skill to analyze by plotting graphs using software.
CO6: Develop skill for systematic trouble shooting.
CO7: Perform error analysis for experiments.

**6B16PHY PRACTICAL III ELECTRONICS**

CO1: Familiarize active and passive electronic components.
CO2: Familiarize multimeter, power supply, signal generator and cathode ray oscilloscope.
CO3: Develop skill in soldering and use of breadboard.
CO4: Develop skill in construction of rectifiers, voltage regulators, amplifiers and oscillators.
CO5: Observe, measure and analyze electrical signals.
CO6: Develop skill for trouble shooting circuits and components.
CO7: Develop skill to analyze by plotting graphs using software.

**GENERIC ELECTIVE COURSES**

**5D04PHY JOY OF STAR WATCHING**

CO1: Understand Our Universe and its origin
CO2: Understand simple constellations
CO3: Explain the stars in Kerala culture
CO4: Understand the techniques of star watching

**5D05PHY ELECTRICITY IN DAILY LIFE**

CO1: Understand the sources of electricity
CO2: Explain the production of electricity
CO3: Understand the basic concepts of electricity auditing

**COMPLEMENTARY ELECTIVE COURSES**

**1C01PHY MECHANICS**

CO 1: Understand the basic concepts of Properties of matter
CO2: Explain the dynamics of rigid bodies.
CO3: Understand the basic concepts of wave motion and oscillations

**2C02PHY ELECTRICITY, MAGNETISM AND THERMODYNAMICS**

CO 1: Understand the basic concepts of Magnetism &electricity
CO2: Explain the magnetic effects of electric currents
CO3: Understand the basic principles of Thermodynamics

**3C03PHY OPTICS AND PHOTONICS**

CO1: Understand the basic concepts of Interference
CO2: Understand the basic concepts of Diffraction
CO3: Understand the basic concepts of Polarization
CO4: Understand the basic concepts of Photonics and Fibre Optics

**4CO4PHY ELECTRONICS AND MODERN PHYSICS**

CO 1: Understand the basic concepts of Basic electronics
CO2: Understand the basic concepts of Digital electronics
CO3: Understand the basic concepts of Nuclear Physics
CO4: Understand the basic concepts of Particle physics and Astrophysics

**4C05PHY PHYSICS PRACTICAL**

CO1: Familiarize with apparatus for experiments in mechanics, optics, electricity and magnetism and electronics and electronics experiments.
CO2: Develop skill in setting up of apparatus for accurate measurement of physical quantities.
CO3: Understand multiple experimental techniques for determining physical quantities.
CO4: Develop skill in systematic way of measurements by minimizing possible errors.

## BSc MATHEMATICS PROGRAMME

### PROGRAMME SPECIFIC OUTCOMES (PSOs)

PSO1: Understand the basic concepts and tools of Mathematical logic, Set theory, Number theory, Geometry, Calculus, Algebra, Abstract structures, Linear Algebra, Analysis, Laplace transforms, Fourier series, Graph theory, and Optimization and methods of proofs.
PSO2: Model real world problems into Mathematical problems and find solutions and understand the application of Mathematics in other Sciences and Engineering.

### COURSE OUTCOMES (COs)

#### 1B01MAT: SET THEORY, DIFFERENTIAL CALCULUS AND NUMERICAL METHODS

CO1: Understand Relations and Functions
CO2: Understand limit of a function, limit laws, continuity, Inverse functions and their derivatives
CO3: Understand successive differentiation and Leibnitz theorem
CO4: Understand functions of several variables, limit and continuity, partial derivatives, chain rule, homogenous functions and Euler's theorem on homogenous functions
CO5: Understand bisection method, Regula-falsi method and NewtonRaphson method to solve algebraic and transcendental equations

#### 2B02MAT: INTEGRAL CALCULUS AND LOGIC

CO1: Understand Hyperbolic functions
CO2: Understand Reduction formulae for trigonometric functions and evaluation of definite integrals
CO3: Understand Polar coordinates
CO4: Understand Double integrals in Cartesian and polar form.
CO5: Understand triple integrals in rectangular, cylindrical and spherical co-ordinates
CO6: Understand Substitution in multiple integrals
CO7: Understand Numerical integration: Trapezoidal rule, Simpson's 1/3rd rule
CO8: Understand Logic and methods of proofs
CO9: Understand Propositional functions, truth set and Negation of quantified statements

#### 3B03MAT: ANALYTIC GEOMETRY AND APPLICATIONS OF DERIVATIVES

CO1: Understand cartesian equation of conics, eccentricity, polar equations for a conic, lines, circles
CO2: Understand Tangents, Normals and Asymptotes
CO3: Understand Curvature, Radius of curvature, Centre of Curvature, Circle of curvature and Evolutes of Cartesian and polar curves
CO4: Understand Rolle's Theorem, Lagrange's Mean Value Theorem, Cauchy's Mean Value Theorem and Taylors Theorem
CO5: Understand extreme values of functions, monotonic functions, first derivative test, concavity and curve sketching

CO6: Understand Indeterminate forms.

**4B04MAT: NUMBER THEORY AND APPLICATIONS OF INTEGRALS**

CO1: Understand Division algorithm, Greatest common Divisor, Euclidean Algorithm, Diophantine equation ax+by =c.
CO2: Understand Primes and their distribution, fundamental theorem of arithmetic, the sieve of Eratosthenes
CO3: Understand Basic properties of congruence
CO4: Understand Picard's little theorem, Wilson's theorem and Euler's theorem
CO5: Understand Substitution and the area between curves, Arc length, Areas and length in polar co-ordinates
CO6: Understand Volumes using cross sections, volumes using cylindrical shells and areas of surfaces of revolution

**5B05MAT: SET THEORY, THEORY OF EQUATIONS AND COMPLEX NUMBERS**

CO1: Understand finite and infinite sets, Countable and Uncountable sets, Cantor's theorem.
CO2: Understand Roots of equations, Relations connecting the roots and coefficients of an equation, Transformation of equations, The cubic equation, Character and position of roots of an equation.
CO3: Understand Descarte's rule of signs, De Gua's Rule, Limits to the roots of an equation, Rational roots of equations, Newton's method of divisors, Symmetric functions of roots of an equation, Symmetric functions involving only the difference of the roots of f(x)=0, Equations whose roots are symmetric functions of $\alpha,\beta,\gamma$.
CO4: Understand Reciprocal equations.
CO5: Understand Cubic equation, Equation whose roots are the squares of the difference of the roots, Character of the Roots, Cardan's Solution
CO6: Understand Roots of complex numbers, General form of De Moivre's theorem, the nth roots of unity, the nth roots of -1, Factors of $x^n - 1$ and $x^n + 1$, the imaginary cube roots of unity.
CO7: Understand polar form of complex numbers, powers and roots.

**5B06MAT: REAL ANALYSIS I**

CO1: Understand Algebraic Properties, Order Properties and Absolute values of $\mathbb{R}$. Understand the Completeness Property of $\mathbb{R}$ and its applications to derive Archimedean Property and Density theorem.
CO2: Understand intervals in the real line.
CO3: Understand Sequences and their Limits, Limit Theorems, Monotone Sequences.
CO4: Understand Subsequences and the Bolzano-Weierstrass Theorem, The Cauchy Criterion.
CO5: Understand Infinite Series, Absolute Convergence.
CO6: Understand Comparison test, Root test, Ratio test, Integral test and Raabe's test for Absolute convergence.
CO7: Understand Alternating series test, Dirichlet's test and Abel's test for Non-Absolute convergence.
CO8: Understand Continuous Functions, composition of continuous functions and continuous functions on intervals.

**5B07MAT: ABSTRACT ALGEBRA**

CO1: Understand definition and elementary properties of Groups, Subgroups and Cyclic groups
CO2: Understand Groups of Permutations, orbits, Alternating groups and theorem of Lagrange

CO3: Understand group homomorphisms, factor Groups
CO4: Understand Fundamental Homomorphism Theorems
CO5: Understand definition and properties of rings and fields
CO6: Understand Ring homomorphisms and isomorphisms
CO7: Understand zero divisors, integral domains, characteristic of a ring and their properties

**5B08MAT: DIFFERENTIAL EQUATIONS AND LAPLACE TRANSFORMS**

CO1: Understand Separable ODEs, Exact ODEs, Linear ODEs, Bernoulli equation and methods to solve these ODEs
CO2: Understand the theorem of Existence and Uniqueness of solutions of first and second order ODEs
CO3: Understand Homogeneous Linear ODEs of Second Order and solve homogeneous linear ODEs of second order with constant coefficients and Euler-Cauchy equation
CO4: Understand Laplace Transform and inverse Laplace Transformation
CO5: Understand the first and the second shifting theorems and their applications
CO6: Understand the methods to find Laplace transforms of derivatives and integrals of functions
CO7 Understand the method of differentiating and integrating Laplace transform
CO8 Solve ordinary differential equations and integral equations using Laplace transform

**5B09MAT: VECTOR CALCULUS**

CO1: Understand lines and planes in space
CO2: Understand curves in space, their tangents, normal, curvature, tangential and normal curvature of acceleration
CO3: Understand Directional derivatives and gradient vectors, tangent planes and differentials. Solve extreme value problems using Lagrange multipliers
CO4: Understand Partial derivatives with constrained variables and Taylor's formula for two variables
CO5: Understand Line integrals. Solve for work, circulation and flux using line integrals
CO6: Understand path independence conservative fields and potential functions
CO7: Understand Green's theorem and solve problems using Green's theorem
CO8: Understand Surface area and surface integrals
CO9: Understand Stoke's theorem and solve problems using Stoke's theorem
CO10: Understand Divergence theorem and solve problems using Divergence theorem

**6B10MAT: REAL ANALYSIS II**

CO1: Understand Uniform Continuity, Monotone and Inverse Functions
CO2: Understand Riemann Integral and Riemann-integrable Functions
CO3: Understand Fundamental Theorem of Calculus
CO4: Understand Improper Integrals
CO5: Understand Beta and Gamma Functions and their properties.
CO6: Understand Transformations of Gamma Function and Duplication formula
CO7: Understand Pointwise and Uniform Convergence of sequence of functions and Interchange of Limits
CO8: Understand Series of Functions
CO9: Understand the concept of Metric Spaces

**6B11MAT: COMPLEX ANALYSIS**

CO1: Understand Analytic Function, Cauchy–Riemann Equations. Laplace's Equation.

CO2: Understand Exponential Function, Trigonometric Functions, Hyperbolic Functions, Logarithmic functions and General Power of complex numbers
CO3: Understand line integral in the complex plane, Cauchy's integral theorem, Cauchy's integral formula and derivatives of analytic functions
CO4: Understand convergence of Sequences and Series of complex functions
CO5: Understand power series, functions given by power series, Taylor series, Maclaurin's Series and Laurent Series
CO6: Understand singularities and zeros of complex functions
CO7: Understand residue integration method and integrate real integrals

**6B12MAT: NUMERICAL METHODS, FOURIER SERIES AND PARTIAL DIFFERENTIAL EQUATIONS**

CO1: Understand Interpolation techniques: Interpolation with unevenly spaced points, Langrange interpolation, Newton's divided differences interpolation, Finite difference operators and finite differences, Newton's interpolation formulae and Central difference interpolation.
CO2: Understand Numerical differentiation using difference formulae
CO3: Understand Picard's method, Solution by Taylor series method, Euler method and Runge-Kutta methods.
CO4: Understand Fourier Series: Arbitrary period, Even and Odd Functions, Half-Range Expansions and Fourier Integrals.
CO5: Understand Partial Differential equations, Solution by Separating Variables.
CO6: Understand the use of Fourier Series in solving PDE: D'Alembert's Solution of the Wave Equation. Characteristics and solving Heat Equation by Fourier Series.
CO7: Understand Laplacian in Polar Coordinates

**6B13 MAT: LINEAR ALGEBRA**

CO1: Understand the concept of Vector spaces, subspaces, linear combinations ad system of equations.
CO2: Understand the concept of Linear Dependence and Linear Independence, Bases and Dimension, Maximal Linearly Independent Subsets and solves problems.
CO3: Understand the concept of Linear Transformations, Null Spaces, and Ranges, The Matrix Representation of a Linear Transformation.
CO4: Understand Rank of a matrix, Elementary transformations of a matrix, Invariance of rank through elementary transformations, Normal form, Elementary matrices.
CO5: Understand the concept System of linear homogeneous equations Null space and nullity of matrix, Range of a matrix, Systems of linear non homogeneous equations.

**6B14AMAT: GRAPH THEORY**

CO1: Understand a graph, subgraph, different types of graphs and their properties
CO2: Understand and represent graph as matrix
CO3: Understand a path, cycle, trees, bridges and their properties
CO4: Understand cut vertices and connectivity of graphs
CO5: Understand Eulerian graphs, Hamiltonian graphs, The Chinese Postman Problem and the Travelling Salesman Problem.
CO6: Understand planar graphs, Euler's formula, The Platonic bodies and Kuratowski's Theorem CO7 Model real world problems using the concept of graphs
CO8 Solve real world problems using the concept of graphs

**6B14BMAT: OPERATIONS RESEARCH**

CO1: Understand convex sets, convex functions, their properties, local and global extrema and quadratic forms
CO2: Understand LPP, formulate and solve using graphical method
CO3: Understand General LPP, canonical and standard forms of LPP
CO4: Understand simplex method and solve LPP
CO5: Understand basic solution, degenerate solution, basic feasible solution, optimum basic feasible solution, fundamental properties of solution and simplex method
CO6: Understand primal-dual pair, formulation of dual and duality theorems
CO7: Understand LP formulation of transportation problem and its solution
CO8: Understand Mathematical formulation of Assignment problem and Hungarian Assignment method
CO9: Understand problem of sequencing, Processing 'n' jobs through '2' machines, Processing 'n' jobs through 'k' machines
CO10: Understand basic terms in Game theory, The Maximin-Minimax Principle, Solution of game with saddle point, Solution of 2x2 game without saddle point, Graphic solution of 2xn and mx2 games and Arithmetic method for nxn Games

**6B14CMAT: CRYPTOGRAPHY**

CO1: Understand Simple Cryptosystems namely, The Shift Cipher, The Substitution Cipher, The Affine Cipher, The Vigenere Cipher, The Hill Cipher, The Permutation Cipher and Stream Ciphers
CO2: Understand basics of Shannon's Theory, Elementary Probability Theory, Perfect Secrecy, Entropy, Huffman Encodings and Entropy, Properties of Entropy, Spurious Keys and unicity Distance, Product Cryptosystems.
CO3: Understand the Euclidean Algorithm, The Chinese Remainder Theorem
CO4: Understand Legendre and Jacobi Symbols and quadratic residues
CO5: Understand the RSA System and Factoring (25 Hours): Introduction to Public-key Cryptography, The RSA Cryptosystem, Implementing RSA, Primality Testing, The Solovay-Strassen Algorithm, The Miller Rabin Algorithm, Square roots modulo n.

**6B14D MAT: FUZZY MATHEMATICS**

CO1: Understand Fuzzy Subsets, L-fuzzy Sets, Visual representation of a Fuzzy Subset, Operations on Fuzzy Subsets, Empty Fuzzy Subset 0
CO2: Understand Universal Fuzzy Subset, Disjoint Fuzzy Subsets, Disjunctive Sum
CO3: Understand α Level Set, Properties of Fuzzy Subsets of a Set, Algebraic Product and Sum of Two Fuzzy Subsets, Properties Satisfied by Addition and Product
CO4: Understand Cartesian Product of Fuzzy Subsets
CO5: Understand Fuzzy Relations, Binary Fuzzy Relations, Binary Relations on a Single Set, Fuzzy Equivalence Relations
CO6: Understand Fuzzy Subgroup, Fuzzy Sub groupoids
CO7: Understand the Lattice of Fuzzy Subgroups, Fuzzy Subgroup, Fuzzy Subrings

**DISCIPLINE SPECIFIC ELECTIVE COURSE**

**6B14EMAT PROGRAMMING IN PYTHON**

CO1 Understand the basics of Python Variables, Indentation in Python, Input, Output and Import Functions Operators
CO2 Understand Python programming for numbers, Dictionaries and Mathematical functions
CO3 Understand Flow Control, if, if..else, if ,.else, Loops – for loop, Range Function, while, Section 3.3 Nested Loop, Break and Continue Statements in Python

CO4 Understand Data visualization – The Matplot lib Module, plotting mathematical functions, Famous Curves, 2D plot using colors, Mesh grids, 3D Plots using Pthan
CO5 Understand Python programming for Solving equations using Newton-Raphson's Method, Bisection Method, Method of false position, Trapezoidal rule of numerical integration, Simpson's three eighth rule of numerical integration, Euler's modified methos to solve first order differential equation, Runge-Kutta Method of order 4, Lagrange's method of interpolation.

## COMPLEMENTARY ELECTIVE COURSES

### 1C01MAT-PH MATHEMATICS FOR PHYSICS I

CO1 Understand the concept of Differentiation and successive differentiation.
CO2 Understand Fundamental theorem – Rolle's theorem, Lagrange's mean-value theorem, Cauchy's mean-value theorem.
CO3 Understand the Taylor's theorem, expansions of functions – Maclaurin's series, expansion by use of known series
CO4 Understand the Matrices and System of Equations, Linear Transformations
CO5 Understand Rank of a matrix, elementary transformations, normal form of a matrix, inverse of a matrix, solution of linear system of equations.
CO6 Understand Linear transformations, orthogonal transformation, vectors – linear dependence
CO7 Understand Derivative of arc, curvature, Polar coordinates, Cylindrical and Spherical co-ordinates

### 2C02MAT-PH MATHEMATICS FOR PHYSICS II

CO1 Understand partial derivatives, homogeneous functions, Euler's theorem, total derivative, differentiation of implicit functions, change of variables
CO2 Understand Integration and Integration by Successive Reduction, Integration of Trigonometric Functions
CO3 Comprehend Applications of Integration
CO4 Comprehend Eigen values, Eigen vectors, properties of Eigen values
CO5 Understand Cayley- Hamilton theorem, Diagonal form, similarity of matrices, powers of a matrix, canonical form, nature of a quadratic form

### 3C03MAT-PH MATHEMATICS FOR PHYSICS III

CO1 Understand the concept of Multiple Integrals and solves problems
CO2 Understand Vector Differentiation
CO3 Understand Laplace Transforms and its Applications
CO4 Understand Fourier Series and Half range expansions

### 4C04MAT-PH MATHEMATICS FOR PHYSICS IV

CO1 Understand Wave Equation, Solution by Separating Variables, D-Alembert's solution of the wave equation.
CO2 Understand Heat Equation and Solution by Fourier Series
CO3 Understand Line integrals, path independence, conservative fields and potential functions, Green's theorem in the plane
CO4 Understand Surface area, surface integrals, Stoke'stheorem, Divergence theorem
CO5 Understand Numerical Integration, Trapezoidal Rule,Simpson's 1/3-Rule

CO6 Understand Numerical Solutions of Ordinary Differential Equations by Taylor's series, Euler's method, Modified Euler's method, Runge-Kutta methods.

**1C01MAT-CH MATHEMATICS FOR CHEMISTRY I**

CO1 Understand Successive differentiation and Leibnitz's theorem for the nth derivative of the product of two functions
CO2 Understand Fundamental theorem – Rolle's theorem, Lagrange's mean-value theorem and Cauchy's mean value theorem.
CO3 Understand Taylor's theorem, expansions of functions – Maclaurin's series, expansion by use of known series and Taylor's series.
CO4 Understand the method of finding limits of Indeterminate forms.
CO5 Understand Polar, Cylindrical and Spherical co-ordinates.
CO6 Understand Rank of a matrix, elementary transformation of a matrix, equivalent matrices, elementary matrices, Gauss-Jordan method of finding the inverse, normal form of a matrix and partition method of finding the inverse.
CO7 Understand solution of linear system of equations –method of determinants – Cramer's rule, matrix inversion method, consistency of linear system of equations, Rouche's theorem, procedure to test the consistency of a system of equations in n unknowns, system of linear homogeneous equations.
CO8 Understand Linear transformations, orthogonal transformation and linear dependence of vectors.
CO9 Understand methods of curve fitting, graphical method, laws reducible to the linear law, principles of least squares, method of least squares and apply the principle of least squares to fit the straightline $y=a+bx$, to fit the parabola $y=a+bx+cx^2$, to fit $y=ax^b$, $y=ae^{bx}$ and $xy^n=b$

**2C02MAT-CH MATHEMATICS FOR CHEMISTRY I**

CO1 Understand Functions of two or more variables, limits and continuity.
CO2 Understand partial derivatives, homogeneous functions, Euler's theorem on homogeneous functions, total derivative, differentiation of implicit functions and change of variables.
CO3 Understand Reduction formulae for trigonometric functions and evaluation of definite integrals
CO4 Understand Substitutions and the area between curves, arc length, areas and length in polar coordinates.
CO5 Understand Double and Iterated Integrals over rectangles, double integrals over general regions, area by double integration, double integrals in polar form and triple integrals in rectangular co-ordinates.
CO6 Understand Eigen values, Eigen vectors, properties of Eigen values, Cayley-Hamilton theorem, reduction to diagonal form, similarity of matrices, powers of a matrix, reduction of quadratic form to canonical form and nature of a quadratic form

**3C03MAT-CH MATHEMATICS FOR CHEMISTRY III**

CO1 Understand Ordinary differential equations, Geometrical meaning of $y'=f(x, y)$ and Direction Fields.
CO2 Understand Methods of solving Differential Equations: Separable ODEs, Exact ODEs, Integrating Factors, Linear ODEs and Bernoulli Equation.
CO3 Understand Orthogonal Trajectories, Existence and Uniqueness of Solutions.
CO4 Understand Second order ODEs, Homogeneous Linear ODEs of second order, Homogeneous Linear ODEs with constant coefficients, Differential Operators, Euler-Cauchy

Equation, Existence and Uniqueness of Solutions – Wronskian, Nonhomogeneous ODEs and Solution by variation of Parameters
CO5 Understand Laplace Transform, Linearity, first shifting theorem, Transforms of Derivatives and Integrals, ODEs, Unit step Function, second shifting theorem, Convolution, Integral Equations, Differentiation and integration of Transforms and to solve special linear ODE's with variable coefficients and Systems of ODEs
CO6 Understand Fourier series, arbitrary period, Even and Odd functions, Half-range Expansions.

**4C04MAT-CH MATHEMATICS FOR CHEMISTRY IV**

CO1 Understand Partial Differential Equations, Modeling, Vibrating String, Wave Equation.
CO2 Solve PDE by Separating Variables, by use of Fourier Series, D-Alembert's solution of the wave equation and Heat Equation.
CO3 Understand Numerical Integration, Trapezoidal Rule, Simpson's 1/3-Rule
CO4 Understand Numerical methods to find Solutions of Ordinary Differential Equations: Solution by Taylor's series, Euler's method, Modified Euler's method, Runge-Kutta methods.
CO5 Understand volumes of solid using cross sections and areas of surfaces of revolution

**GENERIC ELECTIVE COURSE**

**5D02MAT QUANTITATIVE ARITHMETIC AND REASONING**

CO1 Understand average, Problems on ages, Profit and loss and solves problems
CO2 Understand Profit and loss, Ratio and proportion, Chain rule
CO3 Comprehend Time and work, Time and distance and solves problems
CO4 Comprehend Problems on trains, Boats and streams, Calendar, Clocks

**5D05MAT BUSINESS MATHEMATICS**

CO1 Understand the concept of Limit and continuity, methods of finding limits definition, Differentiation- rules of differentiation, Parametric function logarithmic differentiation.
CO2 Understand the Successive differentiation, Local maximum and local minimum and solves problems
CO3 Understand the Rules of integration, Some standard results, Consumer's surplus, Producer's surplus, Consumer's surplus
CO4 Understand rate of interest, Continuous compounding, Compound interest, Present valve, interest and discount, Rate of discount, Equation of value, Depreciation and solves problems

## STATISTICS

**OPEN COURSE 5D01STA SAMPLING TECHNIQUES**

CO1: Understand different types of data.
CO2: Understand the concept the census and sampling.
CO3: Apply different sampling methods.
CO4: Familiarize with the various statistical organizations.

## COMPLEMENTARY COURSES FOR BSc MATHEMATICS

**1C01STA BASIC STATISTICS**

CO1: Understand the different types of data.

CO2: Compute various measures of central tendency, measures of variation.
CO3: Analyze the relationship between two variables.
CO4: Acquire knowledge in time series data and compute various index numbers.

**2C02STA PROBABILITY THEORY AND RANDOM VARIABLES**

CO1: Evaluate the probability of events.
CO2: Understand the concept of random variables with examples in real life
CO3: Calculate the probability distribution of discrete and continuous random variables.
CO4: Understand the change of variable technique.

**3C03STA PROBABILITY DISTRIBUTIONS**

CO1: Compute mathematical expectation of a random variable.
CO2: Familiarize with different discrete probability distribution associated with real life situations.
CO3: Understand the characteristics of different continuous distributions.
CO4: Identify the appropriate probability model that can be used.

**4C04STA STATISTICAL INFERENCE**

CO1: Understand the uses of Chebychev's Inequality and Central Limit Theorem.
CO2: Apply various method of estimation
CO3: Understand the concept of testing statistical hypotheses and its importance in real life situation
CO4: Apply ANOVA

## BA ECONOMICS

**PO1. Critical Thinking**

1.1. Acquire the ability to apply the basic tenets of logic and science to thoughts, actions and interventions.
1.2. Develop the ability to chart out a progressive direction for actions and interventions by learning to recognize the presence of hegemonic ideology within certain dominant notions.
1.3 Develop self-critical abilities and also the ability to view positions, problems and social issues from plural perspectives.

**PO2. Effective Citizenship**

2.1. Learn to participate in nation building by adhering to the principles of sovereignty of the nation, socialism, secularism, democracy and the values that guide a republic.
2.2. Develop and practice gender sensitive attitudes, environmental awareness, empathetic social awareness about various kinds of marginalization and the ability to understand and resist various kinds of discriminations.
2.3. Internalize certain highlights of the nation and region history. Especially of the freedom movement, the renaissance within native societies and the project of modernization of the post-colonial society.

**PO3. Effective Communication**

3.1. Acquire the ability to speak, write, read and listen clearly in person and through electronic media in both English and in one Modern Indian Language
3.2. Learn to articulate, analyze, synthesize, and evaluate ideas and situations in a well-informed manner.

3.3. Generate hypotheses and articulate assent or dissent by employing both reason and creative thinking.

**PO4. Inter disciplinarity**

4.1. Perceive knowledge as an organic, comprehensive, interrelated and integrated faculty of the human mind.
4.2. Understand the issues of environmental contexts and sustainable development as a basic interdisciplinary concern of all disciplines.
4.3. Develop aesthetic, social, humanistic and artistic sensibilities for problem solving and evolving a comprehensive perspective.

## COURSE OUTCOMES

### 1B01ECO/DEVECO MICROECONOMIC ANALYSIS I

CO1: A strong theoretical and empirical foundation in economics which produces employable graduates and has scope for a variety of opportunities for higher education in economics and related disciplines.
CO2: Students familiarity about the tool box of micro economics will enhance the capacity for understanding the functioning of economies.
CO3: A thorough knowledge and theoretical understanding of the foundations of modern economic analysis

### 2B02ECO/DEVECO MICROECONOMIC ANALYSYS II

CO1: Students may acquire confidence to apply the principles of micro economics to the decision making of firms and the functioning of the market.
CO2: Students will also be able to analyze the distributional dynamics of the economy both at the micro and the macro level

### 3B03ECO CENTRAL THEMES IN INDIAN ECONOMY

CO1: To help the students to identify the basic structure and working of Indian economy by enabling them to use qualitative and quantitative data relating to various economic issues and policies.
CO2: Students may get an opportunity to identify the strategic drivers in the development of Indian Economy.
CO3: It will create an environment to comprehend and critically appraise the current problems and policies relating to Indian economy.

### 3B04ECO/DEV ECO INTERNATIONAL ECONOMICS

CO1: Enabling the students to assess current international economic issues based on theory and evidence.
CO2: Preparing the students to undertake higher studies and research in issues related to International Economics
CO3: Students may get an opportunity to examine the trends in global economic performance

### 4B05ECO/DEVECO RESEARCH METHODS AND TECHNIQUES FOR ECONOMIC ANALYSIS

CO1: To initiate students to the field of academic research.
CO2: Introduce quantitative, qualitative and analytical tools required to prepare small research projects.
CO3: To bridge the gap between theory and empirics and to familiarize the use and importance of data in research

CO4: To highlight the importance of scientific research in economics based on academic honesty, integrity and ethics

**4B06ECO/DEVECO ENVIRONMENTAL ECONOMICS**

CO1: To provide a deeper understanding about the interface between ecology and economy.
CO2: Understand the economic incentives to improve and conserve the environment.
CO3: To provide basic conceptual understanding of environmental disaster, its management and mitigation
4. Ultimately, greater awareness will be imparted about the issues of environmentally sustainable development in an interdisciplinary perspective.

**5B07ECO/DEVECO BASIC TOOLS FOR ECONOMIC ANALYSIS I**

CO1: To enable the students to understand economic concepts with the aid of mathematical and Statistical tools.
CO2: To equip the students to quantify economic variables and to enable them to apply statistical techniques in Economics.
CO3: To analyze and interpret empirical data with the help of statistical tools

**5 B08ECO/DEVECO HETERODOX ECONOMICS**

CO1: Familiarity with different perspectives of alternative schools of thought may get easily exposed to pluralistic approach to both economic theory and policy.
CO2: Through such an exposure the course will enhance and diversify the knowledge profile of the students and may get opportunities to pursue higher studies and research in heterodox economics.

**5B09ECO/DEVECO MACROECONOMIC ANALYSIS -I**

CO1: Students will be able to get a perspective on the working of an economy.
CO2: By sharpening the macroeconomic tool box students will be able to appreciate macroeconomic policies.
CO3: Enables the students to pursue higher studies in the core domain of economics.

**5B10ECO DEVELOPMENT ECONOMICS**

CO1: To make the students aware of the methodological and measurement issues relating to growth and development.
CO2: To enable the students to understand the theory and empirics of Development Economics with special reference to less developed countries
CO3: To provide an understanding about the various development issues and the development gap between policy and practice.

**5B11ECO/DEVECO ECONOMICS OF BANKING AND FINANCE**

CO1: The students will be equipped with theoretical as well as practical aspects of the structure and working of financial system and regulatory mechanisms.
CO2: The course is expected to expand the skill set of the students for higher studies and employment in finance
CO3: The students will be aware of the innovations and the related trends in the field of banking and finance with special reference to instruments like derivatives.

**6B12ECO/DEVECO BASIC TOOLS FOR ECONOMIC ANALYSIS II**

CO1: To enable the students to understand and interpret economic concepts with the aid of mathematical and statistical tools.

CO2: To enable students to apply statistical techniques in Economics.
CO3: To analyze and interpret empirical data with the help of statistical tools

**6B13ECO/DEVECO MACROECONOMIC ANALYSIS II**

CO1: Students will be equipped with a sound idea of advancements in macroeconomics with tools like IS-LM and the developments there after.
CO2: Students will be equipped with the theories of economic fluctuations and needed policy intervention
CO3: Student will be able to develop critical thinking and research inquisitiveness in macroeconomics
CO4: Opportunities to higher studies and prospects for employment through the knowledge of theories and concepts in Macroeconomics will be enhanced.

**6B14ECO/DEVECO PUBLIC ECONOMICS**

CO1: Better conceptualization of the economic rationale of govt. in terms of allocation, distribution, stabilization and growth in a federal system
CO2: Better exposure to resource mobilization by the govt. through innovative fiscal instruments like GST.
CO3: Students are expected to get an overall perspective of public policy and the development programmes aimed at public welfare as well

**6B15ECO/DEVECO BASIC ECONOMETRIC ANALYSIS**

CO1: This course provides a comprehensive introduction to basic econometric concepts, methodology and techniques of analysis.
CO2: The Students will acquire knowledge and adequate skills for the development of simple linear econometric models.
CO3: The students will be able to perform econometric analysis relating to their project work and future research and development.

**6B 16 ECO/DEV ECO PROJECT WORK**

CO1 Students will be able to identify a research topic
CO2 The course will provide the students a basic understanding about various steps in doing research
CO3 Students will be able to develop a research aptitude.

**COMPLEMENTARY ELECTIVE COURSES**

**1C01ECO/DEVECO MATHEMATICS FOR ECONOMIC ANALYSIS I**

CO1 Students will be equipped with the basics of mathematical tools and their application for better understanding and interpretation of economic theory.
CO2 This course is expected to provide students with an elementary introduction to mathematical concepts that are used in the study of economics at UG level.
CO3 The basic outcome of the course will be the enhancement of skills in applying mathematical concepts that are indispensable for in depth study of theoretical as well as empirical economics.

**2C02ECO/DEVECO MATHEMATICS FOR ECONOMIC ANALYSIS II**

CO1 The course will provide the basics of mathematical tools for analyzing economic theory.
CO2 The analytical ability of students in dealing with economic theories and concepts is expected to be enhanced by involving in calculus and matrix algebra

**3C03ECO/DEVECO MATHEMATICAL ECONOMICS-I**

CO1 Understanding of the basic mathematical concepts and tools will be improved.
CO2 Students will be able to conceptualize economic problems mathematically and develop skills in applying mathematical tools and techniques in microeconomic theory.

**4C04ECO/DEVECO MATHEMATICAL ECONOMICS-II**

CO1 The course will provide an understanding of the fundamental concepts of linear programming, input output analysis and game theory and their applications in economics.
CO2 It will enhance the capacity of the students in recognizing an economic variable with the help of mathematical tools

**1C 05 ECO INTRODUCTORY ECONOMICS -I**

CO1 The students will get an overall background of the economic theory
CO2 Specific inputs from micro economics covering the fundamental concepts will improve their analytical skills

**2C 06 ECO INTRODUCTORY ECONOMICS II**

CO1 To familiarize the students about the subject matter of economics mainly relating to concepts in macroeconomics and public finance.
CO2 Students are expected to get an awareness of the development issues of Indian economy with special reference to poverty, inequality, unemployment and black economy.

**3C 07 ECO HISTORY OF ECONOMIC THOUGHT- I**

CO1 Students are expected to get an idea of the economic philosophy in a historical perspective
CO2 Students are also exposed to heterogeneous thinking in economics

**4C08ECO HISTORY OF ECONOMIC THOUGHT- II**

CO1 Students are expected to get an idea of the economic philosophy in a historical perspective
CO2 Students are also exposed to some of the heterogeneous thinking in economics like Neoclassical, Keynesian and Indian economic thinking

**1C09ECO POPULATION AND DEVELOPEMNT**

CO1 Students will be able to identify the linkage between population and development
CO2 Students will be able to get an idea of the basic demographic concepts like fertility, mortality, migration and urbanization
CO3 Students are also expected to get an understanding on the regional, national and global population trends

**2C10ECO ECONOMIC GEOGRAPHY**

CO1 Students will be exposed to the emerging branch of economic geography.
CO2 The course will provide preliminary inputs for sharpening their analytical tools of economic geography.
CO3 Students will also get an idea of geography of key economic variables in the Indian context

**3C11ECO AGRICULTURAL ECONOMICS**

CO1 The course is expected to provide a basic knowledge of the essentials of agricultural economics
CO2 Students are expected to get an opening for higher studies and research in agricultural economics

CO3 The course will help students to get an agrarian entrepreneurship towards a source of livelihood.

**4C12ECO GENDER ECONOMICS**

CO1 Students will be having an understanding of the basic concepts relating to gender as a social construct and its link with development.
CO2 Students are exposed to gender challenges to development

**GENERIC ELECTIVE COURSE**

**5D 01ECO/DEV ECO BASICS OF ECONOMICS**

CO1 Students will have an understanding of the basic concepts of economics in everyday life
CO2 Students will be able to get an idea of major economic issues

**5D 03ECO/DEV ECO KERALA ECONOMY**

CO1 Students will be able to understand the structural changes in Kerala Economy.
CO2 The course will provide the students a basic understanding about the developmental issues of Kerala Economy.

## BSc BOTANY PROGRAMME

**PROGRAMME SPECIFIC OUTCOMES (PSOs)**

**PSO1**: Skill development for the proper description using botanical terms, identification, naming and classification of life forms especially plants and microbes.
**PSO2**: Acquisition of knowledge on structure, life cycle and life processes that exist among plant and microbial diversity through certain model organism studies.
**PSO3**: Understanding of various interactions that exist among plants, animal and microbes; to develop the curiosity on the dynamicity of nature.
**PSO4**: Understanding of the major elements of variation that exist in the living world through comparative morphological and anatomical study.
**PSO5:** Ability to explain the diversity and evolution based on the empirical evidences in morphology, anatomy, embryology, physiology, biochemistry, molecular biology and life history.
**PSO6**: Skill development for the collection, preservation and recording of information after observation and analysis- from simple illustration to molecular database development.
**PSO7**: Making aware of the scientific and technological advancements- Information and Communication, Biotechnology and Molecular Biology for further learning and research.
**PSO8:** Internalisation of the concept of conservation and evolution through the channel of spirit of inquiry.

**COURSE OUTCOMES (COs)**

**IB01BOT/PLS CYTOLOGY AND ANGIOSPERM ANATOMY**

CO1 Knowledge on general terms with updated information used in cell biology.
CO2 Observation of variations that exist in internal structure of various parts of a plant and as well as among different plant groups in support for the evolutionary concept.
CO3 Skill development for the proper description of internal structure using botanical terms, their identification and further classification.
CO4 Induction of the enthusiasm on internal structure of locally available plants.
CO5 Understanding various levels of organization in a plant body with an outlook in the relationship between the structure and function through comparative studies.

## 2B02BOT/PLS REPRODUCTIVE BOTANY

CO1 Observation and classification of the floral variations from the premises of college and house.
CO2 Understanding the various reproductive methods sub-stages in the life cycle of plants
CO3 Observation and classification of the morphological variations in fruits and seeds of angiosperms.
CO4 Enthusiasm to understand evolution based on the variations in reproduction among plants.

## 3B03BOT/PLS PLANT DIVERSITY I- ALGAE AND BRYOPHYTES

CO1 Understanding diversity in morphology, anatomy, reproduction and life cycle in lower groups of plants, algae and bryophytes.
CO2 Skill Development in collection and preservation of algae and bryophytes.
CO3 Realizing the economic/ecological importance of Algae and Bryophytes.
CO4 Understanding the evolutionary lineages in algae and bryophytes

## 4B04BOT/PLS PLANT DIVERSITY II – PTERIDOPHYTES AND GYMNOSPERMS

CO1 A comparative knowledge of lower vascular plants and lower group of flowering plants.
CO2 Skill development for the proper description, identification and classification through morphological, anatomical and life cycle studies.
CO3 Awareness on the morphological, anatomical and reproductive features of primitive and advanced plants with an evolutionary link between them.
CO4 Skill development in collection preservation and studies in diversity studies of pteridophytes and gymnosperms.

## 4B05BOT/PLS CORE PRACTICAL 1

CO1 Learning the fundamental techniques used in a botany lab.
CO2 Understands the working of science by first-hand experience.
CO3 By comparing different plants and their vegetative and reproductive structures a generalization in evolutionary concept is attained.
CO4 Internalization of practical skills for further application in free, independent, individual needs and helps in designing scientific experimentation.

## 5B06BOT/PLS ANGIOSPERM SYSTEMATICS AND ETHNOBOTANY

CO1 Understanding the main features in Angiosperm evolution.
CO2 Skill development in identification and classification of flowering plants.
CO3 Ability to identify, classify and describe a plant in scientific terms, thereby.
CO4 Identification of plants using dichotomous keys.
CO5 Recognition of locally available angiosperm families and plants.
CO6 Recognition of economically important plants.
CO7 Appreciation of human activities in conservation of useful plants from the past to the present.

## 5B07BOT/PLS PLANT PHYSIOLOGY AND METABOLISM

CO1 Preliminary understanding of the basic functions in a plant body.
CO2 Awareness on the interdisciplinary nature of botany, chemistry and physics by studying the principles of plant life, growth and reproduction.
CO3 Recognizing the wonderful mechanism of transport and the Interrelationships existing between metabolic pathways thereby gaining and idea about the importance of plants in the dynamicity of nature.

CO4 Enhance research interest among students by introducing the historical aspects of physiological research

**5B08BOT/PLS MICROBIOLOGY, MYCOLOGY, LICHENOLOGY AND PHYTOPATHOLOGY**

CO1 Understanding and appreciating the unity and diversity of microbes and fungi,
CO2. Understanding the significance of microbes in nature's dynamicity.
CO3 Develop skill in studying the fungal diversity through the study of representative taxon and methodology.
CO4 Understanding the inter-relationship between plants and microbes both beneficial and harmful.
CO5 Skill development to diagnose plant disease and to apply general control measures.

**5B09BOT/PLS RESEARCH METHODOLOGY, INSTRUMENTATION AND BIOSTATISTICS**

CO1 Learning of the fundamental characteristics of science as a human enterprise, product and intellectual process
CO2 Understanding the working of science for further application in free, independent, individual needs and in designing scientific experimentation.
CO3 Appreciation of several scientific works and assessment of its influence on society.
CO4 Acquire knowledge on the principles, components and applications of various scientific equipment in biology.
CO5 Foundation knowledge in the basic concepts, components and functions of informatics.
CO6 Appreciate the importance of statistical principles in biological research.

**6B10BOT/PLS ENVIRONMENTAL SCIENCE AND PHYTOGEOGRAPHY**

CO1 Understanding the fundamental concepts in ecology, environmental science and phytogeography.
CO2 Concept development in conservation, global ecological crisis, Sustainable development and pros and cons of human intervention.
CO3 Enable the student to appreciate bio diversity and the importance of various conservation strategies, laws and regulatory authorities.
CO4 Recognition of the need for more research to create a baseline data for sustainable exploitation- Think globally and Act locally
CO5 Analyze the interrelationship between the geography and pattern of distribution of plants.
CO6 Appreciate key concepts from economic, political, and social analysis as pertained to the design and evaluation of environmental policies and institutions.
CO7 Appreciate the ethical, cross-cultural, and historical context of environmental issues and the links between human and natural systems.
CO8 Reflect critically about their roles and identities as citizens, consumers and environmental actors in a complex, interconnected world.

**6B11BOT/PLS GENETICS, MOLECULAR BIOLOGY AND PLANT BREEDING**

CO1 Identify the basic principles and current trends in classical genetics.
CO2 Recognize the historical process of the evolution of molecular genetics from classical genetics.
CO3 Review the relevance of the application of genetic principles in agriculture, medicine, research and industry.

CO4 Outlining the use of genetic principles for conservation, defining and better understanding of nature.
CO5 Develop theoretical background on molecular genetics to provide a strong support for the student for future research and employability.
CO6 Appreciate the way scientists work in understanding biological processes and the organization of cell.
CO7 Cite examples for scientific interventions to human and plant life through brief exposure to plant breeding principles.
CO8 Modify the concept on gender, human diseases and their management based on the study of genetic principles of human beings.

**6B12BOT/PLS BIOTECHNOLOGY AND BIOINFORMATICS**

CO1 Develop knowledge of the fundamental techniques of biotechnology and the history of its development.
CO2 Recognize theoretical knowledge on the equipment used in biotechnology which will give a support during future prospects.
CO3 Connect the genetic engineering principles in agriculture, medicine, research and industry for a better world.
CO4 Identify the significance of nanobiotechnology results for updated knowledge in that field.
CO5 Appreciate and criticize the information technology aided advancements in biology.
CO6 Develop awareness on the economic, social and environmental problems of gene manipulation.

**6B13BOT/PLS EVOLUTION AND PALAEOBOTANY**

CO1 Understand the basic principles and current trends in classical evolution.
CO2 Develop awareness on the historical process of plants and animals with an emphasis on human beings.
CO3 Relate the evolutionary principles with agriculture, medicine, research and industry.
CO4 Apply the principles of genetics and evolution in conservation, defining and better understanding of nature.

**6B14BOT/PLS CORE PRACTICAL II**

CO1 Learning the fundamental techniques used in a botany lab related to Mycology, Microbiology, Angiosperms systematics
CO2 Understands the working of science by first-hand experience.
CO3 Comparison skill is attained by comparing different plants and their vegetative and reproductive structures.
CO4 Inculcation of practical skills for further application in free, independent, individual needs and helps in designing scientific experimentation.

**6B16BOT/PLS CORE PRACTICAL III**

CO1 Learning the fundamental techniques used in a botany lab related to Modern biology, biology, Genetics, Bioinformatics and Instrumentation.
CO2 Understands the working of science by first-hand experience.
CO3 Internalization of practical skills for further application in free, independent, individual needs and helps in designing scientific experimentation.

**6B16BOT/PLS PROJECT/FIELD STUDY/VIVA VOCE**

CO1 Learning the fundamental techniques used in research

CO2 First-hand experience in doing science.
CO3 Development of the skill to communicate science.
CO4 Internalization of skills for further application in designing scientific experimentation.

## COMPLEMENTARY ELECTIVE COURSES

## IC01BOT MICROBIOLOGY, PHYCOLOGY, MYCOLOGY AND LICHENOLOGY

CO1 Understanding of the fundamental concepts in classification of plants.
CO2 Concept development in structure and reproduction of lower plants.
CO3 Enable the student to appreciate bio diversity, sustainable development with the help of their core subject and subsidiary subject botany.
CO4 Induce to experiment on the subject in an intensive way to facilitate an interdisciplinary profession/enterprise/entrepreneurship

## 2C02BOT PHYTOPATHOLOGY AND ANGIOSPERM EMBRYOLOGY

CO1 Understanding of the fundamental concepts in classification of Bryophytes, Pteridophytes, Gymnosperms.
CO2 Concept development in structure and reproduction of lower plants.
CO3 Enable the student to appreciate bio diversity, evolution and sustainable development with the help of their core subject and subsidiary subject botany.
CO4 Induce to experiment on the subject in an intensive way to facilitate an interdisciplinary profession/enterprise/entrepreneurship

## 3C03BOT ANGIOSPERM MORPHOLOGY, ANATOMY AND SYSTEMATICS

CO1 Understanding of the fundamental concepts in classification of Angiosperms.
CO2 Concept development in diversity that exist in angiosperms through studies in morphology, anatomy and systematic.
CO3 Enable the student to appreciate economic importance of plants belonging to the specified families.
CO4 Induce to experiment on the subject in an intensive way to facilitate an interdisciplinary profession/enterprise/entrepreneurship

## 4C04BOT PLANT PHYSIOLOGY, ECOLOGY AND APPLIED BOTANY

CO1 Understanding of the fundamental concepts in Physiology
CO2 Concept development in plant ecology.
CO3 Enable the student to appreciate bio diversity, sustainable development with the help of their core subject and subsidiary subject botany in hts biotechnology era.
CO4 Induce to experiment on the subject in an intensive way to facilitate an interdisciplinary profession/enterprise/entrepreneurship.

## 4C05BOT COMPLEMENTARY BOTANY PRACTICAL

CO1 Learning the fundamental techniques used in a botany lab.
CO2 First-hand experience in doing science.
CO3 Internalization of practical skills for further application in free, independent, individual needs and helps in designing scientific experimentation

## GENERIC ELECTIVE COURSES

## 5D01BOT - MUSHROOM CULTIVATION

CO1 Knowledge on fundamentals of selected courses- Mushroom cultivation, Botany for beginners, Plant Propagation, Medicinal plants and Plant diversity and human welfare.
CO2 Familiarity with basic concepts in botany/biology applicable to the respective interest of the student.
CO3 Ability to appreciate the advancements in the subject.
CO4 Ability to specialize in commercial plant cultivation and/or commercial utilization of the imparted knowledge.

**5D03BOT- PLANT PROPAGATION**

CO1 Knowledge on fundamentals of selected courses- Mushroom cultivation, Botany for beginners, Plant Propagation, Medicinal plants and Plant diversity and human welfare.
CO2 Familiarity with basic concepts in botany/biology applicable to the respective interest of the student.
CO3 Ability to appreciate the advancements in the subject.
CO4 Ability to specialize in commercial plant cultivation and/or commercial utilization of the imparted knowledge.

## BSc ZOOLOGY PROGRAMME

### PROGRAMME SPECIFIC OUTCOME (POs)

**PSO1:** Skill development for the proper identification, naming and classification of life forms especially animals.
**PSO2:** Acquisition of knowledge on structure, life cycle and life processes that exist among animal diversity through certain model organism studies.
**PSO3:** Understanding of various interactions that exist among plants animals and microbes; to develop the curiosity and love on the dynamicity of nature.
**PSO4:** Understanding of the major elements of variation that exist in the living world through comparative morphological and anatomical study.
**PSO5:** Ability to explain the diversity and evolution based on the empirical evidences in Morphology, Anatomy, Embryology, Physiology, Biochemistry, Molecular Biology and Life history.
**PSO6:** Skill development in the observation and study of nature, biological techniques and scientific investigation
**PSO7:** Making aware of the scientific and technological advancements in the fields of Information and Communication, Biotechnology and Molecular Biology for further learning and research.
**PSO8:** Internalization of the concept of conservation and evolution through the channel of spirit of inquiry.

### COURSE OUTCOMES (COs)

**1B01ZLG PROTISTA AND NONCHORDATA - I**

CO1 To understand the basic methods in zoology and animal classification.
CO2 Able to appreciate the process of evolution (unicellular cells to complex, multicellular organisms)
CO3 Familiar with the protist and non-chordate world (from Phylum Porifera to Mesozoa) that surrounds us.
CO4 Able to identify the invertebrates (from Phylum Porifera to Mesozoa) and classify them up to the class level with the basis of systematics

CO5 Understand the basis of life processes in the non-chordates (from Phylum Porifera to Mesozoa) and recognize the economically important invertebrate fauna.

**2B 02 ZLG NON-CHORDATA - 2**

CO1 Familiar with the non-chordate world (Coelomates - from Phylum Annelida to Hemichordata) that surrounds us.
CO2 Able to identify the invertebrates (Coelomates - from Phylum Annelida to Hemichordata) and classify them up to the class level with the basis of systematics
CO3 Understand the basis of life processes in the non-chordates (from Coelomates – from Phylum Annelida to Hemichordata) and recognize the economically important invertebrate fauna.

**3B03ZLG CHORDATA – I**

CO1 Understand the origin and evolutionary relationship in different subphyla of chordates.
CO2 To understand the diversity of chordates (from urochordates to reptiles).
CO3 Understand the unique characters of urochordates, cephalochordates and vertebrates
CO4 Recognize life functions of chordates (from urochordates to reptiles).

**4B 04 ZLG CHORDATA – II AND COMPARATIVE ANATOMY**

CO1 Understand the general and unique characteristics and classification of Aves and Mammals
CO2 Understand the diversity and relation in form and structure of chordates.

**5B05ZLG EVOLUTION, ETHOLOGY AND RESEARCH METHODOLOGY**

CO1 Realise that the whole living system has a common ancestry and so all are related
CO2 Realize the fundamental characteristics of science as a human enterprise
CO3 Apply scientific methods in day-to-day life
CO4 Able to design a research work on a topic

**5B06ZLG ANIMAL PHYSIOLOGY**

CO1 Understand the function of various systems at cellular and system levels
CO2 Understand the mechanisms that work to keep the body alive and functioning
CO3 Apply the knowledge to lead a healthy life

**5B07ZLG BIOCHEMISTRY AND BIOPHYSICS**

CO1 Understand the importance of Bio molecules
CO2 Familiar with various biochemical pathways
CO3 Develop knowledge about equipment like microscopes, spectrophotometers, centrifuges etc

**5B08ZLG GENETICS**

CO1. Comprehensive and detailed understanding of the chemical basis of heredity.
CO2. Understanding about the role of genetics in evolution.
CO3. The ability to evaluate conclusions that are based on genetic data.
CO4. The ability to understand results of genetic experimentation in animals.

**6B09ZLG CELL BIOLOGY, IMMUNOLOGY AND MICROBIOLOGY**

CO1. Structural and functional aspects of basic unit of life i.e. cell concepts
CO2. Gather basic concepts of Cell Biology along with various cellular functions
CO3. Understand the basic concepts of immunity
CO3. Understand the diversity of microbes and their use and harm

**6B 10 ZLG, MOLECULAR BIOLOGY & BIOINFORMATICS**

CO1. Understand the importance of Bio molecules
CO2.Familiar with various tools and applications of Bioinformatics

**6B 11 ZLG, ENVIRONMENTAL SCIENCE**

CO1. Able to describe the relation between abiotic and biotic factors.
CO2. Students are able to describe various biological interactions.
CO3. Students are able to understand how change in population affect the ecosystem

**6B 12 ZLG, DEVELOPMENTAL BIOLOGY**

CO 1 : Understand the major steps in embryological development.
CO 2: Understand the intricate mechanisms involved in the development of animals.

**COMPLEMENTARY COURSES**

**1C 01 ZLG DIVERSITY OF LIFE I, PROTISTANS & NON-CHORDATES**

CO1. Familiar with the non-chordate world that surrounds us.
CO2. Able to identify the invertebrates and classify them up to the class level with the basis of systematics
CO3. Understand the basis of life processes in the non-chordates and recognize the economically important invertebrate fauna.

**2C 02 ZLG DIVERSITY OF LIFE – II, CHORDATE FORM AND FUNCTION**

CO1: Understand the origin and evolutionary relationship in different subphyla of chordates.
CO2: Understand the diversity of chordates
CO3: Understand the unique characters of urochordates, cephalochordates and vertebrates
CO4: Recognize life functions of chordates

**3CO3ZLG ANIMAL PHYSIOLOGY**

CO1. Understand the function of various systems at cellular and system levels
CO2. Understand the mechanisms that work to keep the body alive and functioning
CO3. Apply the knowledge to lead a healthy life

**4C 04 ZLG, MEDICAL ZOOLOGY**

CO 1: Understanding of the various causative organisms and factors and also how and what preventive measures can be adopted against these.

**GENERIC ELECTIVE COURSES**

**5 D 02 ZLG APICULTURE**

CO1 Develop self-employment capabilities.
CO2 Acquires scientific knowledge of profitable farming.

## 5 D 03 ZLG SERICULTURE

CO1 Develop self-employment capabilities.
CO2 Acquires scientific knowledge of sericulture

# BA POLITICAL SCIENCE

## PROGRAMME SPECIFIC OUTCOMES (PSOs)

**PSO1.** To improve understanding of basic facts and concepts about political system, including philosophical, constitutional and legal foundations, policy making processes etc.
**PSO2.** To support students to acquire advanced knowledge of national and international politics. They will gain conceptual depth in the field of Political Science.
**PSO3.** To promote acquisition of citizenship skills and the ability to understand and appreciate human diversity; and to engage in community life as active citizens.
**PSO4.** To enable students to evaluate and analyze political processes and effectively apply theoretical and analytical skills to address significant issues in the political world by taking political and administrative responsibilities.

## COURSE OUTCOMES (COs)

### 1BO1POL PRINCIPLES OF POLITICAL SCIENCE

1 Provide students an overview of the nature of politics and government.
2 Enable the students to understand the function of institutional structures and how they drive individual and organizational behaviors.
3 Students will be able to work with the approaches and theories used by political scientists to understand political phenomena.
4 Students will be able to analyze current political situations.

### 2BO2POL POLITICAL THEORY

1 Enable the students to understand the theoretical foundations of the discipline by studying political theory in the classical and modern context.
2 While understanding the basic concepts of Law, Liberty, Equality, Justice, Rights, and duties students can develop a theoretical outlook in the political sphere
3 Develops the ability to apply abstract theory to concrete problems by using the ideas of political theorists to address contemporary social issues
4 Students will be able to identify the people who made substantial contributions to the study and/or practice of politics.

### 3BO3POL INTRODUCTION TO INDIAN CONSTITUTION

1 Should be able to understand the Political system of India.
2 Can comprehend the legal-formal nature of citizenship and the aspects of Fundamental Rights, Directive Principles and Fundamental Duties as envisaged by the constitution.
3 Should be able to discuss and explain the organisation and functions of the constitutional offices.
4 Helps to Understand the nature and functioning of constitution in post-Independent India.

### 3BO4POL ANCIENT AND MEDIEVAL POLITICAL THOUGHT

1 Enable students to identify the major streams and traditions of ancient political thought
2 Understand the philosophical and political roots of modern democratic institutions

3 Should be able to identify the role of ancient political thinkers in building up a modern political theory
4 Enables to analyse the historical and social developments leading to renaissance, secularism, and scientism

**4BO5POL STATE AND POLITICS IN INDIA**

1 Enable the students to understand and evaluate the sociological foundations of Indian state
2 Enable students to identify the development of nationalism in India
3 Should be able to recognize areas of tensions between union and states: their nature and implications.
4 Enables students to identify the nature of Indian state and to promote the cause of national harmony and integration

**4BO6 POL MODERN WESTERN POLITICAL THOUGHT**

1 Students can understand the philosophical radicalism and the scientific rationalism of the Modern period.
2 Able to discuss the possessive individualism of Hobbes, John Locke's state of Nature and Enlightenment ideas of Rousseau.
3 Should be able to recognize European school of political theory. Utilitarianism also helps to understand the necessity of legal and social reform.
4 Enables to identify various radical socialist schools and contemporary affluent stream of thoughts

**5BO7 POL RESEARCH METHODOLOGY IN POLITICAL SCIENCE**

1 Students will be able to identify various types of research in political science. The student will also inculcate the spirit of scientific enquiry and objective research
2 Student will accumulate knowledge on different types of variables, concept of hypotheses, sampling etc.
3 Can elaborate different types of tools and techniques used for data collection and to describe concept, purpose and uses of various tools and techniques in Political Science research.
4 Become aware of various components of research proposal and enable to prepare write up for research proposal.

**5BO8 POL COMPARATIVE GOVERNMENT AND POLITICS**

1 Student will be able to analyse the nature**,** scope, usefulness and relevance of comparative politics
2 Students come to know what is the comparative method and distinguish comparison as a method to acquire knowledge of social and political phenomena flourishing in various Political systems.
3 Enable students to identify cultural contexts of political systems and evaluate them
4 Acquire ability to define, explain, describe and to conclude about different political structures and processes in different political systems.

**5BO9 POL POLITICAL SOCIOLOGY**

1 Students should be able to define Political sociology, describe the nature, explain the scope, analyse approaches to political Sociology
2 Able to discuss the concept of power, legitimacy and authority and their intertwined relation with each other.

3 Should be able to recognize the meaning, nature and importance of Political culture and Political socialization as well as Political Modernisation and Development.
4 Enables to distinguish between social movements and new social movements and to identify Features of New Social Movements

**5B10 POL INTERNATIONAL POLITICS**

1 Enable to understand the meaning and changing nature of the study of International Politics.
2 Students will familiarize the major concepts used in the study of International relations
3 Develop capacity to evaluate the various dimensions of foreign policy .
4 Enable students to critically evaluate the current issues and problems of global politics.

**5B11 POL HUMAN RIGHTS**

1 Enable students to understand the historical growth of human rights
2 The course provides the student with the capacity to identify issues and problems relating to the realization of human rights
3 Students will be able to develop investigative and analytical skills in the field of human rights
4 Enable the students to promote human rights in the community

**6B12 POL STATE AND POLITICS IN KERALA**

1 The course develops comprehensive understanding about the economy, society and politics of Kerala
2 It enables students to explain the role of state in economic development.
3 It enables students to analyze and interpret political development in the state.
4 The course enable the students to understand new challenges faced by the society of Kerala and to respond to such challenges.

**6B13 POL INDIAN POLITICAL THOUGHT**

1 Students should be able to identify the major traditions of Indian political thought
2 Able to discuss the different strands of anti-colonial and nationalist thoughts in India. Also helps to narrate the main currents of political Thoughts in Modern India.
3 Should be able to acquaint with the broad contours of the socio-political reforms in the countries.
4 Internalize the great values of Indian tradition propagated by social reformers and political thinkers.

**6B14 POL PUBLIC ADMINISTRATION**

1 Enable students to identify the significance of public administration in modern society
2 Familiarize the concept of organization and the various components of organization
3 Should be able to recognize the meaning, nature and importance of financial administration. Also helps to identify the crucial components of financial administration.
4 Enables to understand the impact of globalization on Administration and changing nature of public service

**6B15POL INTERNATIONAL ORGANIZATION & REGIONAL ARRANGEMENTS**

1 Students will familiarize with the developments of international organization and its structure
2 Enable students to understand the pattern of new global order and to critically analyse the same

3 To understand the growing activity of state and non-state actors in the global and regional platforms
4 Empower the students with capacity to analyse the national and international developments

**6B16 POL PROJECT WORK**

CO1 To familiarize the students with methods and strategies of social science research and to instill in them a passion for research and analysis.

**COMPLEMENTARY ELECTIVE COURSES**

**1C01POL PRINCIPLES OF POLITICAL SCIENCE**

CO1 Provide to the students an overview of the nature of politics and government
CO2 Enable the students to understand the function of institutional structures and how they drive individual and organizational behaviors
CO3 Students will be able to work with the approaches and theories used by political scientists to understand political phenomena
CO4 Students will be able to analyze current political situations

**2C02POL INTRODUCTION TO INDIAN POLITICAL SYSTEM**

CO1 Students will have a thorough understanding of the structure and various provisions of the constitution
CO2 Enable students to understand the function of different constitutional bodies and institutions
CO3 Students will be able to evaluate the working of the political system
CO4 Empower the students with skills necessary for a good citizen in a democracy

**3C03POL FOUNDATIONS OF POLITICAL SCIENCE**

CO1 Provide to the students an overview of the nature of politics and government
CO2 Enable the students to understand the function of institutional structures and how they drive individual and organizational behaviors
CO3 Students will be able to work with the approaches and theories used by political scientists to understand political phenomena
CO4 Students will be able to analyze current political situations

**4C04POL-DYNAMICS OF INDIAN POLITICAL SYSTEM**

CO1 Students will have a thorough understanding of the structure and various provisions of the constitution
CO2 Enable students to understand the function of different constitutional bodies and institutions
CO3 Students will be able to evaluate the working of the political system
CO4 Empower the students with skills necessary for a good citizen in a democracy

**3C05 POL INTRODUCTION TO POLITICAL SCIENCE**

CO1 Provide to the students an overview of the nature of politics and government
CO2 Enable the students to understand the function of institutional structures and how they drive individual and organizational behaviors
CO3 Students will be able to work with the approaches and theories used by political scientists to understand political phenomena
CO4 Students will be able to analyze current political situations

**4C06 POL FOUNDATIONS OF INDIAN POLITICAL SYSTEM**

CO1 Students will have a thorough understanding of the structure and various provisions of the constitution
CO2 Enable students to understand the function of different constitutional bodies and institutions
CO3 Students will be able to evaluate the working of the political system
CO4 Empower the students with skills necessary for a good citizen in a democracy

**3C07POL ELEMENTS OF POLITICAL SCIENCE**

CO1 Provide to the students an overview of the nature of politics and government
CO2 Enable the students to understand the function of institutional structures and how they drive individual and organizational behaviors
CO3 Students will be able to work with the approaches and theories used by political scientists to understand political phenomena
CO4 Students will be able to analyze current political situations

**4C08POL INDIAN CONSTITUTION AND POLITICAL SYSTEM**

CO1 Students will have a thorough understanding of the structure and various provisions of the constitution
CO2 Enable students to understand the function of different constitutional bodies and institutions
CO3 Students will be able to evaluate the working of the political system
CO4 Empower the students with skills necessary for a good citizen in a democracy

**GENERIC ELECTIVE COURSES**

**5D 01 POL HUMAN RIGHTS IN INDIA**

CO1 Enable students to understand the historical growth of human rights
CO2 The course provides the student with the capacity to identify issues and problems relating to the realization of human rights, and strengthens the ability to contribute to the resolution of human rights issues and problems
CO3 Students will be able to develops investigative and analytical skills in the field of human rights
CO4 Enable the students to promote human rights through legal as well as non-legal means

**5D03 POL ELECTORAL POLITICS IN INDIA**

CO1 Acquire in depth knowledge of the electoral process and its various mechanisms
CO2 Enable students to critically evaluate the electoral politics in India
CO3 Empower students to understand the working of political parties and their role in India.
CO4 Students will be able to critically evaluate issues of Indian election and can develop solutions for the same

## BA HISTORY PROGRAMME

**PROGRAMME SPECIFIC OUTCOMES (PSOs)**

**PSO1**. Understand factual and conceptual aspects of historical changes in multiple areas of the world
**PSO2.** Think contextually and critically about the past to understand human experiences
**PSO3**. Analyze why and how historical events take place based on the verification of diverse evidences and arguments
**PSO4**. Design and write research papers based on primary and secondary sources

**PSO5.** Make logical oral presentation of factual and theoretical knowledge of historical events and changes
**PSO6.** Develop rational, humanitarian, democratic and secular outlook based on historical knowledge and contemporary societal, economic and political issues

## COURSE OUTCOMES (COs)

### 1B01 HIS HISTORY OF INDIA I: PRE-HISTORIC TIMES TO C.200 CE

CO1 Recognize important primary sources for the study of ancient Indian history
CO2 Identify early Indian settlements, centres of political and cultural importance
CO3 Demonstrate factual and theoretical knowledge of social, economic, cultural and political transformations in early India
CO4 Analyze and Explain the significance of different religious and philosophical trends in ancient India.

### 2B02 HIS CULTURAL TRANSFORMATIONS IN EUROPE

CO1 Recognize the geographic locations of Greek and Roman states and medieval towns
CO2 Understand the broad pattern of political and cultural changes in Europe before 1500 CE
CO3 Discuss cultural and intellectual legacies of Greek and Roman civilizations to Modern West
CO4 Evaluate cultural differences between ancient and medieval societies in Europe

### 3B03 HIS HISTORY OF INDIA II: POLITY, SOCIETY AND CULTURE (C.200-1206)

CO1 Understand factual knowledge of social and political formations
CO2 Locate major centres political and cultural importance in India
CO3 Explain theories of social formation and feudalism in Indian history
CO4 Analyze the intellectual and cultural legacy of ancient and early Medieval India

### 3B04 HIS HISTORY OF KERALA I: EARLIEST TIMES TO C. 1500 CE

CO1 Identify sources for the study of ancient and medieval Kerala history
CO2 Locate prehistoric and early historic settlements, ports, towns and political boundaries in Kerala
CO3 Describe social, economic, political and cultural formations of Kerala in ancient and medieval times
CO4 Produce well researched written work on any aspects of Kerala history using primary and secondary sources

### 4B05HIS HISTORY OF INDIA III: SULTANATE TO BRITISH CONQUEST (1206 - 1757)

CO1 Understand socio-political formations in Medieval India
CO2 Describe the evolution of Indo-Saracen art and architecture
CO3 Analyze and explain the formation of secular political values in India
CO4 Locate centres of cultural, political and commercial importance

### 4B06 HIS IDEOLOGIES AND REVOLUTIONS IN THE MODERN WORLD

CO1 Understand origin, stages and results of selected revolutions in the modern world
CO2 Analyze and explain different interpretations of world revolutions
CO3 Relate the results of modern world revolutions to contemporary developments in the world

CO4 Produce written work on ideological, humanistic and secular aspects of any of the modern world revolutions

**5B07 HIS HISTORY OF INDIA IV: COLONIAL TRANSFORMATIONS (1757-1885)**

CO1 Understand the concept of colonialism and its historiography in India
CO2 Discuss critically the impact of colonial policies in political, social, economic and cultural life of Indians
CO3 Assess the influence of social and religious reforms in the modernization of India
CO4 Analyze and explain how anti-colonial movements originated in the nineteenth century
CO5 Identify major centres of commerce and anti-colonial movements.

**5B08 HIS HISTORY OF INDIA V: MAKING OF THE NATION (1885-1947)**

CO1 Understand political, social and economic background of freedom struggle
CO2 Specify major stages of freedom struggle and their ideological distinctions
CO3 Analyze the role of nationalist movement in the making of modern India
CO4 Develop an attitude of nationalism cutting across limited boundaries of religion and caste in order to resist communal forces

**5B09 HIS HISTORY OF KERALA II: MAKING OF MODERN KERALA (1500 TO 1970)**

CO1 Understand factual knowledge of modern Kerala history
CO2 Explain political, social, cultural, religious and intellectual factors that led to the formation of modern Kerala
CO3 Analyze and discern the influence of caste and communal organizations in Kerala society and politics
CO4 Understand the significance of secular and egalitarian values and forces in the making of the cultural identity of Kerala.

**5B10 HIS METHOD AND WRITING OF HISTORY**

CO1 Distinguish between primary and secondary sources
CO2 Use historical and interdisciplinary methods of research and research tools
CO3 Analyze and synthesize historical data collected from different sources
CO4 Create reasonable arguments and interpretations with the support of documentary evidences
CO5 Write well researched article on any historical events and leaders.

**5B11 HIS HISTORIOGRAPHY: PERSPECTIVES & PRACTICES**

CO1 Understand basic terms, concepts and categories of historiography
CO2 Describe the origin and growth of history as a branch of knowledge from ancient times
CO3 Analyze and explain ideological and methodological foundations of historical writing in ancient, medieval and modern period in world history
CO4 Discuss the relevance of interdisciplinary research and objectivity in historical writings.

**6B12 HIS HISTORY OF INDIA VI: DEVELOPMENTS SINCE INDEPENDENCE (1947-2000)**

CO1 Understand political, economic and cultural changes after independence
CO2 Assess the role of India at global level as an active member in international organisations
CO3 Critically examine and explain the growth of communal forces in independent India
CO4 Analyse and discuss the condition of marginalised communities in independent India

## 6B13 HIS HISTORY OF THE CONTEMPORARY WORLD (1945 -2000)

CO1 Understand Major Political Issues and Events in The World Since World War II.
CO2 Analyze international problems in the context of diverse political interests and ideological movements
CO3 Interpret the present political issues in relation with pertinent international events in the twentieth century
CO4 Develop anti-colonial and anti-racist attitude and universal citizen concept.

## 6B14 HIS INDIAN HISTORIOGRAPHY

CO1 Understand the historical traditions and writings in Ancient and Medieval India
CO2 Demonstrate comprehensive understanding of the origin and growth of major schools of modern Indian historiography
CO3 Explain theoretical and methodological differences in historical writings
CO4 Develop a critical approach in assessing the work of a historian.

## 6B15 HIS PROJECT

CO1 Learn how to select a research topic and prepare research plan/proposal
CO2 Understand processes of data collection and research methods
CO3 Undertake critical analysis of data and make interpretations
CO4 Prepare a well written and authentic research work with proper references and select bibliography.

## DISCIPLINE SPECIFIC ELECTIVE

## 6B16 HIS-A GENDER AND SOCIETY IN INDIA

CO1 Understand basic concepts related to gender in Indian society
CO2 Explain central theoretical studies in gender studies
CO3 Assess and interpret why gender discriminations and oppressions take place in India
CO4 Develop an attitude and awareness to treat woman as equal human being and respect her rights

## 6B16 HIS-B ENVIRONMENTAL HISTORY OF INDIA

CO1 Understand the concept of environment and importance of environmental history
CO2 Explain human interactions with environment and depletion of natural resources
CO3 Assess the dynamic role of environmental movements in India
CO4 Develop an attitude and awareness to protect the natural environment of the country

## 6B16 HIS-C HISTORY OF CONTEMPORARY KERALA (1956-2000)

CO1 Understand political formations, educational progress and economic development of Kerala after 1956
CO2 Analyze and explain the concept of Kerala model development
CO3 Infer and interpret the nature and background of resistance movements
CO4 Critically examine impact of globalization on the people of Kerala.

## COMPLEMENTARY ELECTIVE COURSES

## 1C01HIS HISTORY OF ENGLAND I: EARLIEST TIMES TO C.1600 CE

CO1 Identify geographical features and early settlements
CO2 Understand the evolution of social and political life in England

CO3 Describe the origin and growth of English language and literature
CO4 Analyze and explain historical background of social and cultural transitions.

**2C02HIS HISTORY OF ENGLAND II: FROM 1600 TO 2000 CE**

CO1 Understand the growth of English literature in different stages
CO2 Explain the political and social history of modern England
CO3 Analyze how history of England and English literature are intertwined
CO4 Assess new features of new literary trends in English.

**3C03HIS TRANSFORMATIONS IN THE MODERN WORLD**

CO1 Understand political, economic and intellectual transformations in the modern world
CO2 Explain how modern European nation states established their colonial empires in the rest of the world
CO3 Analyze and describe the positive and negative effects of colonialism
CO4 Assess the role of anti-colonial movements in the making of democratic systems

**4C04HIS INTELLECTUAL HISTORY OF THE MODERN WORLD**

CO1 Demonstrate clear understanding of major intellectual traditions of the modern world
CO2 Explain conceptual and methodological challenges within intellectual history
CO3 Relate current intellectual trends to studies and researches in Social Sciences and Humanities
CO4 Elucidate logically how transnational intellectual contributions molded the political and cultural identity of the modern world

**1C05 HIS POLITICAL REVOLUTIONS IN THE MODERN WORLD**

CO1 Demonstrate clear understanding of major events in selected revolutions
CO2 Identify and explain the central principles of revolutions
CO3 Analyze and interpret major causes and impacts of revolutions
CO4 Relate the results of the revolutions to contemporary political systems.

**2C06 HIS HISTORY OF TWENTIETH CENTURY WORLD**

CO1 Understand major events and issues in twentieth century world
CO2 Analyze and explain how ideological and political differences divided the world
CO3 Relate present day political problems to pertinent historical context
CO4 Develop an analytical construct to discuss global political issues.

**1C07 HIS ECONOMIC HISTORY OF MODERN INDIA (1793-1947)**

CO1 Demonstrate comprehensive understanding of colonialism and economic changes that took place under colonial rule
CO2 Explain the nature of industrialization in India and how it acted as impetus to national movement
CO3 Analyze the impact of British colonialism on Indian economy
CO4 Develop a critical approach to discuss the exploitative nature of colonial and capitalist economic policies

**2C08 HIS INDIAN NATIONAL MOVEMENT**

CO1 To understand the background of Indian national movement
CO2 To create awareness on different stages and streams of Indian national Movement
CO3 To analyze the role of Indian National Movement in the making of modern India

CO4 To develop a sense of pride in India's past and to mold an ideal citizen
CO5 To develop a secular and national outlook among the students

**1C09 HIS/3C09 HIS TOURISM STUDIES: A HISTORICAL PERSPECTIVE**

CO1 Understand tourism within global historical, cultural and economic context
CO2 Show empathy and respect for multicultural expressions and perspectives
CO3 Evaluate and expose common implications of tourism practices
CO4 Develop an attitude to promote environment friendly tourism

**2C10 HIS/4C10 HIS HISTORY OF TOURISM DEVELOPMENT IN INDIA**

CO1 Understand tourism within the historical, cultural and economic context of India
CO2 Show empathy and respect for multicultural expressions and perspectives of India
CO3 Evaluate and expose common implications of tourism practices in the country
CO4 Prepare research projects on any aspect of tourism

**3C11 HIS CULTURAL HERITAGE OF KERALA**

CO1 Identify and locate cultural centers of Kerala
CO2 Describe the role of external contacts in the making of cultural fabric of the State
CO3 Analyze the influence of economic, religious and social contexts in cultural heritage
CO4 Develop an attitude to appreciate and respect cultural heritage

**4C12 HIS CULTURAL HERITAGE OF INDIA**

CO1 Identify and locate cultural centers of India
CO2 Understand the role of external factors in the making of the cultural fabric of India
CO3 Develop an attitude to appreciate and respect cultural diversity of India
CO4 Analyze the influence of religious ideas and practices in social life

**GENERIC ELECTIVE COURSE**

**5D01HIS SOCIAL REFORM MOVEMENTS IN KERALA**

CO1 Understand the role of Western education, missionary activities and indigenous reform movements in the making of modern Kerala
CO2 Evaluate the ideas, programmes and tactics of social reformers
CO3 Promote critical thinking about various social and religious issues in Kerala
CO4 Analyze and explain secular foundations of Kerala society

**5D02 HIS INDIA'S STRUGGLE FOR FREEDOM**

CO1 Demonstrate factual and theoretical knowledge of India's freedom struggle
CO2 Understand diverse perspectives of the leaders of freedom struggle
CO3 Analyze communal politics and its impact on Indian society
CO4 Interpret the role of national movement in the making of modern India

## BA HINDI PROGRAMME

**PROGRAMME SPECIFIC OUTCOMES (PSOs)**

PSO1 Development of language skills.
PSO2 Development of aesthetic perception.
PSO3 Development of functional nature of language.
PSO4 Developing the skill of linguistic analysis.
PSO5 Development of translation skill.

## COURSE OUTCOMES (COs)

**1BO1 HIN NATYASAHITHYA**

CO1 Analise Dramatical Elements in Literature.
CO2 Understand the distinct features of Hindi Drama.
CO3 Understand the difference between Drama and one act play.
CO4 Enrich the knowledge of Art of Drama.

**2BO2HIN HINDI SAHITHYA KA ITIHAS REETHIKAL THAK**

CO1 Trace the development of Ancient Hindi Literature from its beginning.
CO2 Demonstrate knowledge of Literary terms, major periods, authors genres and theories.
CO3 Apply critical thinking independent judgment, inter cultural sensitivity and regional, national and global perspectives to identify and solve problems in Ancient Hindi Literature.
CO4 Develop complex reading, writing and research skills.

**3BO3 HIN VYAKARAN**

CO1 Understand the correct usage of Hindi grammar in writing and speaking.
CO2 Understand the differences between spoken and written Hindi.
CO3 Understand the factors that influence use of grammar and vocabulary in speech and writing.
CO4 Understand the different ways in which grammar has been described.

**3 BO4 HIN HINDI SAHITHYA KA ITIHAS GADHYA**

CO1 Trace the development of modern Hindi Prose from its beginning to the present day.
CO2 Interpret the works of great literary personalities in the modern Hindi prose.
CO3 Demonstrate significant cultural and social issues presented in Modern Hindi prose.
CO4 Understand theoretical approaches to critical reading of literary texts.

**4 B05 HIN HINDI SAHITHYA KA ITIHAS PADYA**

CO1: Trace the development of modern Hindi literature poetry form its beginning to the present day.
CO2: Demonstrate knowledge of literary terms, major periods, authors, genres and theories.
CO3: Develop complex reading writing and research skills.
CO4: Demonstrate through discussion and writings an understanding of significant cultural and social issues presented in modern Hindi Literature poetry.

**4 B06 HIN HINDI BHASHA KA UDBHAV AUR VIKAS**

CO 1: Trace the process of beginning and growth of Hindi language.
CO2: Basic knowledge on the nature of language and place of language study in society.
CO3: Get integrated view about origin and development of script. CO4: Identifying the dialects of Hindi language family.

**5 B07 HIN ANCIENT AND MEDIEVAL HINDI POETRY**

CO1: Understanding the socio cultural background of Adikaleen Hindi poetry.
CO2: Understanding the socio cultural background of Madyakaleen Hindi poetry.
CO3: Analyse the poetries of all Pracheen poets.
CO4: Understanding the relevance of Pracheen and Madyakaleen poetry.

**5 B08 HIN ANUVAD SIDHANTH AUR PRAYOG**

CO1: Develop the art of translation.
CO2: Understand the importance of translation in present world with its various theories.
CO3: Understand the idea of basic principles in translation, issues faced by translators.
CO4: Understand the cultural aspects of translation.

**5 B09 HIN BHARATHEEYA SAHITHYA SASTRA**

CO 1: Understand the critical practices from the past to present.
CO2: Develop a critical perspective on the historical over view of Indian literary theory.
CO3: Understand these theories and its application
CO4: Analyse literary texts from different points of view.

**5 B10 HIN HINDI KATHA SAHITHYA**

CO1:Analyse variety of short stories in the cultural and historical context.
CO2: Analyse novel in the modern context.
CO3:Understand the story content and structure in depth.
CO4:Develop the skill of analytical reading of fiction.

**5 B11 HIN GADHYA KE VIVIDH AYAM**

CO 1: Understand about the modern prose forms
CO2: Understand the literariness of Hindi prose
CO3: Understand the values of life.
CO4: Develop skill of creative writing.

**6 B12 HIN BHASHA VIGYAN**

CO 1: Understand the history of general Linguistics.
CO2: Understand core areas of language analysis including its phonology, morphology, syntax and semantics.
CO3: Develop Linguistic competence and communicative skills.
CO4: Understand the nature of language and the place of language study in society.

**6 B13 HIN ADHUNIK EVAM SAMAKALEEN HINDIKAVITHA**

CO 1: Understanding the concepts of Romantic Hindi poetry.
CO2: Understanding the socio cultural background of modern Hindi poetry and the concept of modernity.
CO3: Understanding the literariness and the aesthetic aspect of contemporary Hindi poetry.
CO4: Developing critical and analytic approach to poetry

**6 B14 HIN HINDI SAHITHYALOCHANA**

CO 1: Understanding the development of Hindi criticism in the modern era.
CO2: Understanding the Romantic theory of Hindi criticism.
CO3: Understanding the theory of psycho analysis and Marxian theory of Hindi literature.
CO4: Demonstrating the contemporary Hindi criticism and critics.

**Course Title: 6 B15 HIN PASHCHATHYA SAHITHYA SASTRA**

CO 1: Understand the issues and questions raised by literary theorists.
CO2: Understand the terms and concepts employed in the discussion of literary theories.
CO3: Understand the history and evolution of western literary theory.
CO4: Develop the ability to apply different literary theories and interpretive approaches to the analysis and interpretation of specific literary works.

**Course Title: 6 B16 HIN PARIYOJANA KARYA**

CO 1: Demonstrate a depth of knowledge of Hindi Language and literature.
CO2: Demonstrate knowledge of contemporary issues in their chosen field of research.
CO3: Developing the research skill and language skill.
CO4: Demonstrate an ability to present and defend their research work to scholars.

**COMPLEMENTARY ELECTIVE COURSES**

**Course Title: 1C01HIN HINDI MEDIA LEKHAN**

CO 1: Understanding the history of Indian Cinema.
CO2: Develop script writing skill.
CO3: Understand about the different types of medias and its writing skill.
CO4: Develop skill in film criticism.

**Course Title: 2C02HIN HINDI JOURNALISM/ SANSKRIT**

CO 1: Understand the basic theory of journalism
CO2: Understand the history of journalism in Hindi.
CO3: Demonstrate the various newspapers in Hindi.
CO4: Develop writing skill in Hindi media

**Course Title: 3C03HIN CULTURAL HISTORY OF INDIA/SANSKRIT**

CO 1: Understand cultural set up in India.
CO2: To get a basic knowledge about Indian cultural diversity.
CO3: To know about Indian cultural civilizations.

CO4: To know about cultural renaissance of India.

**Course Title: 4C04HIN FUNCTIONAL HINDI**

CO 1: Understand the meaning concept and importance of functional Hindi.
CO2: Understanding various forms of functional Hindi and official language acts.
CO3: Understanding various forms of official letter drafting.
CO4: Develop official word knowledge

**BA FUNCTIONAL HINDI PROGRAMME**

**Programme Specific Outcomes**

PSO 1: Development of language skills.
PSO 2: Development of aesthetic perception.
PSO 3: Development of functional nature of language.
PSO 4: Developing the skill of linguistic analysis.
PSO 5 : Development of translation skill.

**COURSE OUTCOME**

**1BO1FHI- Hindi drama and one act play**

CO1 : Analyze Dramatical Elements in Literature.
CO2 : Understand the distinct features of Hindi Drama.
CO3 : Understand the difference between Drama and one act play.
CO4 : Enrich the knowledge of Art of Drama.

**2B02FHI- HINDI UPANYAS**

CO 1:Understanding the literariness of Hindi Novels
CO2:Understanding socio cultural background of Hindi Novels.
CO3:Developing the skill of creative analysis
CO4: Development of humanity

**3BO3FHI- UPAYOGI HINDI VYAKARAN**

CO 1 : Understand the correct usage of Hindi grammar in writing and speaking.
CO2 : Understand the differences between spoken and written Hindi.
CO3 : Understand the factors that influence use of grammar and vocabulary in speech and writing.
CO4 : Understand the different ways in which grammar has been described

**3B04FHI- HINDI SAHITHYA KA ITIHAS (RITHIKAL THAK**

CO1 : Trace the development of Ancient Hindi Literature from its beginning.
CO2 : Demonstrate knowledge of Literary terms , major periods, authors genres and theories.
CO3 : Apply critical thinking independent judgment, inter cultural sensitivity and regional, national and global perspectives to identify and solve problems in Ancient Hindi Literature.
CO4 : Develop complex reading, writing and research skills.

**4B05FHI- HINDI SAHITHYA KA ITIHAS GADYA**

CO 1 : Trace the development of modern Hindi Prose from its beginning to the present day.
CO2 :Interpret the works of great literary personalities in the modern hindi prose.
CO3 : Demonstrate significant cultural and social issues presented in Modern Hindi prose.
CO4 : Understand theoretical approaches to critical reading of literary texts.

**4B06FHI- PRAYOJAN MOOLAK HINDI**

CO 1: Understand the meaning concept and importance of functional hindi.
CO2: Understanding various forms of functional hindi.
CO3: Understanding official language policy.
CO4: Develop official word knowledge.

**5B07FHI- HINDI SAHITHYA KA ITIHAS –PADYA**

CO 1: Trace the development of modern Hindi literature poetry form its beginning to the present day.
CO2: Demonstrate knowledge of literary terms, major periods, authors, genres and theories.
CO3: Develop complex reading writing and research skills.

CO4: Demonstrate through discussion and writings an understanding of significant cultural and social issues presented in mo dern Hindi Literature poetry.

**5B08FHI- HINDI COMPUTING**

CO1: Develop computer literacy, their basic understanding of operative systems and working knowledge of software commonly used in academic and professional environments.
CO2 : Develop knowledge on Microsoft word, power point & excel
CO3: Develop practical knowledge about Hindi typing& PDF file etc.

**5B09FHI- ADHUNIK HINDI KAVITHA**

CO 1:Understanding the concepts of Romantic Hindi poetry.
CO2:Understanding the socio cultural background of modern hindi poetry and the concept of modernity.
CO3:Understanding the literariness and the aesthetic aspect of contemporary hindi poetry.
CO4:Developing critical and analytical approach to poetry.

**5B10FHI- BHARATHEEYA KAVYA SHASTRA**

CO 1: Understand the critical practices from the past to present.
CO2: Develop a critical perspective on the historical over view of Indian literary theory.
CO3: Understand the theory and its application
CO4: Analyze literary texts from different points of view

**5B11FHI- ANUVAD VIGYAN**

CO 1: develop the art of translation.
CO2: Understand the importance of translation in present world with its various theories.
CO3: Understand the idea of basic principles in translation, issues faced by translators.
CO4: Understand the cultural aspects of translation.

**6B12FHI- PASHCHATHYA KAVYA SHASTRA**

CO 1:Understand the issues and questions raised by literary theorists.
CO2:Understand the terms and concepts employed in the discussion of literary theories.
CO3:Understand the history and evolution of western literary theory.
CO4:Develop the ability to apply different literary theories and interpretive approaches to the analisis and interpretation of specific literary works.

**6B13FHI- BHASHA VIGYAN**

CO 1: Understand the history of general Linguistics.
CO2: Understand core areas of language analysis including its phonology, morphology, syntax and semantics.
CO3:Develop Linguistic competence and communicative skills.
CO4: Understand the nature of language and the place of language study in society.

**6B14FHI- HINDI BHASHA KI UTHPATHI AUR VIKAS**

CO 1: Trace the process of beginning and growth of Hindi language.
CO2: Basic knowledge on the nature of language and place of language study in society
CO3: Get integrated view about origin and development of script.
CO4: Identifying the dialects of Hindi language family.

**6B15FHI- SAMAKALEEN HINDI KAHANI**

CO 1: Understanding contemporary Hindi short stories.
CO2: Understanding the techniques ofcontemporary hindi short stories.
CO3 :Analyising contemporary short stories.
CO4: Demonstrate aesthetic aspects of short stories.

**6B16FHI- PARIYOJANA KARYA**

CO 1: Demonstrate a depth of knowledge of Hindi Language and literature.
CO2: Demonstrate knowledge of contemporary issues in their chosen field of research.
CO3: Developing the research skill and language skill.
CO4: Demonstrate an ability to present and defend their research work to scholars

**COMPLEMENTARY ELECTIVE COURSE :**

1C01FHI- – HINDI PATRAKARITHA

CO 1:Understand the basic theory of journalism CO2:Understand the history of journalism in Hindi. CO3:Demonstrate the various news papers in Hindi.. CO4: Develop writing skill in Hindi media.

**2C02FHI- HINDI MEDIA LEKHAN**

CO 1:Understanding the history of Indian Cinema. CO2:Develop script writing skill.
CO3:Understand about the different types of medias and its writing skill.
CO4: Develop skill in film criticism

**3C03FHI- - HINDI MEIM DAFTHARI KAMKAJ**

CO 1:Understand the meaning concept and importance of functional Hindi.
CO2:Understanding various forms of functional hindi and official language acts.
CO3:Understanding various forms of official letter drafting.
CO4:Develop official word knowledge

**4C04FHI- HINDI MEIM COMPUTER SHIKSHA**

CO 1: Understanding the development of computer.
CO2: Understanding the techniques of computer in hindi.
CO3: Demonstrate the use of computer in day today life.
CO4: Developing computer terminology in hindi.

**D 01FHI -DESKTOP PUBLISHING**

CO 1: Develop computer literacy, their basic understanding of operative systems and working knowledge of software commonly used in academic and professional environments.
CO2 : Develop knowledge on Microsoft word, power point & excel.
CO3: Develop practical knowledge about Hindi typing& PDF file etc.

**BA ENGLISH PROGRAMME**

**Programme Specific Outcome**

PSO 1. Understand the historical contexts behind the origin and development of English literature with a special focus on various movements and the important works belonging to such movements.
PSO 2. Understand the current methodological issues in the study of literature and apply the various reading strategies employed to selected literary as well as cultural texts.
PSO 3. Understand and apply the extended meaning of “English Literature” to various post-colonial and other writings in English.
PSO 4. Understand the basics of related disciplines like film studies, cultural studies, fine arts, women’s writing, post-colonial writing, Indian writing in English, Malayalam literature and literature in other Indian languages.
PSO 4. Understand and appreciate the interdisciplinary links that literary studies have with disciplines like philosophy, history, political science, sociology, anthropology and the sciences.

**COURSE OUTCOMES FOR COMMON COURSES**

**1A01ENG: Communicative English**

1. Understand and apply the rubrics of English grammar
2. Recognize and apply the basic patterns in English vocabulary
3. Read and elicit data, information, inferences and interpretations based on a given material in English
4. Develop the ability to speak in English in real life situations
5. Elicit necessary information after listening to an audio material in English
6. Compose academic and non-academic writings including letters, paragraphs and essays on a given topic and CV’s for specific purposes

**1A02ENG: Readings on Kerala**

1. Understand the basic facts and patterns regarding the cultural evolution of Kerala through articles, poems, stories, life writings and historical narratives.
2. Acquaint with the life and works of the illustrious leaders of Kerala Renaissance and the major events.
3. Assimilate the notion of Kerala as an emerging society and critically examine the

salient features of its evolution.
4. Understand the evolution and contemporary state of the concept of "gender" with reference to Kerala
5. Understand the form and content of Kerala's struggle against "casteism" and for "secularism"
6. Develop an awareness about the ecological problems and issues in Kerala

**2A03ENG: Readings on Life and Nature**

1. Understand the basic themes and issues related to ecology through articles, poems, stories, life writings and historical narratives.
2. Assume ecologically friendly attitudes in events related to everyday life.
3. Identify the specific ecological problems related to Kerala.
4. Identify the major ecological movements around the world and within the country.
5. Ability to express specific opinions when confronted with ecology/development binary.
6. Identify the major or minor ecological issues happening around the student's native place.

**2A04ENG: Readings on Gender**

1. Understand the basic themes and issues related to gender through articles, poems, stories, life writings and historical narratives.
2 Understand the basic topics related to gender studies.
3. Understand gender as a social construct and also as a site of struggle.
4. Critically engage with certain seminal topics that have become a part of gender studies.
5. Understand the basic gender issues faced by Kerala.
6. Appreciate and use gender sensitive and politically right terms and usages in everyday life.

**3A05ENG: Readings on Democracy and Secularism**

1. Understand the relationship between higher education and nation building.
2.Understand the basic Constitutional values and themes through articles, poems, stories, life writings and historical narratives.
3. Evolve a deeper understanding and appreciation of the meaning of the words sovereignty, socialism, secularism and democracy in the Indian context.
4. Appreciate the relationship between higher education and the Constitutional directives regarding "scientific temper" and "the spirit of enquiry".
5. Appreciate the prevalence of "human rights" as a prerequisite for democratic living.

**4A06ENG: Readings on Philosophy of Knowledge**

1. Understand the basic issues related to construction and acquisition of knowledge through articles, poems, stories, life writings and historical narratives.
2. Understand the relationship between higher education and nation building.
3. Evolve a deeper understanding of disciplines, multi-disciplinary approaches, interdisciplinary approaches and the various systems of knowledge.
4. Understand knowledge as a social construct and the dynamics of paradigm shifts.
5. Understand the epistemological and ontological factors within higher education.
6.Understand logical fallacies and apply critical thinking.

**COURSE OUTCOMEFOR ENGLISH CORE COURSES**

**1B01 ENG: Malayalam Literature in English Translation**

1. Understand the word 'literature' and 'literary' in a broad and inclusive perspective by reading select literary pieces and by applying critical reading strategies.
2. Recognise and describe literary genres and its subclasses.
3. Describe with examples select literary terms and concepts.
4. Understand the basic issues related to translation and in that process develop a sensibility for native and local literatures.
5. Use English to translate and describe everyday activities, regional themes and personal narratives by reading Malayalam literature in translation.
6. Learn to read, enjoy, analyse and critically engage with select literary pieces on their own with minimum guidance.

**2B02ENG: Academic Writing, Methodology and Research Project**

1. Understand and apply the nuances of academic writing.
2. Understand the various methodological as well as epistemological aspects of literary studies.
3. Familiarise with the approaches to literature.
4. Choose a tentative topic for the research project to be submitted in semester six.

**3B03 ENG: Old English to Medieval English Literature (500-1500)**

1. Have an understanding of the contexts which produced Old English literature.
2. Read translation extracts from key texts of the Old English period.
3. Understand the key aspects of Old English language.
4. Understand the key genres, authors, texts, styles and themes of the Medieval English Period.
5. Read excerpts from the variety of writings produced during this period.
6. Understand the key aspects of Medieval English dialects.

**3B04ENG: Renaissance and Restoration Literatures (1485-1780)**

1. Define Renaissance literature/ Problems of definition
2. Trace the relationship between political economy, cultural history and production of arts and literature during the early modern period
3. Read specimens of major works belonging to the Renaissance period.
4. Understand the problematics of "modernisation" of Britain including the development of political parties and parliamentary democracy through the cultural productions of Restoration period
5. Identify literary narratives that deal with slave trade and colonial aspirations.
6. Understand the development of literary criticism as a meta-narrative to literature.
7. Read specimens of major works belonging to the Restoration period.

**4B05ENG: The Romantic Period (1780-1832):**

1. Understand the cultural history of the period and recognise the features of literary romanticism.
2. Trace the relationship between political economy, cultural history and production of arts and literature with reference to the romantic period.
3. Read specimens of major works belonging to the period.

**4B06ENG: The Victorian Age (1832-1901):**

1. Understand a range of Victorian literature in relation to a range of contexts including Victorian anxieties about modernity, madness, sexual transgression and disease.
2. Analyze the work of a range of Victorian writers, both canonical and less wellknown, and with a range of genres including the novel, short story and poetry.
3. Identify and discuss theoretical discourses concerning class, sexuality, gender and colonialism as these illuminate a range of Victorian texts.
4. Understand and deploy a range of terms and concepts integral to Victorian literature.

**5B07ENG: The Early Twentieth Century ((1901-1939)**

1. Understand the cultural, political, and stylistic protocols of modernism and its various literary manifestations.
2. Trace the relationship between political economy, cultural history and production of arts and literature
3. Read specimens of major works belonging to the period.

**5B08ENG: The Late Twentieth and Twenty-First Centuries (1939- 2018)**

1. Understand the cultural, political, and stylistic protocols of post-modernism and the various literary movements
2. Understand and apply the basics of the various reading strategies that emerged during the period
3. Read specimens of major works belonging to the period.

**5B09ENG: Postcolonial Literatures in English**

1. Understand the cultural, political, and stylistic protocols of post-modernism and the various literary movements

2. Understand and apply the basics of the various reading strategies that emerged during the period
3. Read specimens of major works belonging to the period.

**5B10 ENG: Linguistics**

1. Learn the theories Regarding origin, development and history of Languages.
2 Learn the cardinal concepts related to Linguistics.
3. Understand the modern directions In Linguistic Studies.
4. Understand the basic concepts of Linguistics.
5. Understand the various Levels of Linguistic Analysis (Phonology, Morphology Etc.)
6. Apply Linguistics to Different areas of activities like ELT , Translation etc.

**6B11ENG: Project**

1. Learn and apply prescribed documentation styles and methodological formalities.
2. Understand and apply the mechanics of writing.
3. Critically engage with a literary theme or topic and generate ideas while gathering, evaluating and organising existing materials.
4. Understand the basic formalities regarding research in humanities.

**6B12ENG: Literary Theory**

1. Understand the basics of various theoretical positions in literary and culture studies.
2. Apply specific theoretical insights into the study of specific works of art as well as other cultural articulations.
3. Understand the ideological assumptions underlying common-sense notions and canon formation.

**6B13ENG: Women's Writing**

1. Understand women's writing as a specific genre.
2. Appreciate the variety in women's literature and the correlation between such variety and specific socio-political contexts.
3. Understand the various dialogic positions within women's writing

**6B14ENG: Indian Writing in English**

1. Understand Indian Writing in English as a specific genre based on certain common sociopolitical contexts
2. Understand the various dialogic positions within Indian Writing in English.
3. Read specimens of major works belonging to the genre of Indian Writing in English
4. Understand the regional diversities and thematic plurality of IWE

**6B15ENG: Film Studies**

1. Understand the major Movements, Genres and Masters in the history of Cinema and how cinema connects with history, politics, technology, psychology and performance.
2. Understand the nature of representation on screen and how class, race, caste, ethnicity and gender are represented.
3. Analyze and appreciate film as art form thorough close readings of films.

**5D01 (1)ENG: English for Competitive Examinations**

• To familiarise students with the language items required to take competitive examinations at various levels
• To acquaint the students with the basics of English grammar
• To enable the students to enrich their vocabulary
• To provide opportunities for the students to improve their listening and reading comprehension skills • To familiarise the students with the questions that are commonly asked in various interviews and to help them frame the desirable responses

## BCOM PROGRAMME

**Programme Specific Outcome**

1. Understand the concepts and techniques of Commerce and its application in business environment.
2. Conceive the ideas on entrepreneurship and develop the skill for setting up and management of business organizations
3. Develop skills and abilities to become competent and competitive in the business world.
4. Develop the competency to take wise decisions at personal and professional level.
5. Appraise the impact of other disciplines on the working business.

**Course Outcome**

**COURSE TITLE: CORE COURSE I MANAGEMENT CONCEPTS AND PRINCIPLES**

CO1:- Understand the evolution of management thoughts, concept of management, scope and its functions

.CO2:- Familiarize with current management practices.

CO3:- Understand the importance of ethics in business.

CO4:- Acquire knowledge and capability to develop ethical practices for effective management.

CO5:- Describe the emerging trends in management.

**COURSE TITLE: CORE COURSE II : FUNCTIONAL APPLICATIONS OF MANAGEMENT**

CO 1: Describe nature and scope of financial management and the elements in the management of finance

CO 2: Enumerate marketing management and its different aspects

CO 3: Explain Human Resources Management and the activities involved in it

CO 4: Understand the modern global marketing trends and its challenges

**COURSE TITLE: CORE COURSE III : ADVANCED ACCOUNTING**

CO 1. Understand the theoretical and practical knowledge of the basics of accounting.

CO 2. Acquire the knowledge of accounting for royalty, Consignment and Hire Purchase

CO 3. Imbibe the accounting concepts of Inland Branch Business.

CO 4. Comprehend the procedure for determining profit and financial position from incomplete records

**COURSE TITLE: CORE COURSE IV : FINANCE I – FINANCIAL MANAGEMENT**

CO 1: understand the concept, importance and techniques of capital budgeting.

CO 2: gain knowledge about sources and uses of working capital and significance of working capital management.

CO 3**:** explain optimum capital structure, theories of capital structure, distinguish between financial and operating leverage.

CO 4: describe the concept of cost of capital and compute the component cost of capital and weighted average cost of capital.

CO 5**:** differentiate the types of dividend, explain dividend policy and factors affecting dividend policy

**COURSE TITLE: CORE COURSE V : CORPORATE ACCOUNTING**

CO 1: Understand the mode of presentation and understanding of financial reporting .

CO 2: Learn the accounting procedure for recording transaction relating to the issue and redemption of shares and debentures.

CO 3: Imbibe the techniques of recording transactions in respect of amalgamation, reconstruction and liquidation of companies..

CO 4: Understand the concept of IFRS and Ind AS

**COURSE TITLE: CORE COURSE VI : FINANCE II – INVESTMENT MANAGEMENT**

CO 1: understand the concept of investment and risk

CO2: explain the different types of securities and their schemes

CO 3: develop a thorough knowledge about security market, its participants and factors affecting security market
CO 4: conduct fundamental and technical analysis of investments in the security market
CO 5: discuss the application of Portfolio Theory, process of portfolio management and measurement of portfolio performance.

**COURSE TITLE: CORE COURSE VI1: BUSINESS RESEARCH METHODOLOGY**

CO 1: Understand the fundamental aspects of research in business
CO2: identify and define research problem
CO 3: formulate research plan
CO 4: understand various methods of collecting data
CO 5: prepare research report themselves

**COURSE TITLE: CORE COURSE VIII : INCOME TAX LAW AND PRACTICE**

CO 1 Define the basic concepts in Income tax, explain its evolution
CO 2 Determine the residence and incidence of Tax
CO 3 Understand the incomes exempt from tax of an individual
CO 4 Compute income under different heads of income

**COURSE TITLE: CORE COURSE IX: COST ACCOUNTING**

CO 1: Explain the nature, scope, objectives and limitations of costing
CO 2: Identify the elements of cost and describe the methods of their ascertainment and control
CO 3: Explain the various methods of costing and their suitability for different industries
CO 4: Ascertain the cost of production of products and jobs

**COURSE TITLE: CORE COURSE X : BANKING PRINCIPLES AND OPERATIONS**

CO 1: Explain banking and describe the different types of banks and the functions of commercial bank
CO 2: Narrate the role of RBI in the credit control, promotion and regulation of monitory system
CO 3: Describe the relations ship between banker and customer and the procedure for opening and operating the account
CO 4 : Understand the modern trends and technology used in banking

**Course Title: CORE COURSE XI : FINANCE III – GOODS AND SERVICE TAX**

CO 1: understand the basic concept of GST.
CO 2: Explain how GST is levied and collected.
CO 3: describe IGST, its levy and collection
CO 4: femiliarise with the preparation of invoice and filing of return under GST

**Course title:CORE COURSE XII : FINANCIAL MARKETS AND SERVICES**

CO 1: understand the financial system and its constituents
CO2: familiarise with the activities taking place in the financial markets
CO 3: Appraise the various financial services available in the financial markets
CO 4: acquire knowledge about financial derivatives and their features

**Course Title: CORE COURSE XIII : MANAGEMENT ACCOUNTING**

CO 1. understand the fundamental concepts of management accounting.
CO 2. acquire analytical skills associated with the interpretation of accounting reports
CO 3. apply management accounting concepts in real life situations.
CO 4. develop judgmental skills associated with the use of accounting information in decision making.
CO 5. understand the use of marginal costing and budgetary control to plan and control cost and profit.

**Course Title: CORE COURSE XIV: AUDITING AND CORPORATE GOVERNANCE**

CO 1: understand the term auditing, its concept, principles, procedures and requirements needed for Auditing in accordance with current legal requirements and professional standards.

CO 2: familiarize with the various aspects of audit consisting of internal check, vouching, verification and valuation of assets and liabilities
CO 3: understand the appointment, rights, duties and the liabilities of an auditor.
CO 4: explain the concept of Corporate Governance and its aspects

**Course Title: CORE COURSE XV: INCOME TAX AND GST**

CO 1: Compute total income and determine the tax liability of an individual and partnership firm, company and cooperative society
CO 2: Describe the income tax authorities, their powers and assessment procedure
CO 3: Explain the procedure regarding deduction of tax at source, advance tax, refund, penalties and prosecution
CO 4: Describe Goods and Service Tax, its levy and collection

**Course Title: CORE COURSE XVI : FINANCE IV – CORPORATE TAX PLANNING**

CO 1: understand the concept of tax planning and determine the tax liability of companies
CO 2: understand the methods of reducing tax liability through proper tax planning
CO 3: take financial and managerial decisions after considering the impact of direct tax laws

**Course Title: CORE COURSE XVII: PROJECT**

**CO 1: understand the method of carrying out a project**
**CO2: undertake project work independently**

**Course Title: GENERAL AWARENESS COURSE I : BUSINESS STATISTICS AND BASIC NUMERICAL SKILLS**

CO 1: Define statistics and explain its importance, scope, applications and limitations
CO 2: Understand the basic knowledge of statistical techniques, which are applicable to business.
CO 3: understand basic concepts in mathematics, which are applied in the managerial decision making.
CO 4: Develop the basic mathematical skill needed for analyzing numeric problems related to business

**Course Title: GENERAL AWARENESS COURSE II : ENTREPRENEURSHIP DEVELOPMENT**

CO 1**:** Identify the characteristics of an entrepreneur
CO 2: describe the importance of entrepreneurs in the economic developmet of a nation
CO 3: identify the different types of entrepreneurs
CO 4: to strengthen their skill and quality as an entrepreneur

**Course Title: GENERAL AWARENESS COURSE III : GENERAL INFORMATICS SKILLS**

CO 1: Explain the Fundamentals of Computers the use of computers in day to day application
CO 2: Up to date and expand the basic informatics skills necessary in the emerging knowledge society
CO 3: Effectively utilize the digital knowledge resources for their studies
CO 4: State the areas where IT can be used effectively
CO 5: Perform accounting by using the appropriate accounting packages

**Course Title: GENERAL AWARENESS COURSE IV : ENVIRONMENTAL STUDIES AND DISASTER MANAGEMENT**

CO 1: Understand the components of environment and need for the protection of environment
CO 2: Understand the effect of pollution on environment and the ways of protecting the environment
CO 3: Explain the social issues relating to environmental pollution
CO 4: Clearly understand the various environmental hazards and the ways of managing disaster.

**Course Title: COMPLEMENTARY COURSE I: QUANTITATIVE TECHNIQUE FOR BUSINESS DECISIONS**

CO 1:- Acquaint with the basic statistical tools, which can be applied in business and economic situations.
CO 2:- Develop knowledge in quantitative techniques, which help in tackling various problems for modern business.
CO 3:- Understand and solve problems in probability, correlation and regression.
CO 4:- Understand the effect of trend and seasonal variations on business.
CO 5:- Familiarize with the testing of hypothesis.

**Course Title: COMPLEMENTARY COURSE II: BUSINESS REGULATORY FRAMEWORK**

CO 1: Understand the nature of contracts and the essential elements of a valid contract
CO 2: Explain the difference between a valid contract and a void contract
CO 3: Understand the breach of contract and remedies available for a breach of contract
CO 4: Understand various kinds of special contracts like indemnity, guarantee, bailment and agency contract

**Course Title: COMPLEMENTARY COURSE III: BUSINESS ECONOMICS**

CO 1**:** Understand the concept of economics and its use in business
CO 2: Understand the concept of demand, elasticity and demand forecasting
CO 3: Understand production function and law of production
CO 4: Understand the methods of determining price of a product
CO 5: Explain the methods of computing national income.
CO 6: Conceive the developmental issues of Indian economy and Kerala economy

**Course Title: COMPLEMENTARY COURSE IV: CORPORATE LAW AND BUSINESS REGULATIONS**

CO 1: Understand the provisions of Companies Act 2013
CO2: Describe the procedure for the formation, registration and winding up of the company
CO 3: Explain various kinds of companies and the authorities of companies in India
CO 4: Understand the management and administration of Companies

**Course Title: GENERIC ELECTIVE COURSE I: BASIC ACCOUNTING**

CO 1: describe the basic accounting concepts
CO 2: record the business transactions in the proper books of accounts
CO 3: prepare financial statements of a sole trading concern

**BBA PROGRAMME**

**Programme Specific Outcomes**

**PSO1:** To enable students to understand the general principles and practices of Management and familiarize the students with the current management practices.
**PSO2:** To analyze business priorities in the changing economic and environmental conditions.
**PSO3:** To acquaint the students with the basic theories of entrepreneurship
**PSO4:** To give an overview of the ethical aspects of business and corporate social responsibility
**PSO5:** To enable the students for acquiring basic knowledge in business research methods and to develop basic skills in them to conduct survey research and case studies
 **PSO6:** To enlighten the students on International Business Environment for studying the impact of globalization on Indian Industry.
 **PSO7:** To provide the students an understanding about the managerial use of data for planning, control and decision making

# COURSE OUTCOMES

1B01BBA-PRINCIPLES AND PRACTICES OF MANAGEMENT

CO 1: Acquaint with the basics of management.

CO2: Understand the process and functions of management.

CO3: Familiarize the students with the current management practices.

CO4: Develops administrative skills

2B02BBA-BUSINESS ENVIRONMENT

CO1: Acquire in-depth knowledge about different environment in business climate.

CO2: Understand the minor and major factors affecting the business in various streams

CO3: Familiarize the role of socio-cultural factors on development of economy and business.

CO4: Develop good business policies.

2B03BBA-ENTREPRENEURSHIP DEVELOPMENT

CO 1: Understand different stages of business and create innovative thinkers to take forward new initiatives.

CO2: Acquaint them with the challenges faced by the entrepreneur

CO3: Familiarize the students the entrepreneurship opportunities available in the society.

CO4: Develop the motivation to enhance entrepreneurial competency

3B04BBA-FINANCIAL ACCOUNTING

CO1: Understands accounting concepts and principles

CO2: Apply knowledge regarding concepts in the preparation of final accounts of sole traders

CO3: Understands the basic concepts of company, shares and share capital

CO4: Demonstrates skills in preparation of final accounts of companies

3B05BBA-MARKETING MANAGEMENT

CO 1.Develop knowledge on the concept modern marketing, marketing environment, marketing mix, market segmentation and target marketing.

CO 2. Enhance knowledge on product decision, product mix, product life cycle, pricing strategies and price discrimination

CO 3. Apply the concept of market promotion, market promotion mix and sales promotion techniques in real business situations.

CO 4. Understand the new market realities, direct marketing, online marketing and customer relationship marketing.

CO 5. Identify the key characteristics of customer relationship marketing and common draw back.

CO 6. Develop idea on branding and strategies of branding

CO 7. Acquire skill in preparing advertisement copy very effectively

4B06BBA-HUMAN RESOURCE MANAGEMENT

CO1: Understand basic concept and principles of Human Resource Management.

CO2: sensitize to the training process and methods.

CO3: equip with the importance of the performance management system in enhancing employee performance.

CO4: equip with the importance of the performance management system in enhancing employee performance.

4B07BBA-FINANCIAL MANAGEMENT

CO 1. Understand the concept and objective of financial management

CO 2. Develop the ability to select the feasible and viable investment proposal

CO 3. Apply decision making tools in organisational context

CO 4. Ability to assess the risk and return of investment projects

4B08BBA-OPERATIONS MANAGEMENT

CO 1: Understand the transformation system.

CO2: Identify the components involved in designing effective operations system.

CO3: Understand the meaning and importance of managing quality.

CO4: Understand the meaning and importance of productivity and ways to improve productivity.

CO5: Understand the decisions and process of operations management in business firms.

4B09BBA-INDUSTRIAL VISIT AND REPORT

CO 1: acquire hands on experience of how industry operations are executed

CO2: analyses real life environment of business

CO3: enhance interpersonal skills and communication techniques.

CO4: acquire practical knowledge of industry practices and regulations

5B10BBA-BUSINESS RESEARCH METHODS

CO 1. Acquire basic concepts of research and its types

CO 2. Gain insight and acquire the ability to apply different research designs

CO 3. Acquire skill of data processing in terms of tabulation and classification.

CO4. Generate the ability to write research reports based on approved formats.

5B11BBA-ACCOUNTING FOR MANAGEMENT

CO 1. Understand the concepts of cost and management accounting

CO 2. Prepare cost sheet and budgets of an organisation

CO 3. Analyse financial statements of corporate organisations using accounting ratios

CO4. Apply the concepts of marginal costing and standard costing in decision making

ELECTIVE COURSE I-5B12BBA-CONSUMER BEHAVIOUR

CO 1: Understand the relevance of consumer behaviour theories and concepts to marketing decisions.

CO2: Use appropriate techniques to apply market solutions.

CO3: Acquire social and ethical implications of marketing actions on consumer behaviour CO4:Formulate marketing strategies that

ELECTIVE COURSE II- 5B13BBA-ADVERTISING AND BRAND MANAGEMENT

CO 1:Understand the fundamental theories, concepts, and frameworks in advertising and brand management CO2: Apply advertising and branding techniques in different situations CO3: Understanding ethical challenges related to responsible management advertising and brand strategy CO4 :Acquires skill in media planning and scheduling

6B14BBA-ORGANISATIONAL BEHAVIOUR

CO1.Understand concepts, theories and techniques in the field of human behaviour at individual, group and organization level.

CO 2. Understand personality determinants within personal and organizational context.

CO3. Understand concepts of learning and motivation and its context in organizational setting.

CO4. Identify the role and relevance of group dynamics in organizational management.

6B15BBA-BANKING THEORY AND PRACTICE

CO1. Acquire knowledge about basics of banking

CO2. Understands the law and practices of banking

CO3. Understands the various banking terminologies

CO4. Acquire knowledge of modern banking practices

6B16BBA-PROJECT REPORT AND VIVA VOCE

CO1: Analyses real life situations

CO2: Acquires group dynamic skills by group involvement

CO3: Develops solutions or inferences on the problem of study

CO4: Sythesis facts in the form of report

ELECTIVE COURSE III- 6B17BBA- LOGISTICS MANAGEMENT

CO1:Understand the structure of supply chains and the different ways through which supply chains can become competitive in the market .

CO2:Explain how to use the levers of the logistics strategy to redefine the points necessary to make this harmonization.

CO3: Analyse the importance of the term “value creation” and to propose actions in the field of management of logistics costs towards the creation of value.

CO4: Distinguish the forces shaping international logistics in a global market.

CO5: Assess accurately the risks occurred due to loss of focus on the satisfaction of endcustomer demand

ELECTIVE COURSE IV- 6B18BBA- RETAIL MANAGEMENT

CO 1:Understand basic marketing theories, principles, practices and terminology related to each functional area of business.

CO2:Identify the ways that retailers use marketing tools and techniques to interact with their customers and perform basic functions appropriate to each functional area of business.

CO3:Analyse the contribution of retailers to the product value chain; consumer motivations, shopping behaviours, and decision processes for evaluating retail Offering and purchasing merchandise and services; corporate objectives, competitor analysis, and competitive strategy.

CO4: Understand how retailers differentiate their offering as an element in their corporate strategy and factors affecting strategic decisions involving investments in locations, supply chain and Information systems, and customer retention program.

**COMPLEMENTARY ELECTIVE COURSE I**

1C01BBA-STATISTICS FOR BUSINESS DECISIONS

CO1: Understand the importance and relevance of statistics, primary data, secondary data and the statistical technique as applicable to business

CO2: Classify, tabulate and represent the statistical data in appropriate manner using statistical methods

CO3: Analysis trend and seasonality in a time series data

CO4: Construct index numbers and enable to compare the price movements of commodities over different time periods.

CO5: Identify the correlation between variables

C06: Problem solving and fit the regression line which enable to draw conclusion about data distribution.

1C02BBA-MANAGERIAL ECONOMICS

CO1.Understand basic managerial economic concepts CO2.Understands economics and related disciplines and relationships

CO3. Apply economic analysis in the formulation of business policies

CO4.Use economic reasoning to problems of business

2C03BBA-QUANTITATIVE TECHNIQUES FOR BUSINESS DECISIONS

CO1. Understands concepts of quantitative techniques

CO2. Develops analytical thinking and logical reasoning for effective decision making

CO3. Apply probability theories in real life situations

CO4. Understands theoretical distributions and hypothesis testing and its applications in live situations

3C04BBA-LEGAL ASPECTS OF BUSINESS

CO 1. Understand the conditions and rules that are applicable to a contract and the importance of law in business.

CO 2. Identify the important and relevant documents needed for registering Indian companies.

CO 3. Awareness about the latest amendments in the Indian Companies Act

CO 4. Develop knowledge on the Sale of Goods Act, GST, the application of CGST, SGCT and its challenges and opportunities.

CO 5. Apply the knowledge on consumer protection Act, rights of consumer and dispute redressal agencies in real life situations.

**ABILITY ENHANCEMENT COURSE**

3A12BBA-PERSONALITY DEVELOPMENT AND COMMUNICATION SKILLS

CO 1: Understand the 'self' through analysis of one's own strengths, weaknesses, opportunities and threats to face the challenging and competitive world.

CO2: Set new goals specific, measurable, achievable, realisable and time-bounded to reshape the personality and identify the shortcomings to be corrected.

CO3: Develop inter personal skills and problem solving skills.

CO4: Understand the role of body language in effective communication.

CO5: Critically evaluate the need for stress management and experience the essence of different techniques in reducing stress.

CO6: Perform effectively the assigned work to the fullest satisfaction; with utmost concentration and self motivation to achieve success in near future.

4A14BBA-ENVIRONMENTAL STUDIES

CO1.Acquire knowledge about environment and enable to contribute towards maintaining and improving the quality of the environment.

CO2. Understand the importance of protecting the environment and effect of environmental hazards

CO3. Analysis the ecosystem and the bio diversity nature of our country

CO4. Apply the awareness to point our Hot -spot of bio diversity in India and its conservation

CO5.Identify the effect of environmental Degradation and the role of Government in protecting the environment

CO6. Formulate some action plan to engage in activities for preventing environmental degradation

**SKILL ENHANCEMENT COURSE**

3A11BBA-NUMERICAL SKILLS

CO 1. Understand common numerical methods

CO 2.Apply numerical methods to obtain approximate solutions to mathematical problems

CO 3. Analyses and evaluate the accuracy of common numerical methods

CO 4. Derive numerical methods for various mathematical operations and tasks

4A13BBA-IT TOOLS FOR BUSINESS

CO 1: Understand the working on word, PowerPoint, Excel etc.

CO2: Develop basic computer awareness for letter drafting, Slide making, Payroll preparation

CO3: Understand the various shortcuts for faster functioning on the computer system

**GENERAL ELECTIVE COURSE**

5D03BBA: Electronic Commerce

CO1: Familiarize the basic concepts and methods of e-commerce

CO2: Understand how e-commerce affect today's business world

CO3: Identify the precautionary measures to be followed while entering in online transactions.

CO4: Analyze factors influencing the success of e-commerce.

5D04BBA: Event Management

CO1: Understand the concept and significance of event management.

CO2: Familiarize the techniques to improve event finance, sponsorship and cost control.

CO3: Practice preparing time limits for event.

CO4: Develops skill for conducting an event

# BA MALAYALAM PROGRAMME

## PROGRAMME SPECIFIC OUTCOME (PSOs)

**PSO 1:** മാതൃഭാഷയോടും സംസ്കാരത്തോടുമുള്ള അഭിരുചി വികസിപ്പിക്കത്തക്ക രീതിയിൽ സാഹിത്യപഠനത്തെ പ്രയോജനപ്പെടുത്തുന്നു.

**PSO 2:** മലയാളത്തിലെ വിവിധ സഹിത്യജനുസ്സുകളെ ആസ്വദിക്കുകയും അവയുടെ ചരിത്രപരമായ വികാസപരിണാമത്തെ തിരിച്ചറിയുകയും ചെയ്യുന്നു.

**PSO 3:** സൈദ്ധാന്തികവും ലാവണ്യാത്മകവുമായ ജ്ഞാനമേഖലകളെ പരിചയപ്പെടുകയും സാഹിത്യാസ്വാദനത്തിനും വിമർശനാത്മകവിശകലനത്തിനും പ്രയോജനപ്പെടുത്തുകയും ചെയ്യുന്നു. സർഗ്ഗാത്മകരചന നടത്താനുള്ള പ്രേരണ രൂപപ്പെടുത്തുന്നു.

**PSO 4:** വ്യാകരണപരവും ഭാഷാശാസ്ത്രപരവുമായ അവബോധം രൂപപ്പെടുത്തുകയും പ്രയോഗപരവും ആശയവിനിമയപരവുമായ കഴിവുകൾ വികസിപ്പിക്കുകയും ചെയ്യുന്നു.

**PSO 5:** വിവരസാങ്കേതികവിദ്യയും, മാധ്യമങ്ങളും മലയാളഭാഷയും തമ്മിലുള്ള വിനിമയ സാധ്യതകൾ പഠിക്കുകയും പ്രയോഗിക്കുകയും ചെയ്യുന്നു.

**PSO 6:** വടക്കേ മലബാറിന്റെ സാംസ്കാരികസവിശേഷതകളെ അടുത്തറിയാനും സവിശേഷമായി പഠിക്കാനും പൂർവ്വധാരണകളെ പുനർനിർമ്മിക്കാനും ഉള്ള ശേഷി നേടുന്നു. കേരളചരിത്രം, സംസ്കാരം, നാടോടിവിജ്ഞാനം എന്നിവയിൽ സവിശേഷജ്ഞാനം ആർജ്ജിക്കുന്നു.

**PSO 7:** സംസ്കാരപഠനത്തിന്റെ രീതിശാസ്ത്രത്തെ ഉപയോഗപ്പെടുത്തി സാഹിത്യപഠനം നിർവ്വചിക്കുകയും ഗവേഷണാഭിരുചി രൂപപ്പെടുത്തുകയും ചെയ്യുന്നു.

**PSO 8:** കേരളത്തിലെ അരികുവൽകൃത സ്വത്വങ്ങളെ തിരിച്ചറിയുകയും പ്രത്യയശാസ്ത്ര വിശകലനം നടത്തുകയും ചെയ്യുന്നു.

**PSO 9:**പഠനയാത്രകളിലൂടെ കേരളത്തിന്റെ സാംസ്കാരികമുദ്രകളെ നേരിട്ട് പരിചയപ്പെടുന്നു.

## COURSE OUTCOMES (COs)

### COMMON COURSES

### 1A07MAL KADHA MATHRAKAKAL

CO1. ചെറുകഥ, നോവൽ എന്നീ സാഹിത്യരൂപങ്ങളെ സാമാന്യമായി പരിചയപ്പെടുക, വായനാഭിരുചിയും ആസ്വാദനശേഷിയും വളർത്തിയെടുക്കുക.

CO2. ചെറുകഥയുടെയും നോവലിന്റെയും ഉദയവികാസങ്ങളെക്കുറിച്ചുള്ള അവബോധമുണ്ടാക്കുക.

CO3. ഘടന, പ്രമേയം, ആഖ്യാനം തുടങ്ങിയവ വിലയിരുത്തുകയും രചനകളുടെ രാഷ്ട്രീയം അപഗ്രഥിക്കുകയും ചെയ്യുക.

CO4. ജീവിതാവസ്ഥകളുടെ സങ്കീർണ്ണതകളും അനുഭൂതികളും ബോധ്യപ്പെടുത്തുകയും വിദ്യാർത്ഥികൾക്ക് മൗലികരചനകൾ നടത്തുന്നതിന് വഴിയൊരുക്കുകയും ചെയ്യുക.

**2A08MAL KAVITHA MATHRAKAKAL**

CO1. ജീവിതാവസ്ഥകൾ, സങ്കീർണ്ണതകൾ, അനുഭൂതികൾ എന്നിവ ആവിഷ്ക്കരിക്കുന്ന ഭാഷയുടെ സാന്ദ്രീകൃത രൂപമായ കവിത എന്ന സാഹിത്യരൂപത്തെ സാമാന്യമായി പരിചയപ്പെടുകയും കാവ്യാസ്വാദനശേഷി രൂപപ്പെടുത്തിയെടുക്കുകയും ചെയ്യുക.

CO2. മലയാളകവിതയുടെ വളർച്ചയിലും വികാസത്തിലും നിർണ്ണായക സ്വാധീനം ചെലുത്തിയ കവികളെയും കാവ്യമാതൃകകളെയും കുറിച്ച് അവബോധമുണ്ടാക്കുക.

CO3. പ്രാചീനം, മധ്യകാലം, നവോത്ഥാനം, ആധുനികം , ആധുനികാനന്തരം എന്നീ കാലഘട്ടങ്ങളിൽ മലയാളകവിതയിലുണ്ടായ രൂപ-ഭാവ പരിണതികളെ പരിചയപ്പെടുക.

CO4. ഭാഷയുടെ സവിശേഷപ്രയോഗത്തിലൂടെ കവിത സാധ്യമാക്കുന്ന സാമൂഹ്യ സാംസ്കാരിക പരിതോവസ്ഥകളുടെ ആവിഷ്ക്കരണവും അവയുടെ രാഷ്ട്രീയവും തിരിച്ചറിഞ്ഞ് നിരൂപണ ബുദ്ധ്യാ വിലയിരുത്താനുള്ള പരിശീലനം നൽകുക.

**3A09MAL GADHYASAHITHYAM**

CO1. ആത്മകഥ/ സ്മരണ, ജീവചരിത്രം/കേട്ടെഴുത്ത്, സഞ്ചാരസാഹിത്യം, നിരൂപണം തുടങ്ങിയ ഗദ്യരൂപങ്ങളുടെ ഉദ്ഭവം,വളർച്ച,പരിണാമവഴികൾ എന്നിവയെ പറ്റി സാമാന്യാവബോധമുണ്ടാക്കുക

CO2.ഗദ്യസാഹിത്യകൃതികൾവായിക്കുന്നതിനും നിരൂപണ മനോഭാവത്തോടെ ആസ്വദിക്കുന്നതിനും പ്രേരിപ്പിക്കുക.

CO3. ഗൗരവപൂർണ്ണമായ ഒരു സിനിമാസ്വാദനസംസ്കാരം വളർത്തിയെടുക്കുക,

CO4. വിവിധങ്ങളായ ഗദ്യരചനാ ശൈലികൾ പരിചയപ്പെടുക.

CO5. ഗദ്യഭാഷയുടെ പ്രയോഗശേഷി വികസിപ്പിക്കുക.

**4A10MAL DRISHYAKALASAHITHYAM**

CO1. കേരളത്തിന്റെ തനതായ ദൃശ്യകലാപാരമ്പര്യങ്ങളെക്കുറിച്ചും സമ്പന്നതയെക്കുറിച്ചും വിദ്യാർത്ഥികൾക്ക് അിറവ് പകരുക

CO2. കഥകളി, തുള്ളൽ, നാടകം, സിനിമ പോലുള്ള ദൃശ്യകലകളെയും അവയ്ക്കാധാരമായ സാഹിത്യപാഠങ്ങളെയും പരിചയപ്പെടുത്തുക.

CO3. കലാപരവും സാഹിത്യപരവുമായ പുതിയ അനുഭവങ്ങളെ ഉൾക്കൊള്ളൽ, കാവ്യാനുഭൂതികൾക്കൊപ്പം ജീവിതാവബോധത്തിന്റെ സ്വാംശീകരണം എന്നിവ ലക്ഷ്യം.

CO4. സാമൂഹിക പരിഷ്ക്കരണത്തിന്റെയും മന:സംസ്കരണത്തിന്റെയും ചാലകശക്തികളായി നാടകം പോലെയുള്ള കലാസൃഷ്ടികൾ വർത്തിക്കുന്നതിനെ വിശകലനം ചെയ്യുക.

CO5. സിനിമ എന്ന ജനകീയകലയുടെ കേവലാസ്വാദനത്തിനപ്പുറമുള്ള സൈദ്ധാന്തിക തലങ്ങളിലേക്കും സാമൂഹിക-സാംസ്കാരിക വായനകളിലേക്കും വിദ്യാർത്ഥികളം സജ്ജരാക്കുക.

**1A07-1MAL SAHITHYAROOPANGAL**

CO1. മലയാളഭാഷയുടെയും സാഹിത്യത്തിന്റെയും വികാസപരിണാമത്തിൽ വിവിധ സാഹിത്യജനുസ്സുകൾ ചെലുത്തിയ സ്വാധീനത്തെക്കുറിച്ചുള്ള അവ ബോധം രൂപപ്പെടുത്തുക.

CO2 സാഹിത്യാസ്വാദനത്തിനും സാഹിത്യപാഠങ്ങളുടെ വിശകലനത്തിനും വിദ്യാർത്ഥികളെ പ്രാപ്തരാക്കുക.

CO3. നാടകം/സിനിമ തുടങ്ങിയ കലാരൂപങ്ങളുടെ ആസ്വാദനത്തോടൊപ്പം അവ യുടെ ഭാവതലത്തെ വിമർശനാത്മകമായി സമീപിക്കാനുള്ള പ്രാപ്തി നേടുക.

CO4 വിദ്യാർത്ഥികൾക്കിടയിൽ വായനയും കലാരൂപങ്ങളുടെ ആസ്വാദനവും തുടർപ്രക്രിയയായി മാറ്റാനുള്ള പ്രേരണ നൽകുക.

**2A08-1MAL GADHYAROOPANGAL**

CO1. വിവിധ ഗദ്യരൂപങ്ങളുടെ ഘടന, പ്രമേയം, ആഖ്യാനം എന്നിവ സാമാന്യ മായി പരിചയപ്പെടുകയും ആസ്വാദനശേഷി വളർത്തുകയും ചെയ്യുക.

CO2. ജീവിതമെഴുത്ത് രൂപങ്ങളായ ആത്മകഥ, ജീവചരിത്രം, സ്മരണ തുടങ്ങിയ വയുടെ വായനാനുഭവം രൂപപ്പെടുത്തുക

CO3. സഞ്ചാരസാഹിത്യമാതൃകകൾ പരിചയപ്പെടുകയും യാത്രയുടെ അനുഭവം, ആഖ്യാനം, വിപണനം, രാഷ്ട്രീയം എന്നിവ വിമർശനബുദ്ധ്യാ വിലയിരുത്തുക യും ചെയ്യുക.

CO4. അനുഭൂതികളുടെ ആവിഷ്കൃതരൂപങ്ങളെ അടുത്തറിയുകയും ഉപരിവായന യിൽ താൽപ്പര്യമുണ്ടാക്കുകയും ചെയ്യുക.

CO5. യാത്രകൾ സംഘടിപ്പിക്കുകയും യാത്ര അനുഭവിക്കുകയും ആസ്വാദനക്കുറി പ്പുകൾ തയ്യാറാക്കുകയും ചെയ്യുക.

**1B01MAL MALAYALAKAVITHA ADHUNIKAM ADHUNIKANANTHARAM**

CO1. മലയാളത്തിലെ ആധുനിക-ആധുനികാനന്തര കവിതയെക്കുറിച്ച് ആഴത്തിലുള്ള അവബോധമുണ്ടാക്കുക.

CO2. കവിതയും സാസ്കാരചരിത്രവും തമ്മിലുള്ള വിനിമയങ്ങളെക്കുറിച്ച് ബോധ്യമുണ്ടാക്കുക

CO3. ഭാഷയുടെ അതിസാന്ദ്രരൂപമായ കവിതയിൽ ആസ്വാദനശേഷി വർദ്ധിപ്പിക്കുക.

CO4. സർഗാത്മകശേഷി പരിപോഷിപ്പിക്കുക.

**2B02MAL CHERUKADHASAHITHYAM**

CO1. സാമാന്യമായ സാഹിത്യപരിചയവും വായനാഭിരുചിയും ആസ്വാദനശേഷിയും വളർത്തിയെടുക്കുക.

CO2 ചെറുകഥാസാഹിത്യത്തിലെ ഭാവുകത്വപരിണാമങ്ങൾ തിരിച്ചറിയുക. കാലഘട്ട ത്തിന്റെ പൊതുപ്രവണതകളും ഉദാത്തജീവിതവീവിത വീക്ഷണവും എഴുത്തിൽ പ്രകടമാവുന്നത് അനുഭവിക്കുക.

CO3. പ്രമേയത്തിലും അവതരണത്തിലും ആഖ്യാനത്തിലും ഉള്ള ചലനങ്ങൾ, കഥയുടെ രാഷ്ട്രീയം, സമകാലകഥയിലെ പലമ, ഉത്തരാധുനിക എഴുത്ത് എന്നിവ വിലയി രുത്തുകയും അപഗ്രഥിക്കുകയും ചെയ്യുക.

CO4. ആധുനിക ജീവിതത്തിലെ കലുഷതകൾ, സ്വത്വ സംഘർഷങ്ങൾ, അവതരണ ത്തിലെ പരീക്ഷണങ്ങൾ തുടങ്ങിയവ മനസ്സിലാക്കുക.

**3B03MAL MALAYALASAHITHYA VIMARASHANA**

CO1. വിമർശനം എന്ന സാഹിത്യഗണത്തെപ്പറ്റി സൈദ്ധാന്തികവും പ്രായോഗികവുമായ അവബോധമുണ്ടാക്കുക.

CO2. മലയാളവിമർശനത്തിന്റെ ഉദ്ഭവം, വളർച്ച, വികാസപരിണാമങ്ങൾ എന്നിവ ചരിത്രാത്മകമായി മനസ്സിലാക്കുക.

CO3. മലയാളത്തിലെ പ്രധാന വിമർശകർ, വിമർശനസമീപനങ്ങൾ, സമകാലീന വിമർശനം എന്നിവയെ പറ്റി ധാരണയുണ്ടാക്കുക.

CO4 വിമർശനചരിത്രങ്ങളുടെ പുനർവായനകൾക്കും അവയുടെ വിമർശനാത്മകമായ അപഗ്രഥനങ്ങൾക്കും പ്രേരണ നൽകുക.

CO5. സാഹിത്യകൃതികളെ നിരൂപണം ചെയ്യുന്നതിന് പ്രചോദനവും പരിശീലനവും നൽകുക.

**3B04MAL INDIAN KAVYASITHANTHANGAL**

CO1. ഇന്ത്യയിൽ തന്നെ ഉണ്ടായിട്ടുള്ള വ്യത്യസ്തമായ ലാവണ്യശാസ്ത്ര സിദ്ധാന്തങ്ങളെപ്പറ്റി മനസ്സിലാക്കാനും വിമർശനാത്മകമായി വിലയിരുത്താനുമുള്ള ശേഷി നേടുന്നു.

CO2. സാഹിത്യപഠനവും സിദ്ധാന്തപഠനവും തമ്മിലുള്ള പാരസ്പര്യം തിരിച്ചറിയുന്നു.

CO3. കാവ്യസൗന്ദര്യഘടകങ്ങളെ കണ്ടെത്തുന്നു.

CO4. സർഗാത്മകപ്രക്രിയയെപ്പറ്റിയുള്ള സൂക്ഷ്മമായ ചിന്താലോകത്തെപ്പറ്റി അറിവ് നേടുന്നു.

**PASCHATHYA SAHITHYA SITHANTHANGAL 4B05MAL**

CO1. പാശ്ചാത്യ കലാചിന്തകളെ സാമാന്യമായി പരിചയപ്പെടുന്നു.

CO2.പാശ്ചാത്യസിദ്ധാന്തങ്ങളുടെ ചരിത്രപരമായ വളർച്ചയും വികാസവും തിരിച്ചറിയുന്നു.

CO3.കലാസിദ്ധാന്തങ്ങളെപ്പറ്റിയുള്ള വിഭിന്നമായ ചിന്താധാരകളെ അപഗ്രഥിക്കാനുള്ള ശേഷി നേടുന്നു.

CO4.സാഹിത്യനിരൂപണത്തിൽ പ്രസ്തുത സിദ്ധാന്തങ്ങൾ ചെലുത്തുന്ന സ്വാധീനത്തെപ്പറ്റി മനസ്സിലാക്കാനുള്ള താത്പര്യം രൂപപ്പെടുന്നു.

**PRACHINA-MADHYAKALA SAHITHYAM 4B06MAL**

CO1. പാട്ട്, മണിപ്രവാളം, സന്ദേശകാവ്യങ്ങൾ, ചമ്പുക്കൾ എന്നീ പ്രാചീന-മധ്യകാല സാഹിത്യരൂപങ്ങളുടെ ആസ്വാദനവും വിശകലനവും.

CO2. പ്രാചീനഗദ്യത്തെക്കുറിച്ചുള്ള സാമാന്യധാരണ നേടുക.

CO3. കൃഷ്ണഗാഥ, കിളിപ്പാട്ട്, തുള്ളൽ, വഞ്ചിപ്പാട്ട്, പാന, ആട്ടക്കഥ തുടങ്ങിയ സാഹിത്യരൂപങ്ങളുടെ പരിചയവും ആസ്വാദനവും.

CO4. മധ്യകാലഗദ്യസാഹിത്യത്തെക്കുറിച്ച് സാമാന്യധാരണ നേടുക.

CO5. വെണ്മണി, പച്ചമലയാളപ്രസ്ഥാനങ്ങൾ, വിലാപകാവ്യം, വടക്കൻ, തെക്കൻപാട്ടുകൾ എന്നിവ മലയാളകവിതയുടെ ഭാവുകത്വപരിണാമത്തിൽ ചെലുത്തിയ സ്വാധീനത്തെക്കുറിച്ച് അവബോധമുണ്ടാക്കുക.

CO6. ആധുനിക മലയാളഗദ്യരൂപീകരണത്തെക്കുറിച്ച് സാമാന്യധാരണ നേടുക.

CO7. പ്രാചീനമധ്യകാല കൃതികളുടെ പ്രതിപാദ്യ-പ്രതിപാദന സവിശേഷതകളെക്കുറിച്ച് വിദ്യാർത്ഥികളിൽ സാമാന്യധാരണ ഉണ്ടാക്കുക.

**VYAKARANAPADANANGAL 5B07MAL**

CO1. പരമ്പരാഗത വ്യാകരണത്തെ പരിചയപ്പെടുകയും അവയുടെ അടിസ്ഥാനധാരണകൾ ഗ്രഹിക്കുകയും ചെയ്യുക.

CO2.ഭാഷാനിയമങ്ങളെപ്പറ്റിയുള്ളനിരീക്ഷണങ്ങളും സിദ്ധാന്തങ്ങളും ചരിത്രപരമായും വിമർശനാത്മകമായും മനസ്സിലാക്കുക.

CO3.ഗദ്യഭാഷയെ വ്യാകരണത്തിന്റെ വിശകലനോപാധികൾ ഉപയോഗിച്ച് യുക്തിസഹവും ശാസ്ത്രീയവുമായി അപഗ്രഥിക്കാനുള്ള ശേഷി വികസിപ്പിക്കുക,

CO4.ഭാഷാപ്രയോഗ വൈവിധ്യങ്ങൾക്കു പിന്നിലുള്ള യുക്തികൾ വിശകലനം ചെയ്യുക,

CO5.സൂക്ഷ്മമായ ഭാഷാപ്രയോഗശേഷി വികസിപ്പിക്കുക .

**NOVEL SAHITHYAM 5B08MAL**

CO1. മലയാള നോവൽ സാഹിത്യത്തെക്കുറിച്ച് അവബോധമുണ്ടാക്കുക.

CO2. നോവൽ സാഹിത്യ ചരിത്രത്തിലെ വിവിധ ഘട്ടങ്ങൾ മനസ്സിലാക്കുകയും ഓരോ ഘട്ടത്തിലെയും നോവലുകളുടെയും ആഖ്യാനം, പ്രമേയം, പ്രതിനിധാന സവിശേഷതകൾ എന്നിവയെക്കുറിച്ച് വ്യക്തമായ ധാരണയുണ്ടാക്കുകയും പരിചയപ്പെടുത്തുകയും ചെയ്യുക.

CO3. മലയാള നോവൽ വികാസചരിത്രം വിദ്യാർത്ഥികൾ ഗ്രഹിക്കുകയും നോവലുകൾ സാമൂഹ്യ ചരിത്രപാഠങ്ങളായി മാറുന്നതിന്റെ സാധുത അന്വേഷിക്കുകയും വിലയിരുത്തുകയും ചെയ്യുക.

CO4. ആസ്വാദനത്തോടൊപ്പം സർഗ്ഗാത്മരചനക്കുള്ള പ്രചോദനം നൽകുക.

**SAMSKARAPADANAVUM SAHITHYAVUM 5B09MAL**

CO1. സംസ്കാരപഠനമെന്ന അന്തർവൈജ്ഞാനിക പഠനമേഖലയെ പരിചയപ്പെടുക.

CO2. സാഹിത്യപാഠങ്ങളുടെ സാംസ്കാരിക വിശകലനത്തിന് വിദ്യാർത്ഥിയെ പ്രാപ്തനാക്കുക.

CO3. സംസ്കാരത്തെ വ്യത്യസ്തമായ സാമൂഹികപ്രക്രിയകളായി മനസ്സിലാക്കാനും അവയുടെ പരിണാമത്തെയും അവയ്ക്കുള്ളിലെ അധികാരബന്ധങ്ങളേയുംമനസ്സിലാക്കുന്നതിന് സാഹിത്യപാഠങ്ങളെ പ്രയോജനപ്പെടുത്തുന്നതിനുള്ള പരിശീലനം നൽകുക

CO4. സാഹിത്യപഠനത്തെ വിഷയാന്തരസമീപനമായി പുനർ ക്രമീകരിക്കാൻ സഹായിക്കുക.

CO5. സാഹിത്യഗവേഷണത്തിന്റെ രീതിശാസ്ത്രമാതൃകകളെ പ്രാഥമികമായി പരിചയപ്പെടുക

CO6. അനുഭൂതികളും സാമൂഹികസന്ദർഭങ്ങളും തമ്മിലുള്ള ബന്ധത്തെ തിരിച്ചറിയുന്നതിന് വിദ്യാർത്ഥിക്കു പ്രേരണയാവുക.

**KERALASAMSKARAM 5B10MAL**

CO1. വിദ്യാർത്ഥികളിൽ സാംസ്കാരികാവബോധം വളർത്തുക

CO2. സാമൂഹികമായ ഇടപെടലിനുള്ള പ്രേരണ നല്കുക

CO3. പ്രാദേശികചരിത്രത്തിന്റെ വീണ്ടെടുപ്പിന്റെ ആവശ്യകതയെ സംബന്ധിച്ച് ബോധവാന്മാരാക്കുക

CO4. ഭാഷയുടെയും സംസ്കാരത്തിന്റെയും ബഹുസ്വരതയെക്കുറിച്ചുള്ള അവബോധം പകരുക

CO5. ചരിത്രസംബന്ധവും സംസ്കാര സംബന്ധവുമായ മുൻധാരണകളെ തിരുത്താൻ പ്രേരിപ്പിക്കുക.

CO6. വ്യക്തമായ രാഷ്ട്രീയ, സാമൂഹികാവബോധമുള്ള യുവതലമുറയെ രൂപപ്പെടുത്തുക

**NADODI VIJNJANIYAM 5B11MAL**

CO1. സാമൂഹ്യജീവിതത്തിന്റെ ആരംഭം മുതല്ക്കുള്ള മനുഷ്യജീവിതത്തിന്റെ വിവിധ വശങ്ങളെ അടയാളപ്പെടുത്തുന്ന നാടോടിവിജ്ഞാനീയം എന്ന പഠനശാഖയെ പരിചയപ്പെടുത്തുക.

CO2. ഫോക്‌ലോറിന്റെ പ്രസക്തിയെക്കുറിച്ചും ഈ ജ്ഞാനമാതൃക നിർവ്വഹിക്കുന്ന സാമൂഹ്യധർമ്മങ്ങളെക്കുറിച്ചുമുള്ള അവബോധം രൂപപ്പെടുത്തുക.

CO3. ഫോക്‌ലോർ പഠനരംഗത്തെ നൂതനപ്രവണതകൾ പരിചയപ്പെടുക

CO4. സാഹിത്യകൃതികളുടെ ആസ്വാദനത്തിന് ഫോക്‌ലോറിന്റെ സാധ്യതകളെ ഉപയോഗപ്പെടുത്തുന്നതിനുള്ള സാമാന്യപരിചയം നേടുക.

**BASHASHASTHRAM 6B12MAL**

CO1. ഭാഷാശാസ്ത്രം എന്ന വിഷയമേഖലയെ പരിചയപ്പെടുകയും ഭാഷാശാസ്ത്രപരമായ അടിത്തറ രൂപപ്പെടുത്തുകയും ചെയ്യുക.

CO2. ഭാഷയെയും ഭാഷണത്തെയും യുക്തിസഹവും ശാസ്ത്രീയവുമായി സമീപിക്കാനുള്ള ശേഷി വർദ്ധിപ്പിക്കുക.

CO3. വ്യത്യസ്തങ്ങളായ ഭാഷാപഗ്രഥനരീതികൾ മനസ്സിലാക്കുക.

CO4. ഭാഷാപ്രയോഗ വൈവിധ്യങ്ങൾ കണ്ടെത്തുകയും ഭാഷാശാസ്ത്രത്തിന്റെ വിശകലനോപാധികൾ ഉപയോഗിച്ച് അവയെ അപഗ്രഥിക്കുകയും ചെയ്യുക.

CO5. ഭാഷാപ്രയോഗങ്ങളിൽനിന്ന് ഭാഷാനിയമങ്ങൾ കണ്ടെത്തുന്നതിലേക്കും അതുവഴി സിദ്ധാന്തരൂപീകരണത്തിലേക്കും വിദ്യാർത്ഥികളെ പ്രാപ്തരാക്കുന്നതിനുള്ള പ്രാഥമിക പടവുകൾ സൃഷ്ടിക്കുക.

**MADHYAMA PADANAM 6B13MAL**

CO1. മാധ്യമലോകത്തിന്റെ വിപുലവും വിപ്ലവകരങ്ങളുമായ സാധ്യതകളെക്കുറിച്ച് വിദ്യാർത്ഥികൾക്ക് അറിവ് പകരുക.

CO2. വിവരസാങ്കേതികവിദ്യയുടെ ലോകത്ത് സ്വതന്ത്രവും യുക്തിഭദ്രവുമായ വീക്ഷണങ്ങൾ രൂപീകരിക്കാൻ പ്രാപ്തരാക്കുക.

CO3. വിജ്ഞാനസ്ഫോടനത്തിലേക്ക് മനസ്സുകളെ ആനയിക്കുന്ന സ്രോതസ്സുകളെ പരിചയിക്കുക. മാധ്യമങ്ങളുടെ സാന്നിധ്യത്തിലൂടെ സമൂഹത്തിനു ലഭിക്കുന്ന സാംസ്കാരികോന്നമനത്തെക്കുറിച്ച് അിറവുപകരുക. മാധ്യമങ്ങളിലെ വൈവിധ്യപൂർണ്ണമായ പരിപാടികളുടെ ആസ്വാദനത്തിനും വിലയിരുത്തലിനും സജ്ജരാക്കുക.

CO4. പ്രതിഭാസമ്പന്നരായ വിദ്യാർത്ഥികൾക്ക് മാധ്യമലോകത്തേക്ക് പ്രവേശിക്കാനുള്ള പ്രചോദനം നൽകുക.

CO5. മാധ്യമസംസ്കാരത്തെ വിമർശനാത്മകമായി വിലയിരുത്താൻ വിദ്യാർത്ഥികളെ പ്രാപ്തരാക്കുക.

**ARASANKETHIKA VIDHYAYUM MALAYALAVUM 6B14MAL**

CO1. വിവരസാങ്കേതികരംഗത്തെ വികാസം ഭാഷാ-സാഹിത്യപഠനത്തിൽ പ്രയോജനപ്പെടുത്തുക.

CO2. കമ്പ്യൂട്ടറിലെ മലയാളം മെച്ചപ്പെടുത്തുന്നതിന് വിഭവങ്ങൾ പ്രദാനം ചെയ്യുക

CO3. ഉന്നതവിദ്യാഭ്യാസത്തിലെ വിവരങ്ങളുടെ കൈകാര്യകർതൃത്വം എളുപ്പമാക്കുക

CO4 . കമ്പ്യൂട്ടറിലൂടെ ബഹുജനവിദ്യാഭ്യാസ സംരംഭങ്ങൾ പ്രോത്സാഹിപ്പിക്കുക.

CO5. ഇന്റർനെറ്റിൽ മലയാളസാഹിത്യവുമായി ബന്ധപ്പെട്ട വിവരങ്ങൾ വർദ്ധിപ്പിക്കാൻ പരിശ്രമിക്കുക

**ARTHANA SAHITHYAM 6B15MAL**

CO1. വിവർത്തനസാഹിത്യമേഖലയെ പരിചയപ്പെടുക

CO2. വിവർത്തനത്തിലെ പ്രശ്നങ്ങൾ പരിമിതികൾ, സാംസ്കാരികവിനിമയങ്ങൾ എന്നിവ യെപ്പറ്റി അവബോധമുണ്ടാക്കുക.

CO3. മലയാളത്തിലെ വിവർത്തന സാഹിത്യശാഖയെപ്പറ്റി സാമാന്യമായി അറിയുക.

CO4. ഇതരഭാഷകളിൽനിന്നുള്ള സാഹിത്യകൃതികൾ മലയാളസാഹിത്യത്തിൽ ചെലുത്തിയ സ്വാധീനം തിരിച്ചറിയുക.

**COMPLIMENTRY ELECTIVE COURSES**

**PARISTITHI-DHALITH-LINGA PADAVI PADANAGAL 1C01MAL**

CO1. പരിസ്ഥിതി, ദളിത്, ലിംഗപദവി–പഠനമേഖലയെ സാമാന്യമായി പരിചയപ്പെടുക.

CO2. ഈ സൈദ്ധാന്തിക സമീപനങ്ങളെ വായനയിലും എഴുത്തിലും പ്രയോജനപ്പെടുത്തുക.

CO3. ഇവ മുന്നോട്ടുവയ്ക്കുന്ന രാഷ്ട്രീയത്തെ തിരിച്ചറിയുക.

CO4. ഈ വൈജ്ഞാനികമേഖലകളുടെ അടിസ്ഥാനത്തിൽ മലയാളത്തിലെ സാഹിത്യരചനകളെ വിശകലനം ചെയ്യുക.

**MALABAR PADANANGAL 4C04MAL**

CO1. വടക്കേമലബാറിന്റെ പലമ(റശ്ല്യശെ്യ)യെ മനസ്സിലാക്കുകയും പഠന–അന്വേഷണ മാതൃകകൾ തെളിയിച്ചെടുക്കുകയും ചെയ്യുക.

CO2. വടക്കേമലബാറിന്റെ ഭൂമിശാസ്ത്രത്തെയും പ്രകൃതിയേയും സംസ്കാരവുമായി ബന്ധിപ്പിപ്പ് പഠിക്കുക

CO3 വടക്കേമലബാറിലെ ചരിത്രപരവും സമകാലികവുമായ സാംസ്കാരികരൂപീകരണങ്ങളെ പഠിക്കുക

CO4. കലയും സാഹിത്യവും ജീവിതരൂപങ്ങളോട് ബന്ധപ്പെടുന്നതും പരസ്പരം കണ്ണിചേരുന്നതെങ്ങനെയെന്നുമുള്ള ധാരണകൾ രൂപപ്പെടുത്തുക.

CO5. ജീവിക്കുന്നചുറ്റുപാടുകളെ പാഠ്യവസ്തുവുമായി ബന്ധിപ്പിക്കാനുള്ള ശേഷികൾ വികസിക്കാനുതകും വിധം ഏതെങ്കിലും നിശ്ചിതഭൂവിഭാഗങ്ങളിലെ/ സാംസ്കാരികമേഖലകളിലെ/പ്രദേശങ്ങളിലെ (കണ്ണൂർ, കാസർഗോഡ്, വയനാട്) ജനജീവിതത്തെ പ്രായോഗികപഠനത്തിന് വിധേയമാക്കുക

## GENERIC ELECTIVE COURSES

## JANPRIYA CINEMA PADANAM 5D01MAL

CO1. സിനിമ എന്ന കലാരൂപത്തിന്റെ സാമൂഹ്യപ്രാധാന്യം ഉൾക്കൊണ്ടു കൊണ്ട് അതിനെ സമീപിക്കാൻ പഠിതാക്കളെ പ്രാപ്തരാക്കുക

CO2. ജനപ്രിയസിനിമകളെ വിമർശനബുദ്ധ്യാ വീക്ഷിക്കാനുള്ള ശേഷി ഉണ്ടാക്കുക

CO3. ഒരു ഹ്രസ്വ ചിത്രമോ ക്യാംപസ് ഫിലിമോ ഡോക്യുമെന്ററിയോ നിർമ്മിക്കാനുള്ള താൽപര്യവും ശേഷിയും പഠിതാക്കളിൽ ഉണ്ടാക്കുക.

CO4. ചലച്ചിത്ര നിരൂപണം നടത്താനുള്ള ശേഷി പഠിതാക്കളിൽ ഉണ്ടാക്കുക.

CO5. സിനിമയുടെ രാഷ്ട്രീയം തിരിച്ചറിയാനും ചർച്ച ചെയ്യാനും പഠിതാക്കളിൽ ശേഷി ഉണ്ടാക്കുക.

## CYBER SAHITYAM 5D02MAL

CO1. മാറുന്ന സാങ്കേതികസംസ്കാരത്തെയും അവ സാഹിത്യത്തിലും സംസ്കാരത്തിലുമുണ്ടാക്കിയ മാറ്റങ്ങളെയും പരിചയപ്പെടുക

CO2. നവസാമൂഹിക മാധ്യമങ്ങളെ ജീവിതത്തിൽ ഗുണപരമായി പ്രയോജനപ്പെടുത്താൻ പ്രേരണ നൽകുക.

CO3. സാങ്കേതികവികാസം സാഹിത്യ- സംസ്കാര പഠനരംഗത്തെ മികവു വർദ്ധിപ്പിക്കാനായി സാങ്കേതികവിദ്യ പ്രയോജനപ്പെടുത്താൻ ശീലിപ്പിക്കുക.

CO4. സർഗാത്മകതയിൽ സാങ്കേതികവിദ്യ പ്രയോജനപ്പെടുത്താൻ ശീലിപ്പിക്കുക.

CO5. ഓൺലൈൻകാല സാഹിത്യമാതൃകകൾ പരിചയപ്പെടുകയും പഠനവിധേയമാക്കുകയും ചെയ്യുക.

## NOVEL VAYANA 5D03MAL

CO1. ഒരു സാഹിത്യഗണമെന്ന നിലയിലും ആഖ്യാനരൂപമെന്ന നിലയിലും നോവൽ എന്ന സാഹിത്യവിഭാഗത്തെ സമഗ്രമായി ഉൾക്കൊള്ളാനും വിശകലനം ചെയ്യാനുമുള്ള ശേഷി വികസിപ്പിക്കുക.

CO2. നോവൽ എന്ന ജനുസ്സ് രൂപം കൊടുത്ത പുസ്തക സംസ്കാരത്തിന്റെ/വായനാ സംസ്കാരത്തിന്റെ, വായനാ സമൂഹത്തിന്റെ സ്വഭാവം പരിശോധിച്ചറിയുക.

CO3. സമൂഹത്തിന്റെയും ഭാഷയുടെയും ആധുനികീകരണയുക്തികളെ നോവലുകൾ സ്വാംശീകരിച്ചതെങ്ങനെയെന്നു വിശകലനം ചെയ്യുക.

CO4. നോവൽ വായനകളുമായി ബന്ധപ്പെട്ട സിദ്ധാന്തങ്ങളെയും സമീപനങ്ങളെയും പറ്റി അവബോധമുണ്ടാക്കുക.

CO5. നോവൽ ഉൾപ്പെടെയുള്ള സാഹിത്യകൃതികളുടെ ആസ്വാദനത്തിനും വിമർശനാത്മകമായ വിശകലനങ്ങൾക്കും പര്യാപ്തമായ സിദ്ധാന്തങ്ങളും സമീപനരീതികളും വികസിപ്പിക്കുക .

**5D04MAL VAIKKAM BUHAMMED BASHEER PADAVUM PADANAVUM**

CO 1: മലയാളത്തിലെ പ്രതിഭാധനരായ എഴുത്തുകാരെപ്പറ്റി അറിവുണ്ടാക്കുക

CO2: ബഷീറിന്റെ സമഗ്രമായ സാഹിത്യ സംഭാവനകളെ തിരിച്ചറിയുക.

CO3: എഴുത്ത് എന്ന പ്രക്രിയയുടെ സാംസ്കാരിക സ്വാധീനങ്ങളെപ്പറ്റി മനസ്സിലാക്കുക.

CO4: ബഷീറിന്റെ കൃതികളിലെ ഭാഷ, മാനവികത, സഹജീവിസ്നേഹം, പാരിസ്ഥിതിക ബോധം എന്നിവയെപ്പറ്റി ബോധ്യമുണ്ടാക്കുക.

**MALAYALA BASHAYUM PRAYOGAVUM 5D05MAL**

CO1. മാതൃഭാഷ എന്ന സങ്കല്പത്തിന്റെ പ്രാധാന്യം മനസ്സിലാക്കുന്നു.

CO2. മലയാളത്തിന്റെ ഭാഷാപരമായ പ്രയോഗവിശേഷങ്ങൾ തിരിച്ചറിയുന്നു.

CO3. മലയാളത്തിന്റെ വ്യാകരണകാര്യങ്ങൾ സാമാന്യമായി മനസ്സിലാക്കുന്നു.

CO4. ഭാഷയുടെ സൗന്ദര്യാത്മകതയും തനിമയും വിശകലനം ചെയ്യാൻ കഴിയുന്നു.

CO5. ആശയവിനിമയം ദുർഗ്രഹമല്ലാത്ത രീതിയിൽ ഭാഷ പ്രയോഗിക്കാനുള്ള ശേഷി നേടുക.