B. A. Programme

Programme Outcomes (POs)

On completion of this course the learner will be able to :

PO-1: Knowledge.

The learner will demonstrate an academic perspective to address the concerns of the society.

PO-2: Problem analysis.

The learner will be able to apply the knowledge and skill sets in his/her personal and professional life to analyse problems.

PO-3: Environment sustainability

The learner will display commitment to implement healthy practices in conservation and sustainability of environment.

PO-4: Ethics and Communication:

The learner will be able to inculcate and demonstrate professional ethics, personal values and communication skills to be used in different life situations.

PO-5: Individuality and Teamwork:

The learner will be able to work efficiently either individually or collaboratively, with diverse groups towards the achievements of personal and common goals.

PO-6: Competencies for Employment:

The learner will achieve and practice professional competencies and values required to be in positions of responsibility.

PO-7: Life Skills:

The learner will possess and display basic life skills to live in harmony with the environment and society, be compassionate and considerate towards the underprivileged and the marginalised.

B. Sc. Programme

Programme Outcomes (POs)

On completion of this course the learner will be able to:

PO-1: Knowledge & understanding:

Gain thorough knowledge and understanding of the scientific principles and patterns governing the various subject domains and demonstrate the same.

PO-2: Critical Thinking:

Use critical thinking of scientific phenomenon so as to formulate and articulate ideas.

PO-3: Effective Communication, Social interaction, Effective Citizenship/ social responsibilities:

Acquire and demonstrate clarity of thought and reasoning and thereafter, effectively express it from micro to macro level.

PO-4: Environment and Sustainability:

Display a strong sense of responsibility towards nature and environmental challenges.

PO-5: Morals and Ethics:

Demonstrate moral and ethical correctness in all aspects of their lives.

PO-6: Problem solving and Analytical skills:

Able to identify, analyse and devise solutions for complex problems.

PO-7: Modern tool usage:

Create, select and apply appropriate techniques, resources and tools to understand, analyse and solve problems

B.Sc. ANTHROPOLOGY COURSE OUTCOMES

1. **ANT-HC 501 - Fundamentals of Biological Anthropology:**
   - Understand the principles of biological anthropology, including human evolution, genetics, and primatology.
   - Analyze the biological variation within human populations and its significance.
   - Apply biological anthropological concepts to contemporary issues in health, medicine, and human biology.
2. **ANT-HC 502 - Fundamentals of Social & Cultural Anthropology:**
   - Gain an understanding of the basic concepts and theories in social and cultural anthropology.
   - Analyze the diversity of cultures and societies across the world.
   - Develop critical thinking skills to examine social phenomena and cultural practices.
3. **ANT-HC 503 - Fundamentals of Prehistoric Archaeology:**
   - Comprehend the methods and techniques used in prehistoric archaeology.
   - Identify and interpret archaeological artifacts, sites, and cultural remains.
   - Understand the cultural and social aspects of prehistoric human societies.
4. **ANT-HC 504 - Fundamentals of Human Origin and Evolution:**
   - Gain a comprehensive understanding of human evolution from primates to Homo sapiens.
   - Analyze the environmental, ecological, and behavioral factors influencing human evolution.
   - Evaluate the evidence for human origins and evolution from fossil records, genetics, and comparative anatomy.
5. **ANT-SE 501 - Public Health and Epidemiology:**
   - Understand the principles and practices of public health and epidemiology from an anthropological perspective.
   - Analyze the social, cultural, and environmental factors influencing health and disease patterns.
   - Evaluate public health interventions and policies within diverse cultural contexts.
6. **ANT-SE 502 - Tourism Anthropology:**
   - Understand the relationship between tourism and culture from an anthropological perspective.
   - Analyze the impacts of tourism on local communities, cultures, and environments.
   - Develop strategies for sustainable and culturally sensitive tourism practices.
7. **ANT-HC 601 - Tribes and Peasants in India:**
   - Gain knowledge of the diversity of tribal and peasant communities in India.
   - Analyze the socio-economic, cultural, and political dynamics of these communities.
   - Understand the challenges and opportunities for development and empowerment of tribal and peasant groups.
8. **ANT-HC 602 - Human Ecology: Biological & Cultural dimensions:**
   - Understand the interactions between humans and their environment from both biological and cultural perspectives.
   - Analyze how cultural practices and beliefs influence human-environment relationships.
   - Develop strategies for sustainable living and environmental conservation informed by anthropological insights.
9. **ANT-HC 603 - Biological Diversity in Human population:**
   - Gain an understanding of the biological diversity within human populations.

- Analyze the genetic, phenotypic, and environmental factors contributing to human variation.
- Explore the implications of human diversity for health, adaptation, and social identity.

10. **ANT-HC 604 - Theories of Culture and Society:**
    - Understand key theoretical frameworks in anthropology related to culture and society.
    - Critically analyze how different theoretical perspectives shape our understanding of social and cultural phenomena.
    - Apply anthropological theories to real-world contexts and issues.
11. **ANT-HC 605 - Human Growth and Development:**
    - Gain knowledge of the biological, psychological, and socio-cultural factors influencing human growth and development.
    - Analyze the stages of human growth and development across the lifespan.
    - Understand how various factors such as nutrition, environment, and social interactions impact growth and development.
12. **ANT-HC 606 - Anthropological Demography:**
    - Understand the principles and methods of demographic analysis from an anthropological perspective.
    - Analyze population dynamics, including fertility, mortality, migration, and population structure.
    - Explore the socio-cultural factors influencing demographic trends and patterns.
13. **ANT-HG 602 - Anthropology of Tribal Development:**
    - Gain insight into the socio-economic, political, and cultural issues facing tribal communities.
    - Analyze development initiatives and policies aimed at tribal populations.
    - Understand the complexities of tribal development within the broader socio-political context.
14. **ANT-HC 701 - Fundamentals of Human Genetics:**
    - Understand the principles of human genetics, including inheritance patterns and genetic variation.
    - Analyze the role of genetics in human health, disease, and evolution.
    - Apply genetic concepts to understand population genetics and genetic disorders.
15. **ANT-HC 702 - Anthropology of India:**
    - Gain knowledge of the cultural, social, and religious diversity of India.
    - Analyze the historical and contemporary dynamics of Indian society and culture.
    - Understand the intersections of caste, class, gender, and religion in Indian society.
16. **ANT-HE 701 - Anthropology of Health:**
    - Understand the socio-cultural factors influencing health beliefs, practices, and behaviors.
    - Analyze the role of culture in shaping health disparities and inequalities.
    - Explore the effectiveness of culturally sensitive healthcare interventions and policies.
17. **ANT-HC 703 - Forensic Anthropology:**
    - Understand the role of forensic anthropology in medico-legal investigations.
    - Learn techniques for identifying human remains and determining cause of death.
    - Analyze the ethical and legal issues surrounding the practice of forensic anthropology.
18. **ANT-HC 704 - Anthropology in Practice:**
    - Gain practical experience in applying anthropological methods and theories to real-world issues.

- Develop skills in ethnographic research, participant observation, and qualitative data analysis.
- Understand the ethical considerations involved in conducting anthropological research and practice.

21. **ANT-HE 702 - Physiological Anthropology:**
    - Understand the physiological adaptations of humans to diverse environments and lifestyles.
    - Analyze the impact of biological factors such as nutrition, disease, and stress on human physiology.
    - Explore the relationship between human biology and cultural practices.
22. **ANT-HE 702 - Gender Anthropology:**
    - Gain insights into the socio-cultural construction of gender roles and identities.
    - Analyze the intersections of gender with other axes of identity such as class, ethnicity, and sexuality.
    - Understand the impacts of gender inequality on individuals, communities, and societies.
23. **ANT-HE 702 - Prehistory of India:**
    - Explore the prehistoric cultures and societies of the Indian subcontinent.
    - Analyze archaeological evidence to reconstruct the lifeways and technological advancements of ancient Indian civilizations.
    - Understand the significance of prehistoric India in the broader context of world history and human evolution.
24. **ANT-HG 702 - Palaeoanthropology:**
    - Gain knowledge of the fossil record and evolutionary history of early hominins.
    - Analyze the anatomical and behavioral adaptations of early human ancestors.
    - Understand the methods and techniques used in paleoanthropological research.
25. **ANT-HC 801 - Medical Anthropology:**
    - Understand the socio-cultural factors influencing health, illness, and healing practices.
    - Analyze the role of culture in shaping healthcare systems and medical beliefs.
    - Explore contemporary issues in global health from an anthropological perspective.
26. **ANT-HC 802 - Human Population Genetics:**
    - Gain knowledge of the genetic diversity and structure of human populations.
    - Analyze the evolutionary forces shaping human genetic variation.
    - Understand the applications of population genetics in fields such as forensics, medicine, and anthropology.
27. **ANT-HE 801 - Urban Anthropology:**
    - Explore the socio-cultural dynamics of urban environments and communities.
    - Analyze urbanization processes and their impacts on social organization, identity, and lifestyle.
    - Understand the challenges and opportunities of urban living from a cross-cultural perspective.
28. **ANT-HE 801 - Prehistory of Europe:**
    - Explore the prehistoric cultures and societies of Europe from the Paleolithic to the Iron Age.
    - Analyze archaeological evidence to reconstruct the lifeways and cultural developments of ancient European civilizations.
    - Understand the significance of prehistoric Europe in the context of human migrations, technology, and social complexity.

29. **ANT-HG 801 - Museum and Cultural Resource Management:**
    - Gain practical skills in the curation, preservation, and interpretation of cultural artifacts and materials.
    - Understand the ethical and legal issues involved in museum practices and cultural heritage management.
    - Explore the role of museums in education, community engagement, and cultural representation.
30. **ANT-HC 803 - Applied and Action Anthropology:**
    - Understand the principles and methods of applied anthropology for addressing real-world problems.
    - Gain practical experience in conducting collaborative research and interventions with communities.
    - Analyze the ethical considerations and challenges of engaging in action-oriented anthropological work.
31. **ANT-HC 804 - Research Methodology:**
    - Develop proficiency in qualitative and quantitative research methods used in anthropology.
    - Learn to design and execute research projects, including data collection, analysis, and interpretation.
    - Understand the ethical considerations and challenges of conducting anthropological research.

B.Sc. BOTANY COURSE OUTCOMES

BOT-HC 501 Introduction to Microbial World, Virus, Bacteria, Fungi and Phytopathology:

1. Understand the fundamental concepts of microbiology, including the classification and characteristics of viruses, bacteria, fungi, and their roles in ecosystems.
2. Identify common microbial pathogens affecting plants and comprehend the principles of plant pathology.
3. Analyze the interactions between plants and microbial pathogens, and evaluate strategies for disease management and control.

BOT-HC 502 Algae, Bryophytes, Pteridophytes and Gymnosperms:

1. Describe the diversity, morphology, and reproduction of algae, bryophytes, pteridophytes, and gymnosperms.
2. Evaluate the ecological and economic significance of these groups in various ecosystems.
3. Understand the evolutionary relationships and phylogenetic placement of algae, bryophytes, pteridophytes, and gymnosperms within the plant kingdom.

BOT-HC 503 Plant Systematics:

1. Develop skills in plant identification, classification, and nomenclature.
2. Understand the principles and methods of plant taxonomy and systematics.
3. Analyze phylogenetic relationships among plant taxa using morphological and molecular data.

BOT-HC 504 Biomolecules and Cell Biology:

1. Describe the structure and function of biomolecules essential for plant growth and development.
2. Understand cellular processes such as photosynthesis, respiration, and cell division.
3. Analyze the role of biomolecules and cellular processes in plant physiology and metabolism.

BOT-SE 501 Biofertilizers:

1. Understand the concept and types of biofertilizers and their mode of action.
2. Evaluate the benefits and limitations of biofertilizers in sustainable agriculture.
3. Demonstrate skills in the production, application, and management of biofertilizers.

BOT-SE 501 Mushroom Cultivation:

1. Gain knowledge of mushroom biology, cultivation methods, and environmental requirements.
2. Understand the nutritional and medicinal properties of mushrooms.
3. Develop skills in mushroom cultivation techniques and commercial production.

BOT-SE 501 Fermentation Technology:

1. Understand the principles and applications of fermentation in biotechnology and food processing.
2. Learn fermentation techniques for the production of various products such as biofuels, enzymes, and pharmaceuticals.
3. Gain practical experience in fermentation process optimization and scale-up

BOT-SE 502 Botanical Garden and Landscaping:

1. Understand the design principles and management practices of botanical gardens and landscapes.
2. Identify a diverse range of plant species suitable for botanical gardens and landscaping projects.
3. Develop skills in garden planning, plant selection, and landscape maintenance.

BOT-SE 502 Nursery and Gardening:

1. Learn the techniques of plant propagation, nursery management, and seedling production.
2. Understand the principles of plant care, including watering, fertilization, and pest control.
3. Develop skills in ornamental gardening and landscape design for residential and commercial spaces.

BOT-SE 502 Floriculture:

1. Gain knowledge of flower cultivation, post-harvest handling, and marketing practices.
2. Understand the principles of greenhouse management and controlled environment agriculture for floriculture.
3. Develop skills in flower arrangement, bouquet making, and floral design.

BOT-HC 601 Plant Metabolism:

1. Understand the biochemical pathways involved in plant metabolism, including photosynthesis, respiration, and biosynthesis of secondary metabolites.
2. Analyze the regulation of metabolic processes in response to environmental cues and developmental stages.
3. Explore the physiological and ecological implications of plant metabolism in growth, development, and stress responses.

BOT-HC 602 Ecology and Phytogeography:

1. Gain knowledge of ecological principles and concepts, including population dynamics, community interactions, and ecosystem functioning.
2. Understand the distribution patterns of plant species and communities in relation to environmental factors.
3. Analyze the role of biotic and abiotic factors in shaping plant ecology and phytogeographic patterns across different spatial scales.

BOT-HC 603 Genetics and Cytogenetics:

1. Understand the principles of classical and molecular genetics in plants.
2. Learn the techniques of genetic analysis, including mapping, breeding, and gene editing.

3. Explore the cytological basis of inheritance and genetic variation in plants.

BOT-HG 601 Biodiversity:

1. Understand the concept of biodiversity and its significance in ecosystem function and resilience.
2. Explore the patterns and drivers of biodiversity at the genetic, species, and ecosystem levels.
3. Analyze the threats to biodiversity and strategies for conservation and sustainable management.

BOT-HC 604 Economic Botany and Plant Resource Utilization:

1. Identify economically important plant species and their uses in food, medicine, industry, and other sectors.
2. Understand the principles of sustainable utilization and conservation of plant resources.
3. Analyze the socio-economic and environmental implications of plant resource utilization.

BOT-HC 605 Molecular Biology:

1. Gain knowledge of molecular techniques used in plant biology research, including DNA sequencing, PCR, and gene expression analysis.
2. Understand the molecular mechanisms underlying plant development, physiology, and stress responses.
3. Apply molecular biology tools to address research questions in plant science and biotechnology.

BOT-HC 606 Plant Morphology and Anatomy:

1. Learn the morphological and anatomical features of plant organs and tissues.
2. Understand the structural adaptations of plants to their environment and ecological niches.
3. Develop skills in plant identification and tissue analysis using microscopy and other techniques.

BOT-HG 602 Algal Biotechnology:

1. Gain knowledge of the diversity and biotechnological potential of algae.
2. Understand the applications of algae in biofuel production, wastewater treatment, and bioremediation.
3. Learn techniques for the cultivation, harvesting, and processing of algae for biotechnological applications.

BOT-HC 701 Reproductive Biology of Angiosperms:

1. Understand the reproductive structures and processes of flowering plants.
2. Learn about the mechanisms of pollination, fertilization, and seed development in angiosperms.
3. Explore the ecological and evolutionary significance of reproductive strategies in flowering plants.

BOT-HC 702 Plant Physiology:

1. Gain knowledge of plant physiological processes, including water relations, mineral nutrition, and hormone signaling.
2. Understand the mechanisms of plant growth, development, and responses to biotic and abiotic stresses.
3. Learn techniques for physiological experimentation and data analysis in plant science research.

BOT-HE 701 Stress Physiology:

1. Understand the physiological responses of plants to various stress factors, including drought, salinity, temperature extremes, and pathogens.
2. Explore the molecular mechanisms underlying stress tolerance and adaptation in plants.
3. Learn strategies for mitigating the effects of stress on plant growth, productivity, and resilience.

BOT-HE 701 Natural Resource Management:

1. Gain knowledge of sustainable management practices for land, water, and biodiversity conservation.
2. Understand the principles of ecosystem services and their role in natural resource management.
3. Learn about integrated approaches to balancing conservation goals with socio-economic development needs.

BOT-HG 701 Food Science:

1. Understand the nutritional composition and quality of plant-based foods.
2. Learn about food processing techniques, preservation methods, and safety regulations.
3. Explore the role of plants in food security, food sovereignty, and sustainable diets.

BOT-HC 703 Biostatistics and Bioinformatics:

1. Learn statistical methods for experimental design, data analysis, and interpretation in plant science research.
2. Gain proficiency in the use of bioinformatics tools and databases for analyzing genomic, transcriptomic, and proteomic data.
3. Apply biostatistics and bioinformatics approaches to address research questions in plant biology, ecology, and biotechnology.

BOT-HC 704 Plant Biotechnology:

1. Understand the principles and techniques of plant genetic engineering and transformation.
2. Learn about the applications of biotechnology in crop improvement, disease resistance, and stress tolerance.
3. Gain practical skills in molecular cloning, gene editing, and transgenic plant analysis.

BOT-HE 702 Biodiversity Conservation:

1. Understand the importance of biodiversity conservation for ecosystem stability, resilience, and human well-being.
2. Learn about conservation strategies and policies aimed at protecting endangered species and habitats.

3. Gain practical experience in biodiversity assessment, monitoring, and management techniques.

BOT-HE 702 Horticultural Practices and Post-harvest Technology:

1. Gain knowledge of horticultural crop production techniques, including planting, cultivation, and crop management.
2. Learn about post-harvest handling, storage, and processing methods to maintain quality and extend shelf life.
3. Develop skills in value addition and marketing strategies for horticultural products.

BOT-HG 702 Global Warming and Climate Change:

1. Understand the causes, impacts, and consequences of global warming and climate change on plant ecosystems.
2. Explore adaptation and mitigation strategies to reduce greenhouse gas emissions and enhance resilience to climate change.
3. Analyze the role of plants in climate change mitigation through carbon sequestration, ecosystem restoration, and sustainable land management.

BOT-HG 702 Economic Botany:

1. Explore the economic significance of plants in various sectors, including agriculture, forestry, medicine, and industry.
2. Understand the principles of sustainable utilization and management of plant resources for economic development.
3. Analyze the socio-economic implications of botanical research, innovation, and policy interventions.

BOT-HC 801 Pharmacognosy and Phytochemistry:

1. Gain knowledge of medicinal plants and their active constituents used in traditional and modern medicine.
2. Understand the principles and techniques of phytochemical analysis for the identification and quantification of bioactive compounds.
3. Learn about the pharmacological properties, therapeutic applications, and safety considerations of plant-derived drugs.

BOT-HC 802 Ethnobotany:

1. Explore the relationships between plants and human cultures, including traditional knowledge systems, customs, and practices.
2. Understand the role of ethnobotanical studies in documenting and preserving indigenous plant knowledge and biodiversity.
3. Analyze the socio-cultural, ecological, and ethical dimensions of ethnobotanical research and conservation.

BOT-HE 801 Analytical Techniques in Plant Science:

1. Learn about analytical techniques used in plant science research, including chromatography, spectroscopy, and microscopy.
2. Gain practical experience in sample preparation, data acquisition, and analysis using advanced instrumentation.
3. Apply analytical techniques to investigate plant physiology, biochemistry, and molecular biology questions.

BOT-HG 801 Plant Anatomy and Embryology:

1. Understand the structural organization and developmental processes of plant tissues, organs, and embryos.
2. Learn about the cellular and molecular mechanisms underlying plant growth, differentiation, and patterning.
3. Explore the evolutionary and ecological significance of plant anatomy and embryology in adaptation and diversification.

BOT-HC 803 Industrial and Environmental Microbiology:

1. Gain knowledge of microbial processes and biotechnological applications in industry and environmental remediation.
2. Understand the role of microorganisms in biodegradation, bioconversion, and bioremediation of pollutants.
3. Learn about microbial fermentation techniques for the production of biofuels, biopolymers, and value-added products.

BOT-HG 802 Current Trends in Plant Sciences:

1. Explore recent advances and emerging trends in plant biology research, technology, and innovation.
2. Understand the interdisciplinary nature of contemporary plant science and its connections to other fields such as genomics, bioinformatics, and synthetic biology.
3. Analyze the societal implications and future directions of plant science research in addressing global challenges such as food security, climate change, and environmental sustainability.

B.Sc. PHYSICS COURSE OUTCOMES

PHY-HC 501: Mathematical Physics - I:

1. Develop a strong foundation in mathematical techniques relevant to physics, including calculus, differential equations, and linear algebra.
2. Apply mathematical methods to solve problems in classical mechanics, electromagnetism, and quantum mechanics.
3. Understand the mathematical concepts and tools necessary for advanced courses in theoretical and experimental physics.

PHY-HC 502: Mechanics:

1. Understand the principles of classical mechanics, including Newton's laws of motion, conservation laws, and particle dynamics.
2. Apply mathematical techniques to analyze the motion of particles, rigid bodies, and systems of particles.
3. Solve problems involving forces, motion, energy, and momentum in both one-dimensional and three-dimensional contexts.

PHY-HC 503: Electricity and Magnetism:

1. Understand the fundamental concepts of electrostatics and magnetostatics, including Coulomb's law, Gauss's law, and Ampère's law.
2. Apply the laws of electromagnetism to analyze the behavior of electric and magnetic fields in various situations.
3. Solve problems involving electric circuits, electromagnetic induction, and Maxwell's equations.

PHY-HC 504: Wave and Optics:

1. Understand the properties of waves, including wave propagation, interference, diffraction, and polarization.
2. Analyze the behavior of light waves and optical phenomena such as reflection, refraction, and dispersion.
3. Apply wave optics principles to understand the operation of optical instruments and systems.

PHY-HC 601: Mathematical Physics - II:

1. Extend mathematical techniques to more advanced topics in physics, including complex analysis, Fourier analysis, and partial differential equations.
2. Apply mathematical methods to solve problems in quantum mechanics, statistical mechanics, and field theory.
3. Develop proficiency in mathematical modeling and problem-solving skills relevant to theoretical and computational physics.

PHY-HC 602: Thermal Physics:

1. Understand the laws of thermodynamics and their applications to heat engines, refrigerators, and phase transitions.
2. Analyze the behavior of gases, liquids, and solids in equilibrium and non-equilibrium thermodynamic processes.
3. Apply statistical mechanics principles to describe the microscopic behavior of systems and derive macroscopic thermodynamic properties.

PHY-HC 603: Digital Systems and Applications:

1. Understand the principles of digital electronics, including Boolean algebra, logic gates, and digital circuits.
2. Design and analyze digital systems using combinational and sequential logic components.
3. Apply digital systems concepts to practical applications such as computer architecture, data storage, and signal processing.

PHY-HC 604: Mathematical Physics III:

1. Extend mathematical techniques to advanced topics in physics, including group theory, differential geometry, and variational calculus.
2. Apply mathematical methods to solve problems in quantum field theory, general relativity, and other areas of theoretical physics.
3. Develop mathematical rigor and abstraction skills necessary for advanced research in theoretical physics.

PHY-HC 605: Elements of Modern Physics:

1. Understand the key concepts and experimental evidence that led to the development of modern physics, including relativity and quantum theory.
2. Analyze the principles of quantum mechanics and their applications to atomic, molecular, and nuclear phenomena.
3. Explore the implications of modern physics for technology, society, and our understanding of the universe.

PHY-HC 606: Analog Systems and Applications:

1. Understand the principles of analog electronics, including basic circuit components, amplifiers, and filters.
2. Design and analyze analog circuits for applications in signal processing, communication, and control systems.
3. Develop practical skills in circuit construction, testing, and troubleshooting using analog electronic components.

PHY-HC 701: Quantum Mechanics & Applications:

1. Understand the fundamental principles of quantum mechanics, including wave-particle duality, wave functions, and operators.
2. Apply quantum mechanics to analyze the behavior of quantum systems, including atoms, molecules, and particles.

3. Explore advanced topics such as quantum information theory, quantum computing, and quantum cryptography.

PHY-HC 702: Solid State Physics:

1. Understand the properties of crystalline solids, including crystal structures, lattice vibrations, and electronic band structures.
2. Analyze the behavior of electrons and phonons in solids and their contributions to electrical, thermal, and optical properties.
3. Explore the applications of solid state physics in semiconductor devices, materials science, and nanotechnology.

PHY-HC 703: Electromagnetic Theory:

1. Understand the principles of classical electromagnetism, including Maxwell's equations and electromagnetic waves.
2. Analyze the behavior of electric and magnetic fields in various media and boundary conditions.
3. Apply electromagnetic theory to solve problems in optics, antenna design, electromagnetic wave propagation, and electromagnetic radiation.

PHY-HC 704: Statistical Mechanics:

1. Understand the principles of statistical mechanics and the statistical description of systems with many particles.
2. Apply statistical methods to calculate thermodynamic properties of gases, liquids, and solids in equilibrium.
3. Explore applications of statistical mechanics to understand phase transitions, critical phenomena, and fluctuations in physical systems.

PHY-HC 801: Classical Mechanics:

1. Understand the principles of classical mechanics, including Lagrangian and Hamiltonian formalisms.
2. Apply variational principles to derive equations of motion for mechanical systems and analyze their behavior.
3. Solve problems involving central forces, rigid body motion, and nonlinear dynamics using classical mechanics principles.

PHY-HC 802: Quantum Mechanics:

1. Understand the mathematical formalism of quantum mechanics, including wave functions, operators, and quantum observables.
2. Analyze the behavior of quantum systems, including bound states, scattering, and time evolution.
3. Apply quantum mechanics principles to solve problems in atomic, molecular, and particle physics.

PHY-HC 803: Electrodynamics:

1. Understand the principles of classical electrodynamics, including Maxwell's equations in differential and integral forms.
2. Analyze the behavior of electromagnetic fields in various situations, including boundary value problems and wave propagation.
3. Apply electromagnetic theory to solve problems in antennas, waveguides, transmission lines, and electromagnetic radiation.

PHY-HC 804: Electronics:

1. Understand the principles of electronic devices and circuits, including diodes, transistors, and operational amplifiers.
2. Design and analyze analog and digital circuits for applications in signal processing, communication, and control systems.
3. Develop practical skills in circuit design, simulation, and implementation using electronic components and devices.

PHY-HE 701 A: Physics of Earth:

1. Understand the fundamental principles of geophysics, including the structure, composition, and dynamics of the Earth's interior and surface.
2. Analyze geophysical phenomena such as earthquakes, volcanoes, and plate tectonics using physical principles and mathematical models.
3. Explore the applications of geophysics in areas such as mineral exploration, environmental monitoring, and natural hazard assessment.

PHY-HE 701 B: Advanced Mathematical Physics:

1. Develop advanced mathematical skills relevant to theoretical physics, including complex analysis, differential equations, and functional analysis.
2. Apply mathematical techniques to solve complex problems in quantum mechanics, statistical mechanics, and general relativity.
3. Gain proficiency in mathematical modeling and theoretical analysis in preparation for advanced research in physics.

PHY-HE 701 C: Embedded Systems - Introduction to Microcontroller:

1. Understand the principles of embedded systems and microcontroller architecture.
2. Learn programming techniques for embedded systems using assembly language and high-level languages.
3. Gain practical experience in designing and implementing embedded systems projects using microcontrollers.

PHY-HE 702 A: Medical Physics:

1. Understand the application of physics principles in medical imaging techniques such as X-ray, MRI, CT, and ultrasound.
2. Analyze the interaction of radiation with biological tissues and its implications for diagnostic and therapeutic purposes.

3. Explore the role of medical physicists in radiation safety, dose optimization, and quality assurance in healthcare settings.

PHY-HE 702 B: Biological Physics:

1. Understand the physical principles underlying biological phenomena at the molecular, cellular, and organismal levels.
2. Analyze the mechanical properties of biological structures, including proteins, membranes, and cells.
3. Explore the applications of physics in understanding biological processes such as molecular motors, cell signaling, and biomechanics.

PHY-HE 702 C: Physics of Devices and Instruments:

1. Understand the principles of operation and design of electronic devices and instruments used in physics and engineering.
2. Analyze the performance characteristics of electronic devices such as transistors, amplifiers, and sensors.
3. Gain practical experience in the design, construction, and testing of electronic devices and instrumentation systems.

PHY-HE 801 A: Nuclear and Particle Physics:

1. Understand the fundamental principles of nuclear physics, including nuclear structure, radioactive decay, and nuclear reactions.
2. Analyze the properties and interactions of elementary particles in the context of the standard model of particle physics.
3. Explore applications of nuclear and particle physics in areas such as nuclear energy, particle accelerators, and cosmology.

PHY-HE 801 B: Advanced Mathematical Physics II:

1. Extend mathematical techniques to advanced topics in theoretical physics, including group theory, differential geometry, and Lie algebras.
2. Apply mathematical methods to solve problems in quantum field theory, string theory, and other areas of theoretical physics.
3. Develop mathematical rigor and abstraction skills necessary for advanced research in theoretical and mathematical physics.

PHY-HE 801 C: Astronomy and Astrophysics:

1. Understand the principles of observational astronomy, including telescopes, detectors, and astronomical phenomena.
2. Analyze the properties and evolution of celestial objects such as stars, galaxies, and cosmological structures.
3. Explore current research topics in astronomy and astrophysics, including dark matter, dark energy, and the early universe.

PHY-HE 802 A: Nano Materials and Applications:

1. Understand the properties and behavior of nanomaterials at the nanoscale, including quantum confinement effects and surface phenomena.
2. Analyze the synthesis, characterization, and applications of nanomaterials in fields such as electronics, photonics, and medicine.
3. Explore the potential impact of nanotechnology on various industries and technologies.

PHY-HE 802 B: Communication Electronics:

1. Understand the principles of communication systems, including modulation, demodulation, and transmission techniques.
2. Analyze the performance of electronic communication systems in terms of bandwidth, noise, and data rates.
3. Gain practical experience in designing and implementing communication systems using electronic components and devices.

PHY-HE 802 C: Atomic and Molecular Physics:

1. Understand the structure and properties of atoms and molecules, including energy levels, spectra, and chemical bonding.
2. Analyze atomic and molecular interactions, including collision processes, photoionization, and molecular dynamics.
3. Explore applications of atomic and molecular physics in areas such as spectroscopy, laser technology, and quantum information science.

PHY-SE 501 A: Physics Workshop Skills:

1. Develop practical skills in handling tools and equipment commonly used in physics laboratories and workshops.
2. Understand basic workshop safety protocols and practices to ensure personal safety and equipment maintenance.
3. Gain proficiency in performing experimental procedures, data collection, and analysis in a workshop environment.

PHY-SE 501 B: Computational Physics:

1. Learn programming languages and numerical methods commonly used in computational physics, such as Python, MATLAB, or Fortran.
2. Understand algorithms and techniques for solving mathematical problems, simulating physical systems, and analyzing data computationally.
3. Develop skills in writing computer code, debugging programs, and interpreting computational results in the context of physics problems.

PHY-SE 501 C: Electrical Circuits and Network Skills:

1. Understand the fundamentals of electrical circuits, including Ohm's law, Kirchhoff's laws, and circuit analysis techniques.

2. Learn to design, build, and analyze electrical circuits using basic circuit components such as resistors, capacitors, and inductors.
3. Gain practical skills in troubleshooting and debugging electrical circuits, as well as using circuit simulation software for design and analysis.

PHY-SE 501 D: Basic Instrumentation Skills:

1. Gain familiarity with common laboratory instruments used in physics experiments, such as oscilloscopes, multimeters, and signal generators.
2. Understand the principles of operation and calibration of basic instrumentation, including measurement accuracy and error analysis.
3. Develop skills in setting up experimental apparatus, taking measurements, and recording data using laboratory instrumentation.

PHY-SE 502 A: Renewable Energy and Energy Harvesting:

1. Understand the principles of renewable energy sources such as solar, wind, hydro, and biomass energy.
2. Analyze the technologies and systems used for energy harvesting and conversion from renewable sources.
3. Explore the environmental, economic, and social implications of renewable energy technologies and their role in sustainable development.

PHY-SE 502 B: Technical Drawing:

1. Learn the principles of technical drawing, including geometric construction, orthographic projection, and dimensioning.
2. Develop skills in drafting technical drawings of mechanical components, assemblies, and engineering diagrams.
3. Gain proficiency in using computer-aided design (CAD) software for creating and editing technical drawings.

PHY-SE 502 C: Radiation Safety:

1. Understand the principles of radiation safety and the potential hazards associated with ionizing and non-ionizing radiation sources.
2. Learn safety protocols and procedures for working with radioactive materials, radiation-emitting devices, and radiation detection equipment.
3. Develop skills in radiation risk assessment, shielding design, and regulatory compliance in laboratory and industrial settings.

PHY-SE 502 D: Applied Optics:

1. Understand the principles of geometrical and physical optics, including reflection, refraction, dispersion, and interference.
2. Analyze the design and operation of optical instruments such as lenses, mirrors, and optical fibers.

3. Explore applications of optics in various fields such as imaging, telecommunications, spectroscopy, and laser technology.

PHY-HG 601: Mechanics:

1. Understand the fundamental principles of classical mechanics, including Newton's laws of motion, conservation laws, and kinematics.
2. Apply mathematical techniques such as calculus and vector algebra to solve problems in particle dynamics, rigid body motion, and systems of particles.
3. Analyze real-world mechanical systems and phenomena, including motion under gravity, oscillations, and fluid mechanics.

PHY-HG 602: Electricity and Magnetism:

1. Understand the principles of electrostatics and magnetostatics, including Coulomb's law, Gauss's law, Ampère's law, and Faraday's law of electromagnetic induction.
2. Apply mathematical techniques such as vector calculus to analyze electric and magnetic fields in various configurations and boundary conditions.
3. Explore applications of electricity and magnetism in circuits, electromagnetic waves, and electromagnetic devices.

PHY-HG 701: Solid State Physics:

1. Understand the structure and properties of crystalline solids, including crystal structures, lattice vibrations, and electronic band structures.
2. Analyze the behavior of electrons, phonons, and other excitations in solids and their contributions to electrical, thermal, and optical properties.
3. Explore advanced topics in solid state physics such as semiconductor physics, superconductivity, and magnetism.

PHY-HG 702: Wave and Optics:

1. Understand the principles of wave phenomena, including wave propagation, interference, diffraction, and polarization.
2. Analyze the behavior of light waves and optical phenomena such as reflection, refraction, dispersion, and coherence.
3. Explore applications of wave optics in imaging systems, optical instruments, and laser technology.

PHY-HG 801: Elements of Modern Physics:

1. Understand the key concepts and experimental evidence that led to the development of modern physics, including relativity and quantum theory.
2. Analyze the principles of quantum mechanics and their applications to atomic, molecular, and nuclear phenomena.
3. Explore the implications of modern physics for technology, society, and our understanding of the universe.

PHY-HG 802: Nuclear and Particle Physics:

1. Understand the properties and interactions of atomic nuclei and elementary particles, including nuclear forces, radioactive decay, and particle interactions.
2. Analyze experimental methods and techniques used in nuclear and particle physics research, including particle accelerators and detectors.
3. Explore applications of nuclear and particle physics in areas such as nuclear energy, medical imaging, and fundamental particle physics research.

COURSE OUTCOME OF BACHELOR'S DEGREE IN POLITICAL SCIENCE

1. PSC HC 501 - Understanding Political Theory

1. Understand foundational concepts and theories in political theory.
2. analyse and critique various political ideologies and theories.
3. Apply theoretical frameworks to analyse contemporary political issues.
4. Develop critical thinking skills in the context of political theory.

2. PSC HC 502 - Constitutional Government and Democracy in India

1. Understand the constitutional framework of India.
2. Analyze the functioning of democratic institutions in India.
3. Evaluate the challenges and prospects of Indian democracy.
4. Critically examine the role of the constitution in shaping Indian politics.

3. PSC HC 503 - Political Theory: Concepts and Debates

1. Explore advanced concepts and debates in political theory.
2. Engage critically with theoretical arguments and perspectives.
3. Evaluate the relevance and applicability of different theoretical frameworks in contemporary politics.
4. Develop skills in articulating and defending theoretical positions.

4. PSC HC 504 - Political Process in India

1. Understand the dynamics of political processes in India.
2. analyse the role of political parties, interest groups, and institutions in Indian politics.
3. Evaluate the impact of social, economic, and cultural factors on the political process in India.
4. Assess the challenges and opportunities for democratic governance in India.

5. PSC HC 601 - Introduction to Comparative Government and Politics

1. Compare and contrast different political systems globally.
2. analyse key components of governance and political institutions across countries.
3. Evaluate factors influencing political development and change.
4. Understand methodologies and theories used in comparative politics research.

6. PSC HC 602 - Perspectives on Public Administration

1. Understand theoretical foundations of public administration.

2. analyse the role and functions of public administration in governance.
3. Evaluate different perspectives on administrative reform and management.
4. Apply theoretical knowledge to address practical challenges in public administration.

7. PSC HC 603 - Perspectives on International Relations and World History

1. Comprehend major theories and concepts in international relations.
2. analyse historical events and trends in the context of global politics.
3. Evaluate the role of state and non-state actors in international affairs.
4. Understand contemporary issues and challenges in the international system.

8. PSC HC 604 - Political Processes and Institutions in a Comparative Perspective

1. Compare political processes and institutions across different countries.
2. analyse the impact of historical, cultural, and institutional factors on political systems.
3. Evaluate strengths and weaknesses of different political systems.
4. Understand the importance of context in shaping political outcomes.

9. PSC HC 605 - Public Policy and Administration in India

1. Understand the policy-making process in India.
2. analyse the role of bureaucracy and government agencies in policy implementation.
3. Evaluate the effectiveness of public policies in addressing societal challenges.
4. Identify factors influencing policy formulation and implementation in India.

10. PSC HC 606 - India’s Foreign Policy

1. Understand the evolution and principles of India’s foreign policy.
2. analyse India’s foreign relations with different countries and regions.
3. Evaluate India’s role in international organizations and global governance.
4. Assess challenges and opportunities in India’s foreign policy.

11. PSC HC 701 - Classical Political Philosophy

1. Engage with works of classical political philosophers.
2. Understand foundational concepts and theories in political philosophy.
3. analyse relevance of classical political thought to contemporary political debates.
4. Develop critical thinking skills through engagement with primary texts.

12. PSC HC 702 - Indian Political Thought - I

1. Explore evolution of political thought in India.
2. analyse contributions of Indian philosophers and thinkers to political discourse.

3. Understand historical and cultural context of Indian political thought.
4. Evaluate relevance of Indian political thought to contemporary India.

13. PSC HC 703 - Modern Political Philosophy

1. Examine major themes and debates in modern political philosophy.
2. analyse works of key modern political thinkers.
3. Evaluate impact of modern political thought on political theory and practice.
4. Develop critical perspectives on contemporary political issues through engagement with modern political philosophy.

14. PSC HC 704 - Indian Political Thought - II

1. Delve deeper into tradition of Indian political thought.
2. analyse diversity of perspectives within Indian political thought.
3. Evaluate relevance of classical and modern Indian political thought to contemporary India.
4. Develop nuanced understanding of Indian political thought through critical engagement with primary texts and secondary literature.

15. PSC HC 801 - Government and Politics of North East India

1. Understand the political history and dynamics of North East India.
2. analyse the socio-economic and cultural factors influencing politics in the region.
3. Evaluate the challenges and opportunities for governance and development in North East India.
4. Assess the role of regional identity and autonomy movements in shaping politics in the region.

16. PSC HC 802 - Research Methodology

1. Understand different research methodologies used in political science.
2. Develop skills in research design, data collection, and analysis.
3. Apply research methods to conduct empirical research in political science.
4. Evaluate ethical considerations in political science research.

17. PSC HC 803 - Gandhian Studies

1. Understand the philosophy and principles of Mahatma Gandhi.
2. Analyze Gandhi's ideas on politics, society, and economics.
3. Evaluate the relevance of Gandhian thought to contemporary issues.
4. Reflect on Gandhi's influence on Indian and global politics.

18. PSC SE 501/502 - Parliamentary Procedures and Practices
   - Understand the functioning and structure of parliamentary systems.
   - Analyze parliamentary procedures and practices.
   - Evaluate the role of parliaments in the legislative process.
   - Develop practical skills in parliamentary procedure and debate.

19. PSC SE 501/502 - Peace and Conflict Resolution
   - Understand theories and concepts of peace and conflict resolution.
   - Analyze the root causes of conflicts and methods of resolution.
   - Evaluate the role of international organizations and peacekeeping missions.
   - Develop strategies for conflict prevention and peacebuilding.

20. PSC SE 501/502 - Public Opinion and Survey Research
   - Understand the importance of public opinion in democratic governance.
   - Analyze methodologies used in survey research.
   - Evaluate the reliability and validity of survey data.
   - Develop skills in designing and conducting surveys.

21. PSC HE 701/702/801 - Human Rights in a Comparative Perspective
   - Understand the concept and evolution of human rights.
   - Analyze human rights violations and abuses in different contexts.
   - Evaluate the effectiveness of international human rights mechanisms.
   - Develop strategies for promoting and protecting human rights globally.

22. PSC HE 701/702/801 - Citizenship in a Globalizing World
   - Understand the concept and significance of citizenship in a globalized world.
   - Analyze the rights and responsibilities of citizens in different political systems.
   - Evaluate challenges to citizenship rights in the context of globalization.
   - Develop critical perspectives on citizenship and identity.

23. PSC HE 701/702/801 - Public Policy in India

1. Understand the policy-making process in India.
2. Analyze the impact of public policies on society and governance.
3. Evaluate the effectiveness of policy implementation and outcomes.
4. Develop skills in policy analysis and advocacy.

24. PSC HE 701/702/801 - Understanding Global Politics

1. Understand key concepts and theories in global politics.
2. Analyze the dynamics of power, conflict, and cooperation in the international system.
3. Evaluate the role of states, non-state actors, and international organizations in global governance.
4. Assess contemporary issues and challenges in global politics.

25. PSC HE 701/702/801 - Understanding South Asia

1. Understand the political, social, and economic dynamics of South Asian countries.
2. Analyze historical and contemporary issues in South Asian politics.
3. Evaluate regional cooperation and conflicts in South Asia.
4. Develop insights into the opportunities and challenges facing South Asian nations.

26. PSC HG 601/602/701/702/801/802 - Nationalism in India

1. Understand the historical development of nationalism in India.
2. Analyze different strands of nationalist thought and movements.
3. Evaluate the impact of nationalism on Indian society, politics, and identity.
4. Reflect on contemporary debates and challenges related to nationalism in India.

27. PSC HG 601- Indian Government and Politics

1. Understand the structure and functioning of the Indian political system.
2. Analyze the role of key institutions and actors in Indian politics.
3. Evaluate the challenges and prospects of democracy in India.
4. Develop insights into contemporary political issues and debates in India.

28. PSC HG 601- Contemporary Political Economy

1. Understand theories and concepts of political economy.
2. Analyze the relationship between politics and economics.
3. Evaluate the impact of globalization and economic policies on political outcomes.
4. Develop critical perspectives on contemporary economic issues.

29. PSC HG 601/602/701/702/801/802 - Governance: Issues and Challenges

1. Understand the concept and significance of governance.
2. Analyze challenges and issues in governance at various levels.
3. Evaluate strategies for improving governance and enhancing accountability.
4. Develop insights into the role of governance in addressing societal challenges.

30. PSC HG 601/602/701/702/801/802 - Gandhi and the Contemporary World

a. Understand the philosophy and principles of Mahatma Gandhi.
b. Analyze Gandhi's relevance to contemporary issues such as non-violence, sustainable development, and social justice.
c. Evaluate the global impact of Gandhi's ideas and movements.
d. Reflect on Gandhi's relevance in addressing contemporary challenges.

31. PSC HG 601/602/701/702/801/802 - Feminism: Theory and Practice

1. Understand feminist theories and concepts.
2. Analyze the history and evolution of feminist movements.
3. Evaluate the impact of feminism on politics, society, and culture.
4. Develop critical perspectives on gender equality and social justice.

32. PSC HG 601/602/701/702/801/802 - Politics of Globalization

1. Understand key concepts and debates in globalization studies.
2. Analyze the political, economic, and cultural dimensions of globalization.
3. Evaluate the winners and losers of globalization.
4. Assess the role of states and non-state actors in shaping the politics of globalization.

33. PSC HG 601/602/701/702/801/802 - United Nations and Global Conflicts

1. Understand the history, structure, and functions of the United Nations.
2. Analyze the role of the UN in conflict resolution and peacekeeping.
3. Evaluate the effectiveness of UN interventions in addressing global conflicts.
4. Develop insights into contemporary global security challenges and the role of the UN.

COURSE OUTCOMES OF B.A IN ECONOMICS

1. ECO-HC 501 - Introductory Microeconomics

    a. Understand basic microeconomic concepts such as supply and demand, market structures, and consumer behaviour.
    b. analyse the behaviour of firms and consumers in different market settings.
    c. Apply microeconomic models to real-world economic issues.

2. ECO-HC 502 - Mathematical Methods for Economics

    a. Develop proficiency in mathematical techniques commonly used in economic analysis.
    b. Apply mathematical tools such as calculus and algebra to solve economic problems.
    c. Analyze economic relationships using mathematical models.

3. ECO-SE 501 - Data Analysis

    a. Understand fundamental concepts and techniques of data analysis.
    b. Learn methods for organizing, summarizing, and presenting data.
    c. Apply statistical techniques to analyze economic data sets.
    d. Interpret and communicate results from data analysis.

4. ECO-HC 503 - Introductory Macroeconomics

    a. Understand basic macroeconomic concepts such as national income, employment, and inflation.
    b. Analyze the determinants of aggregate demand and aggregate supply.
    c. Evaluate macroeconomic policies aimed at stabilizing the economy.

5. ECO-HC 504 - Mathematics for Economics-II

    a. Advance mathematical techniques for economic analysis.
    b. Apply advanced calculus, linear algebra, and optimization methods to economic problems.
    c. Solve complex economic models using mathematical tools.

6. ECO-SE 502 - Research Methodology

    a. Understand research methods commonly used in economics.
    b. Learn how to formulate research questions, design studies, and collect data.
    c. Analyze and interpret research findings.
    d. Develop skills in academic writing and presentation.

7. ECO-HC 601 - Intermediate Microeconomics

a. Deepen understanding of microeconomic theory and applications.
b. Analyze consumer choice, production, and market equilibrium in more complex settings.
c. Evaluate the welfare implications of government interventions in markets.

8. ECO-HC 602 - Intermediate Macroeconomics

a. Deepen understanding of macroeconomic theory and analysis.
b. Analyze long-run economic growth and short-run fluctuations.
c. Evaluate the role of monetary and fiscal policy in stabilizing the economy.

9. ECO-HC 603 - Statistical Methods for Economics

a. Advance statistical techniques for economic analysis.
b. Learn regression analysis, hypothesis testing, and other econometric methods.
c. Apply statistical methods to analyze economic relationships and forecast economic variables.

10. ECO-HG 601 - Introductory Microeconomics

a. Understand fundamental microeconomic concepts and principles.
b. Analyze consumer behaviour, firm behaviour, and market structures.
c. Apply microeconomic theory to analyse real-world economic issues.

11. ECO-HC 604 - Introductory Microeconomics-II

a. Further explore microeconomic theory and its applications.
b. Analyze topics such as game theory, information economics, and externalities.
c. Evaluate market failures and the role of government intervention.

12. ECO-HC 605 - Intermediate Macroeconomics-II

a. Deepen understanding of advanced macroeconomic topics.
b. Analyze topics such as economic growth, business cycles, and monetary policy.
c. Evaluate the effectiveness of macroeconomic policies in achieving macroeconomic stability.

13. ECO-HC 606 - Introductory Econometrics

a. Understand the principles of econometric analysis.
b. Learn techniques for estimating and testing economic models using data.
c. Apply econometric methods to analyze economic relationships and test economic theories.

14. ECO-HG 602 - Introductory Macroeconomics

a. Understand basic macroeconomic concepts and theories.
b. Analyze topics such as national income accounting, aggregate demand and supply, and monetary and fiscal policy.
c. Apply macroeconomic analysis to understand real-world economic issues.

15. ECO-HC 701 - Indian Economy

a. Understand the structure and performance of the Indian economy.
b. Analyze key sectors such as agriculture, industry, and services.
c. Evaluate economic policies and reforms in India.

16. ECO-HC 702 - Development Economics

a. Understand theories and concepts of economic development.
b. Analyze factors influencing economic growth and development.
c. Evaluate strategies for promoting inclusive and sustainable development.

17. ECO-HE 701 - Political Economy-I/Topics in Microeconomics-I/Money and Financial Market

a. Understand the intersection of politics and economics.
b. Analyze microeconomic topics such as market structures, pricing, and competition.
c. Learn about the functioning of money and financial markets.

18. ECO-HG 701 - Indian Economy

a. Understand the economic history and development of India.
b. Analyze key economic policies and reforms in India.
c. Evaluate challenges and opportunities facing the Indian economy.

19. ECO-HC 703 - Indian Economy

a. Deepen understanding of the Indian economy.

b. Analyze regional disparities, poverty, and inequality in India.
c. Evaluate government policies and interventions in addressing economic issues.

20. ECO-HC 704 - Development Economics

a. Deepen understanding of theories and concepts of economic development.
b. Analyze case studies and empirical evidence on development issues.
c. Evaluate the effectiveness of development policies and interventions.

21. ECO-HE 702 - Political Economy-II/Topics in Microeconomics-II/Environmental Economics

a. Advance understanding of political economy and microeconomic topics.
b. Analyze environmental issues from an economic perspective.
c. Evaluate policies and strategies for sustainable development.

22. ECO-HG 702 - Indian Economy

a. Further explore the economic landscape of India.
b. Analyze recent economic trends and developments in India.
c. Evaluate India's position in the global economy.

23. ECO-HC 801 - International Economics

a. Understand theories and concepts of international trade and finance.
b. Analyze determinants of trade patterns, trade policies, and exchange rates.
c. Evaluate the impacts of globalization on economies and societies.

24. ECO-HC 802 - Public Finance

a. Understand theories and principles of public finance.
b. Analyze government revenue and expenditure policies.
c. Evaluate the role of taxation, public goods, and fiscal policy in economic management.

25. ECO-HE 801 - Applied Econometrics/Economics of Health & Education/Economic History of India (1857-1947)

a. Apply econometric techniques to analyze economic data.
b. Understand the economic dimensions of health, education, and human capital.
c. Analyze historical economic developments in India during the period 1857-1947.

26. ECO-HG 801 - Environmental Economics

a. Understand economic principles related to environmental issues.
b. Analyze market failures and externalities related to environmental degradation.
c. Evaluate policy instruments and strategies for environmental conservation.

27. ECO-HC 803 - The Economy of Manipur

a. Understand the economic structure and development challenges of Manipur.
b. Analyze key sectors and industries in the economy of Manipur.
c. Evaluate government policies and interventions aimed at promoting economic growth and development in Manipur.

28. ECO-HC 804 - Environmental Economics

a. Deepen understanding of environmental economics principles.
b. Analyze specific environmental challenges and policy responses.
c. Evaluate the economic impacts of environmental degradation and conservation efforts.

29. ECO-HE 802 - Contemporary Economic Issues

a. Analyze current economic challenges and debates.
b. Understand the implications of contemporary economic trends and policies.
c. Evaluate responses to emerging economic issues such as globalization, technological change, and inequality.

COURSE OUTCOMES OF B.A IN ENGLISH

1. ENG-HC 501 - Indian Classical Literature

    a. Understand the major themes, genres, and literary techniques in Indian classical literature.
    b. Analyze classical Indian texts in their historical and cultural contexts.
    c. Interpret and appreciate the aesthetic and philosophical aspects of Indian classical literature.
    d. Develop critical thinking and writing skills through engagement with classical Indian texts.

2. ENG-SE 501 - Translation Studies

    a. Understand theories and approaches to translation.
    b. Analyze challenges and strategies in translating literary texts.
    c. Apply translation techniques to different genres and languages.
    d. Develop skills in translating literary works from one language to another.

3. ENG-HC 502 - European Classical Literature

    a. Understand major works and authors of European classical literature.
    b. Analyze themes, styles, and literary techniques in European classical texts.
    c. Compare and contrast European classical literature with other literary traditions.
    d. Develop critical thinking skills through close reading and analysis of classical European texts.

4. ENG-HC 503 - India Writing in English

    a. Explore the development and diversity of Indian English literature.
    b. Analyze themes, motifs, and narrative techniques in Indian English texts.
    c. Evaluate the socio-cultural and historical contexts of Indian English literature.
    d. Engage critically with issues of identity, language, and representation in Indian English writing.

5. ENG-SE 502 - Creative Writing

    a. Develop creative writing skills in various genres such as poetry, fiction, and drama.
    b. Experiment with different narrative techniques, styles, and voices.
    c. Receive constructive feedback and revise creative works.
    d. Explore personal expression and creativity through writing.

6. ENG-HC 504 - British Poetry and Drama: 14th to 17th century

a. Study major works of British poetry and drama from the 14th to the 17th century.
b. Analyze themes, literary devices, and historical contexts of selected texts.
c. Interpret and appreciate the aesthetic and cultural significance of early British literature.
d. Develop critical thinking skills through engagement with poetic and dramatic works.

7. ENG-HC 601 - American Literature

a. Explore the diversity and evolution of American literary traditions.
b. Analyze major themes, movements, and authors in American literature.
c. Evaluate the cultural and historical contexts of American literary works.
d. Develop critical reading and interpretation skills through engagement with American texts.

8. ENG-HG 601 - Introduction to Literature / Literary Cross Currents: Prose, Poetry, Fiction, and Drama

a. Gain a broad understanding of literature across genres and traditions.
b. Analyze connections and influences among different literary forms.
c. Explore themes and techniques common to various literary works.
d. Develop appreciation and critical skills through exposure to a range of literary texts.

9. ENG-HC 602 - British Poetry and Drama: 17th to 18th century

a. Study major works of British poetry and drama from the 17th to the 18th century.
b. Analyze themes, styles, and literary innovations of the period.
c. Interpret cultural and historical contexts of selected texts.
d. Develop critical thinking skills through engagement with works of this period.

10. ENG-HC 603 - British Literature: 18th century

a. Explore major literary developments and movements in 18th-century British literature.
b. analyse key texts, authors, and themes of the period.
c. Examine the socio-cultural and historical contexts shaping 18th-century British literature.
d. Develop critical reading and writing skills through engagement with texts of this period.

11. ENG-HC 604 - Literary Criticism

a. Understand major theories and approaches in literary criticism.
b. analyse critical texts and debates within the field of literary criticism.
c. Apply critical frameworks to analyse and interpret literary works.
d. Develop skills in writing critically about literature.

12. ENG-HG 602 - Language and Linguistics / Text and Performance

a. Explore the structure and functions of language.
b. analyse linguistic theories and methodologies.
c. Examine language in performance contexts such as theatre and literature.
d. Develop critical thinking skills through engagement with language and linguistic analysis.

13. ENG-HC 605 - British Romantic Literature

a. Study major works and authors of British Romantic literature.
b. analyse themes, styles, and literary innovations of the Romantic period.
c. Interpret cultural and historical contexts of selected texts.
d. Develop critical thinking skills through engagement with Romantic literary works.

14. ENG-HC 606 - British Literature: 19th century

a. Explore major literary developments and movements in 19th-century British literature.
b. analyse key texts, authors, and themes of the period.
c. Examine the socio-cultural and historical contexts shaping 19th-century British literature.
d. Develop critical reading and writing skills through engagement with texts of this period.

15. ENG-HC 701 - Literary Theory

a. Understand major theoretical approaches to literature.
b. analyse critical texts and debates within literary theory.
c. Apply theoretical frameworks to analyse and interpret literary works.
d. Develop advanced critical thinking and writing skills through engagement with literary theory.

16. ENG-HE 701 / ENG-HE 701 - Modern Indian Writing in English Literature

a. Explore the diversity and richness of modern Indian literature in English.
b. analyse themes, motifs, and narrative techniques in Indian English texts.
c. Evaluate the socio-cultural and historical contexts of modern Indian literature.
d. Engage critically with issues of identity, language, and representation in Indian English writing.

17. ENG-HG 701 - Language and Indian Literature / Individual and Society

a. Explore the relationship between language and literature in the Indian context.
b. analyse themes, motifs, and cultural influences in Indian literary works.
c. Examine the role of literature in shaping individual and societal identities.
d. Develop critical perspectives on Indian literature and society.

18. ENG-HC 702 - British Literature: The Early 20th century

a. Study major works and authors of British literature from the early 20th century.
b. analyse themes, styles, and literary innovations of the period.
c. Interpret cultural and historical contexts of selected texts.
d. Develop critical thinking skills through engagement with works of this period.

19. ENG-HC 703 - Modern European Drama

a. Explore major trends and developments in European drama of the modern period.
b. analyse key plays, playwrights, and theatrical movements.
c. Examine the socio-cultural and historical contexts shaping modern European drama.
d. Develop critical reading and interpretation skills through engagement with dramatic texts.

20. ENG-HE 702 / ENG-HE 702 - British Literature: Post-WWII / Writings from the North East India / Media and Mass Communication in India

a. Study literature from post-World War II Britain
b. analyse themes, styles, and socio-cultural contexts of selected texts.
c. Interpret the impact of historical events and cultural movements on literature.
d. Develop critical thinking and writing skills through engagement with contemporary literary works.

21. ENG-HC 704 - Postcolonial Literature

a. Explore literature produced in postcolonial contexts.
b. analyse themes of identity, power, and resistance in postcolonial texts.

COURSE OUTCOMES OF BA EDUCATION

1. Edn-HC-501 - Principles of Education

    a. Understand fundamental principles and theories underlying the field of education.
    b. analyse the role of education in society and its impact on individuals and communities.
    c. Evaluate different approaches to teaching and learning.
    d. Apply educational principles to practical teaching situations.

2. Edn-HC-502 - Educational Philosophy

    a. Understand major philosophical perspectives on education.
    b. analyse the relationship between philosophy and educational practice.
    c. Evaluate the implications of different philosophical views for educational policy and reform.
    d. Develop a personal philosophy of education.

3. Edn-HC-503 - Educational Sociology

    a. Understand sociological theories and concepts relevant to education.
    b. analyse the social factors influencing educational outcomes.
    c. Evaluate educational systems and institutions from a sociological perspective.
    d. Apply sociological insights to address educational inequalities and challenges.

4. Edn-HC-504 - Educational Psychology

    a. Understand psychological theories and concepts relevant to education.
    b. analyse cognitive, emotional, and social development in educational contexts.
    c. Evaluate psychological factors influencing teaching and learning.
    d. Apply psychological principles to enhance teaching effectiveness and student motivation.

5. Edn-HC-601 - Development of Education in India

    a. Trace the historical development of education in India.
    b. analyse key educational reforms and policies in India.
    c. Evaluate the impact of socio-cultural and political factors on the evolution of education in India.
    d. Understand the current challenges and opportunities in the Indian education system.

6. Edn-HC-602 - Educational Management

a. Understand principles and practices of educational management.
b. analyse organizational structures and leadership styles in educational institutions.
c. Evaluate strategies for effective school administration and management.
d. Develop skills in planning, budgeting, and resource allocation in education.

7. Edn-HC-603 - Guidance and Counselling in Education

a. Understand the principles and techniques of guidance and counselling.
b. analyse the role of counsellors in educational settings.
c. Evaluate strategies for addressing academic, social, and emotional issues among students.
d. Develop skills in counselling techniques and interventions.

8. Edn-HC-604 - Educational Technology

a. Understand the role of technology in education.
b. analyse different educational technologies and their applications.
c. Evaluate the impact of technology on teaching and learning outcomes.
d. Develop skills in integrating technology into instructional practices.

9. Edn-HC-605 - Education for Curriculum Development

a. Understand principles and theories of curriculum development.
b. analyse curriculum models and frameworks.
c. Evaluate factors influencing curriculum design and implementation.
d. Develop skills in designing, implementing, and evaluating curricula.

10. Edn-HC-606 - Inclusive Education

a. Understand the principles and policies of inclusive education.
b. analyse strategies for creating inclusive learning environments.
c. Evaluate the role of teachers, administrators, and policymakers in promoting inclusive education.
d. Develop skills in supporting diverse learners and addressing individual needs.

11. Edn-HC-701 - Educational Evaluation

a. Understand principles and methods of educational evaluation.
b. analyse different types of assessments and their purposes.
c. Evaluate the reliability and validity of assessment tools.
d. Develop skills in designing and conducting educational evaluations.

12. Edn-HC-702 - Educational Statistics

a. Understand basic statistical concepts and techniques.
b. analyse data relevant to educational research and evaluation.
c. Interpret statistical findings in educational contexts.
d. Develop skills in using statistical software for data analysis.

13. Edn-HC-703 - Psychology of Adjustment

a. Understand theories of human adjustment and adaptation.
b. analyse factors influencing psychological well-being and adjustment.
c. Evaluate strategies for coping with stress and managing life transitions.
d. Develop skills in promoting psychological resilience and self-regulation.

14. Edn-HC-704 - Early Childhood Care & Education

a. Understand principles of early childhood development and learning.
b. analyse effective practices in early childhood education.
c. Evaluate strategies for promoting holistic development in young children.
d. Develop skills in designing and implementing developmentally appropriate early childhood programs.

15. Edn-HC-801 - Comparative Education

a. Understand principles and methods of comparative education.
b. analyse educational systems and practices across different countries.
c. Evaluate factors influencing educational outcomes in diverse cultural contexts.
d. Develop cross-cultural perspectives on education and schooling.

16. Edn-HC-802 - Educational Thinkers

a. Explore the ideas and contributions of major educational thinkers.
b. analyse the relevance of educational theories to contemporary educational issues.
c. Evaluate the influence of educational philosophies on educational practice.
d. Develop critical perspectives on educational thought and ideology.

17. Edn-HC-803 - Trends and Issues in Indian Education

a. Identify current trends and issues in the Indian education system.
b. analyse challenges and opportunities facing Indian education.
c. Evaluate policies and reforms aimed at addressing educational issues in India.

d. Develop strategies for promoting quality education and equitable access.

18. Edn-HC-804 - Educational Research

a. Understand principles and methods of educational research.
b. analyse different research designs and methodologies.
c. Evaluate research findings and their implications for educational practice.
d. Develop skills in conducting and disseminating educational research.

19. Edn-HE-701 - Continuing Education

a. Explore specialized topics in education such as continuing education, adolescent education, education in Manipur, environmental education, elementary education, population education, value education, or gender education.
b. analyse relevant issues and challenges in the chosen area of study.
c. Evaluate strategies for promoting educational goals and objectives in the chosen context.
d. Develop expertise in the chosen area through research and practical experience.

20. Edn-HG-601 - Philosophical and Sociological foundations of Education

a. Understand philosophical and sociological perspectives on education.
b. analyze the relationship between education and society.
c. Evaluate the implications of philosophical and sociological theories for educational practice.
d. Develop critical perspectives on the role of education in shaping individuals and societies.

21. Edn-HG-602 - Educational Psychology And Pedagogy

a. Explore psychological principles relevant to teaching and learning.
b. analyse cognitive, emotional, and social aspects of learning.
c. Evaluate pedagogical strategies for promoting student engagement and achievement.
d. Develop skills in applying psychological principles to instructional practices.

22. Edn-HG-701 - Development of Education in India / Issues and trends in contemporary Indian Education

a. Explore the historical development and contemporary issues of education in India.
b. analyse challenges and reforms in Indian education.

c. Evaluate policies and initiatives aimed at improving the quality and accessibility of education in India.
d. Develop a comprehensive understanding of the Indian education system.

23. Edn-HG-801 - Educational Evaluation and Statistics

a. Explore specialized topics in educational evaluation and statistics or educational management and educational technology.
b. analyse relevant issues and challenges in the chosen area of study.
c. Evaluate strategies for improving educational practices and outcomes.
d. Develop expertise in the chosen area through research and practical experience.

24. Edn-SE-501 - Guidance and Counselling

a. Understand principles and techniques of guidance and counselling.
b. analyse the role of counsellors in educational settings.
c. Evaluate strategies for addressing academic, social, and emotional issues among students.
d. Develop skills in counselling techniques and interventions.

25. Edn-SE-502 - Pre-School Management

a. Understand principles of early childhood education and management.
b. analyse effective practices in managing preschool programs.
c. Evaluate strategies for promoting holistic development and school readiness in young children.
d. Develop skills in planning, organizing, and evaluating preschool programs.

COURSE OUTCOMES OF B.A GEOGRAPHY

1. Physical Geography-HC 501

   a. Understand the key concepts and principles of physical geography.
   b. Demonstrate knowledge of Earth's physical processes and landforms.
   c. Apply physical geography concepts to analyze and interpret natural phenomena.
   d. Develop skills in map reading and spatial analysis in physical geography.

2. Political Geography-SE 501

   a. Understand the relationship between politics and geography.
   b. Identify and analyze geopolitical issues and territorial boundaries.
   c. Develop skills in mapping political phenomena and spatial distribution of political entities.
   d. Apply political geography concepts to analyze global and regional geopolitical patterns.

3. Cartography-1 (Practical) HC 502

   a. Develop proficiency in basic cartographic techniques.
   b. Use cartographic tools and software to create maps.
   c. Interpret and analyze spatial data represented on maps.
   d. Demonstrate skills in map design and presentation.

4. Human Geography-HC 503

   a. Understand the scope and focus of human geography.
   b. Analyze human-environment interactions and their spatial patterns.
   c. Identify and explain key concepts in cultural, social, and economic geography.
   d. Apply human geography concepts to understand contemporary global issues.

5. Basic Statistical Technique -SE 502

   a. Understand basic statistical methods and techniques used in geographical analysis.
   b. Apply statistical tools to analyze geographical data and patterns.
   c. Interpret statistical results and draw meaningful conclusions.
   d. Develop skills in using statistical software for geographical analysis.

6. Thematic Cartography-HC 504 (Practical)

   a. Develop advanced skills in thematic map design.

b. Use thematic mapping techniques to visualize spatial patterns and relationships.
c. Interpret thematic maps to understand geographic phenomena.
d. Apply thematic cartography principles to communicate geographical information effectively.

7. Geography of India-HC 601

a. Understand the geographical diversity and regional characteristics of India.
b. Analyze the physical, cultural, and economic geography of India.
c. Identify and explain key geographical features and regions of India.
d. Apply geographical concepts to analyze contemporary issues in Indian geography.

8. Human and Economic Geography-HG 601

a. Analyze the spatial distribution and patterns of human activities and economic processes.
b. Understand the relationship between human societies and their environments.
c. Identify and explain key concepts in economic geography, such as globalization and urbanization.
d. Apply geographical theories to understand and address economic and social challenges.

9. World Regional Geography

a. Understand the geographical diversity and characteristics of different world regions.
b. Analyze the physical, cultural, and economic geography of selected world regions.
c. Identify and explain key geographical features and spatial patterns in various regions.
d. Compare and contrast different world regions to understand global patterns and trends.

10. Statistical Method in Geography-HC 603 (Practical)

a. Develop proficiency in using statistical methods for geographical analysis.
b. Apply statistical techniques to analyze geographical data and patterns.
c. Interpret statistical results in the context of geographical research.
d. Demonstrate skills in statistical analysis using relevant software.

11. Economic Geography-HC 604

a. Understand the spatial distribution and dynamics of economic activities.
b. Analyze the factors influencing economic development and globalization.
c. Identify and explain key concepts in economic geography, such as industry location and trade patterns.
d. Apply economic geography theories to analyze regional disparities and development strategies.

12. Industrial Geography-HG 602

a. Analyze the spatial distribution and characteristics of industrial activities.
b. Understand the factors influencing industrial location and growth.
c. Identify and explain key concepts in industrial geography, such as agglomeration economies and industrial clusters.
d. Apply industrial geography theories to analyze regional industrial development.

13. Evolution of Geographical Thought-HC 605

a. Understand the historical development of geographical thought and theories.
b. Analyze key geographical ideas and concepts throughout history.
c. Identify and explain the contributions of prominent geographers to the field.
d. Evaluate the relevance of historical geographical thought to contemporary geographical research.

14. Fieldwork and Research Method (Practical) HC 702

a. Develop practical skills in conducting geographical fieldwork.
b. Apply research methodologies to collect and analyze geographical data.
c. Demonstrate proficiency in fieldwork techniques such as surveys, interviews, and observations.
d. Produce high-quality research reports based on fieldwork findings.

15. Population Geography-HC 701

a. Analyze the spatial distribution and dynamics of human populations.
b. Understand the factors influencing population growth, migration, and urbanization.
c. Identify and explain key concepts in population geography, such as demographic transition and population policies.
d. Apply population geography theories to analyze population trends and patterns.

16. Resource Geography-HE 701 / Social Geography-HE 701 / Health Geography-HE 701

a. Analyze the spatial distribution and utilization of natural resources.
b. Understand the social dimensions of resource management and sustainability.
c. Identify and explain key concepts in resource geography, social geography, and health geography.
d. Apply geographical perspectives to address resource management and health issues.

17. Agricultural Geography-HG 701

a. Analyze the spatial distribution and characteristics of agricultural activities.
b. Understand the factors influencing agricultural production and land use.
c. Identify and explain key concepts in agricultural geography, such as agricultural systems and rural development.
d. Apply agricultural geography theories to analyze agricultural landscapes and food security.

18. Remote Sensing and GIS (Practical)-HC 606

a. Develop proficiency in remote sensing and geographic information systems (GIS) technologies.
b. Apply remote sensing techniques to collect and analyze spatial data.
c. Use GIS software to create and manipulate spatial datasets.
d. Apply remote sensing and GIS tools to solve real-world geographical problems.

19. Climatology-HC 703

a. Understand the principles and processes of the Earth's climate system.
b. Analyze climate patterns and variability at different spatial and temporal scales.
c. Identify and explain key concepts in climatology, such as atmospheric circulation and climate change.
d. Apply climatological theories to understand and predict climate phenomena.

20. Hydrology-HE 702

a. Analyze the distribution and characteristics of water bodies and hydrological processes.
b. Understand the factors influencing aquatic ecosystems and biodiversity.
c. Identify and explain key concepts in hydrology, biogeography, and oceanography.
d. Apply interdisciplinary approaches to study aquatic environments and their interactions with other Earth systems.

21. Environmental Geography-HG 702

a. Understand the interactions between human activities and the natural environment.
b. Analyze environmental issues and their spatial patterns at local, regional, and global scales.
c. Identify and explain key concepts in environmental geography, such as sustainability and environmental governance.
d. Apply geographical perspectives to address environmental challenges and promote sustainable development.

22. Geographical Field Survey Report-HC 704

a. Apply fieldwork methodologies to collect geographical data.
b. Analyze and interpret field observations and measurements.
c. Produce comprehensive field survey reports that integrate theoretical concepts with empirical findings.
d. Communicate research findings effectively through written and oral presentations.

23. Settlement Geography-HC 801

a. Analyze the spatial distribution and characteristics of human settlements.
b. Understand the factors influencing urban and rural development.
c. Identify and explain key concepts in settlement geography, urban geography, rural geography, and development geography.
d. Apply geographical theories to analyze settlement patterns and development processes.

24. Sustainable Resource Geography of Northeast India

a. Analyze the sustainable management of natural resources in the Northeast region of India.
b. Understand the processes and landforms shaping the Earth's surface.
c. Develop proficiency in research methodologies used in geographical studies.
d. Apply geographical research methods to investigate specific geographical phenomena or problems.

25. Fluvial Geomorphology-HG 802

a. Analyze the processes and landforms associated with fluvial systems.
b. Interpret topographic maps and aerial photographs.
c. Identify and explain key concepts in fluvial geomorphology and cartographic interpretation.
d. Apply geomorphological theories to understand river dynamics and landscape evolution.

COURSE OUTCOME OF BA MANIPURI

1. MSL-HC-501 Poetry & Prose

    a. Understand the characteristics and themes of Manipuri poetry and prose.
    b. Analyze the stylistic elements and literary devices used in Manipuri literature.
    c. Interpret and appreciate selected poems and prose works in Manipuri.
    d. Demonstrate proficiency in reading, understanding, and discussing Manipuri literary texts.

2. MSL-HC-502 Grammar & Composition

    a. Understand the rules and principles of Manipuri grammar.
    b. Apply grammatical rules correctly in spoken and written Manipuri.
    c. Develop proficiency in writing compositions in Manipuri.
    d. Demonstrate effective communication skills in Manipuri language.

3. MSL SEC-501 Transliteration/Arangpham

    a. Develop skills in transliterating Manipuri text into other scripts or vice versa.
    b. Understand the principles and techniques of transliteration.
    c. Apply transliteration methods accurately to ensure clarity and accuracy in text conversion.

4. MSL HC-503 Drama

    a. Understand the conventions and characteristics of Manipuri drama.
    b. Analyze the themes, plots, and characters in selected Manipuri plays.
    c. Interpret and appreciate the cultural and social significance of Manipuri drama.
    d. Demonstrate skills in performing, directing, or critiquing Manipuri theatrical productions.

5. MSL HC-504 Novel & Short Story

    a. Understand the structure and elements of Manipuri novels and short stories.
    b. Analyze the themes, characters, and narrative techniques in selected Manipuri works of fiction.
    c. Interpret and appreciate the cultural and literary significance of Manipuri novels and short stories.
    d. Develop skills in writing, reading, and critiquing Manipuri fiction.

6. MSL SE-502 Food Processing/ Fashion Designing

a. Understand the principles and practices of food processing or fashion designing.
b. Develop practical skills in food processing techniques or fashion designing.
c. Apply knowledge of food processing or fashion designing to create innovative products.
d. Demonstrate awareness of safety, hygiene, and sustainability practices in food processing or fashion designing.

7. MSL-HC-601 History of Manipuri Literature

a. Understand the historical development of Manipuri literature.
b. Identify key literary movements, periods, and figures in Manipuri literary history.
c. Analyze the socio-cultural context and influences shaping Manipuri literature.
d. Interpret and appreciate the literary contributions of Manipuri writers across different epochs.

8. MSL-HC-602 Old Manipuri Literature

a. Understand the characteristics and themes of Old Manipuri literature.
b. Analyze the literary forms and genres prevalent in Old Manipuri literature.
c. Interpret selected texts from Old Manipuri literature.
d. Appreciate the cultural and historical significance of Old Manipuri literary works.

9. MSL-HC-603 Future of early Manipuri Culture (before 18th Century)

a. Understand the socio-cultural dynamics of early Manipuri society.
b. Analyze the cultural practices and traditions of Manipuri people before the 18th century.
c. Explore the influences and interactions shaping early Manipuri culture.
d. Interpret the continuity and change in early Manipuri cultural expressions.

10. MSL-HG-601 Introduction to Manipuri Literature

a. Understand the scope and significance of Manipuri literature.
b. Identify major literary genres, themes, and trends in Manipuri literature.
c. Analyze representative works of Manipuri literature.
d. Appreciate the cultural and linguistic richness of Manipuri literary tradition.

11. MSL-HC-604 Literature in Translation

a. Understand the process and challenges of literary translation.
b. Analyze translated works of Manipuri literature in relation to the original texts.

c. Interpret cultural and linguistic nuances in translated Manipuri literature.
d. Appreciate the role of translation in promoting cross-cultural understanding and literary exchange.

12. MSL-HC-605 Introduction to Linguistics

a. Understand the basic principles and concepts of linguistics.
b. Analyze the structure and function of Manipuri language.
c. Identify key linguistic features and phenomena in Manipuri.
d. Apply linguistic theories to analyze and describe Manipuri language and its usage.

13. MSL-HC-606 Travelogue

a. Understand the genre and conventions of travel writing.
b. Analyze selected Manipuri travelogues in terms of themes, narrative techniques, and perspectives.
c. Interpret and appreciate the cultural and experiential dimensions of Manipuri travel writing.
d. Develop skills in writing and presenting travel narratives in Manipuri.

14. MSL-HG-602 Medieval Manipuri Literature

a. Understand the characteristics and themes of Medieval Manipuri literature.
b. Analyze literary forms and genres prevalent in Medieval Manipuri literature.
c. Interpret selected texts from Medieval Manipuri literature.
d. Appreciate the socio-cultural context and historical significance of Medieval Manipuri literary works.

15. MSL-HC-701 Biographical Literature

a. Understand the genre and conventions of biographical writing.
b. Analyze selected Manipuri biographies in terms of content, structure, and style.
c. Interpret and appreciate the portrayal of individuals in Manipuri biographical literature.
d. Develop skills in writing and researching biographical narratives in Manipuri.

16. MSL-HC-702 Maha Kavya and Khanda Kavya

a. Understand the characteristics and themes of Maha Kavya and Khanda Kavya.
b. Analyze selected Manipuri epic and narrative poems.
c. Interpret the cultural and literary significance of Maha Kavya and Khanda Kavya.

d. Appreciate the artistic and narrative techniques employed in Manipuri epic poetry.

17. MSL-HE701 / Khwairakpam Chaoba Life & Works

a. Understand the life and literary works of Khwairakpam Chaoba.
b. Analyze selected writings of Khwairakpam Chaoba in the context of Manipuri literature.
c. Interpret the thematic concerns and stylistic features of Khwairakpam Chaoba's works.
d. Appreciate the contributions of Khwairakpam Chaoba to Manipuri literature and culture.

18. MSL-HE701 / Manipuri Folk Literature

a. Understand the characteristics and genres of Manipuri folk literature.
b. Analyze selected folk tales, legends, and songs from Manipuri oral tradition.
c. Interpret the cultural and social significance of Manipuri folk literature.
d. Appreciate the role of folk literature in preserving and transmitting Manipuri cultural heritage.

19. MSL-HE701 / Social and Culture background of Medieval Period

a. Understand the socio-cultural context of Manipuri society during the Medieval period.
b. Analyze the cultural practices, beliefs, and institutions of Medieval Manipuri society.
c. Interpret the historical developments and social dynamics shaping Medieval Manipuri culture.
d. Appreciate the continuity and change in Manipuri social and cultural traditions over time.

20. MSL-HG-701 Old Manipuri Literature

a. Understand the characteristics and themes of Old Manipuri literature.
b. Analyze literary forms and genres prevalent in Old Manipuri literature.
c. Interpret selected texts from Old Manipuri literary tradition.
d. Appreciate the cultural and historical significance of Old Manipuri literary works.

21. MSL-HC-703 History of Manipuri Culture (from 18th to 20th Century

onwards)

a. Understand the socio-cultural transformations in Manipuri society from the 18th to the 20th century.
b. Analyze the impact of colonialism, modernization, and globalization on Manipuri culture.
c. Interpret the cultural expressions and movements of the modern period in Manipuri literature and arts.
d. Appreciate the resilience and adaptability of Manipuri culture in the face of socio-political changes.

22. MSL-HC-704 Folkloristics and Manipuri Folklore

a. Understand the principles and theories of folkloristics.
b. Analyze different forms of Manipuri folklore, including folk tales, myths, legends, and rituals.
c. Interpret the cultural meanings and functions of Manipuri folklore.
d. Appreciate the role of folklore in shaping Manipuri identity and heritage.

23. MSL-HE702 / Lamabam Kamal Life & works

a. Understand the life and literary works of Lamabam Kamal.
b. Analyze selected writings of Lamabam Kamal in the context of Manipuri literature.
c. Interpret the thematic concerns and stylistic features of Lamabam Kamal's works.
d. Appreciate the contributions of Lamabam Kamal to Manipuri literature and culture.

24. MSL-HE702 / General Characteristics and Development of Manipuri Language

a. Understand the phonological, morphological, and syntactic features of Manipuri language.
b. Analyze the historical development and linguistic structure of Manipuri language.
c. Interpret the socio-cultural context and regional variations of Manipuri language.
d. Appreciate the role of Manipuri language in preserving and promoting Manipuri identity.

25. MSL-HE702 / Wari Macha

a. Understand the genre and conventions of Wari Macha literature.

b. Analyze selected Wari Macha texts in terms of themes, narrative techniques, and cultural contexts.
c. Interpret and appreciate the cultural and historical significance of Wari Macha literature.
d. Develop skills in reading, interpreting, and performing Wari Macha texts.

26. MSL-HG-702 Modern Manipuri Literature

a. Understand the characteristics and themes of Modern Manipuri literature.
b. Analyze literary forms and genres prevalent in Modern Manipuri literature.
c. Interpret selected texts from Modern Manipuri literary tradition.
d. Appreciate the socio-cultural and political contexts of Modern Manipuri literature.

COURSE OUTCOMES OF BA HISTORY

1. HIS-HC 501: The Idea of Bharat/ History & Indian Historiography

a. Understand the concept of Bharat and its historical significance.
b. Analyze the development of Indian historiography over time.
c. Evaluate different historiographical approaches to Indian history.
d. Demonstrate critical thinking skills in interpreting historical narratives about India.

2. HIS-SE 501: Introduction to Archaeology/ Archives & Museums/ Myanmarese or Burmese Language

1) Gain foundational knowledge of archaeological methods and principles.
2) Understand the role and functions of archives and museums in preserving cultural heritage.
3) Acquire basic proficiency in the Myanmarese or Burmese language.
4) Demonstrate awareness of cultural heritage preservation practices and challenges.

3. HIS-HC 502: History of World Civilization

1) Gain a broad understanding of the major civilizations and cultures throughout world history.
2) Analyze the interconnectedness and exchanges between different civilizations.
3) Identify key events, developments, and figures shaping world history.
4) Interpret the impact of civilizations on global historical processes.

4. HIS-HC 503: History of India - Earliest time to 550 C.E.

1) Understand the political, social, and cultural developments in ancient India.
2) Analyze the emergence and evolution of early Indian civilizations.
3) Interpret primary sources and archaeological evidence to reconstruct ancient Indian history.
4) Appreciate the continuity and change in ancient Indian society.

5. HIS-SE 502: Understanding Heritage/ Understanding popular Culture of India/ Historical tourism in N-E India

1) Understand the concept and significance of heritage.
2) Analyze popular culture trends and phenomena in India.
3) Explore the historical and cultural heritage sites in Northeast India.
4) Demonstrate awareness of the socio-cultural implications of heritage preservation and tourism.

6. HIS-HC 504: History of Europe - 13th Century to 1789

1) Understand the major political, social, and cultural developments in Europe during the specified period.
2) Analyze key events, figures, and movements that shaped European history.
3) Interpret the impact of Renaissance, Reformation, Enlightenment, and other transformative periods on European society.
4) Evaluate the significance of European history in the context of global developments.

7. History of India - 550 C.E. to 1200 C.E.

1) Analyze the political, economic, and cultural developments in medieval India.
2) Understand the rise and fall of major dynasties and empires in medieval India.
3) Interpret religious and philosophical movements during the medieval period.
4) Evaluate the continuity and change in Indian society from ancient to medieval times.

8. HIS-HG 601: History of Manipur - From 33 A.D. to 1891 A.D.

1) Gain an understanding of the historical evolution of Manipur from ancient to colonial times.
2) Analyze the political, social, and cultural transformations in Manipur.
3) Interpret the impact of external influences on Manipuri society and polity.
4) Appreciate the contributions of Manipuri rulers and leaders to the region's history.

9. HIS-HC 602: History of Europe 1789 to 1919 C.E.

1) Understand the major political, social, and cultural developments in Europe during the specified period.
2) Analyze key events, figures, and movements that shaped European history.
3) Interpret the impact of industrialization, nationalism, imperialism, and other transformative forces on European society.
4) Evaluate the significance of European history in the context of global developments.

10. HIS-HC 603: History of India - 1200 C.E. to 1707 C.E.

1) Analyze the political, economic, and cultural developments in medieval India.
2) Understand the rise and fall of major dynasties and empires in medieval India.
3) Interpret religious and philosophical movements during the medieval period.
4) Evaluate the continuity and change in Indian society from ancient to medieval times.

11. HIS-HC 604: History of Modern World - 1919 to 1945 C.E.

1) Understand the major global events and transformations during the interwar period.
2) Analyze the political, economic, and cultural impact of World War I and its aftermath.
3) Interpret the rise of totalitarian regimes, the Great Depression, and the origins of World War II.

4) Evaluate the significance of the period in shaping the modern world order.

12. HIS-HG 602: History of Ancient India

1) Gain a comprehensive understanding of ancient Indian civilization and society.
2) Analyze the political, economic, and cultural dynamics of ancient India.
3) Interpret archaeological evidence and textual sources to reconstruct ancient Indian history.
4) Appreciate the contributions of ancient Indian civilization to world history and culture.

13. HIS-HC 605: History of India - 1707 C.E. to 1857 C.E.

1) Analyze the political, economic, and cultural developments in early modern India.
2) Understand the rise of regional powers, European colonialism, and the Mughal decline.
3) Interpret social and religious movements during the early modern period.
4) Evaluate the impact of colonial rule on Indian society and economy.

14. HIS-HC 606: Indian National Movement - 1857-1947 C.E.

1) Understand the origins and evolution of the Indian freedom struggle.
2) Analyze the contributions of different leaders, organizations, and movements to the Indian national movement.
3) Interpret key events and phases of the Indian struggle for independence.
4) Evaluate the role of various socio-political factors in shaping the course of the Indian national movement.

15. HIS-HC 701: History of Modern India - 1947-2000 C.E.

1) Analyze the political, economic, and social transformations in post-independence India.
2) Understand the challenges and opportunities faced by independent India in nation-building and development.
3) Interpret key policies, reforms, and events in modern Indian history.
4) Evaluate the impact of globalization, regional conflicts, and socio-political movements on contemporary India.

16. HIS-HE 701: History of the United States of America-I (1776-1945 C.E.)

1) Understand the major events, figures, and developments in American history from the Revolutionary War to World War II.
2) Analyze the political, economic, and social transformations in the United States during the specified period.
3) Interpret key documents, speeches, and debates in American history.
4) Evaluate the significance of American history in shaping global affairs.

17. HIS-HE 701: History of the USSR (1917-1964 C.E.)

1) Gain an understanding of the rise, consolidation, and decline of the Soviet Union.
2) Analyze the political, economic, and social structures of the USSR.
3) Interpret key events, figures, and movements in Soviet history.
4) Evaluate the impact of Soviet policies and ideology on domestic and international affairs.

18. HIS-HE 701: History of Africa (1500-1960 C.E.)

1) Understand the diverse historical experiences of African societies during the specified period.
2) Analyze the impact of European colonization, slave trade, and independence movements on African history.
3) Interpret key events, figures, and developments in African history.
4) Evaluate the legacy of colonialism and the challenges of post-colonial Africa.

19. HIS-HG 701: History of Medieval India

1) Gain a comprehensive understanding of medieval Indian history.
2) Analyze the political, social, and cultural dynamics of medieval Indian society.
3) Interpret the impact of Islamic conquests, the Delhi Sultanate, and the Mughal Empire on medieval India.
4) Appreciate the contributions of medieval Indian rulers, thinkers, and artists to Indian civilization.

20. HIS-HC 702: Cultural Heritage of India

1) Understand the diversity and richness of India's cultural heritage.
2) Analyze the contributions of different civilizations, religions, and communities to Indian culture.
3) Interpret the significance of tangible and intangible cultural heritage sites in India.
4) Evaluate the challenges and opportunities in preserving and promoting India's cultural heritage.

21. HIS-HC 703: Asian Resurgence

1) Understand the historical and contemporary developments in Asia.
2) Analyze the political, economic, and social transformations in Asian countries.
3) Interpret key events, figures, and movements in Asian history.
4) Evaluate the role of Asia in global affairs and its potential for future growth and development.

22. HIS-HE-702: History of South East Asia (19th & 20th Centuries)

1) Gain an understanding of the historical developments in Southeast Asia during the 19th and 20th centuries.
2) Analyze the impact of colonialism, nationalism, and globalization on Southeast Asian countries.
3) Interpret key events, figures, and movements in the history of Southeast Asia.
4) Evaluate the socio-political and economic challenges facing the region.

23. HIS-HG-702: History of Modern India

1) Gain a comprehensive understanding of modern Indian history.
2) Analyze the political, economic, and social transformations in modern India.
3) Interpret key events, figures, and movements in modern Indian history.
4) Evaluate the legacy of colonialism, the Indian freedom struggle, and the challenges of post-independence nation-building.

24. HIS-HC 704: History of Manipur – Earliest time to 1891 A.D.

1) Understand the historical evolution of Manipur from ancient to colonial times.
2) Analyze the political, social, and cultural transformations in Manipur.
3) Interpret the impact of external influences on Manipuri society and polity.
4) Appreciate the contributions of Manipuri rulers and leaders to the region's history.

25. HIS-HC 801: History of Modern Manipur – 1891-1949 A.D.

1) Analyze the political, economic, and social developments in Manipur during the specified period.
2) Understand the impact of British colonial rule, Manipur's integration into British India, and subsequent developments.
3) Interpret key events, figures, and movements in the history of modern Manipur.
4) Evaluate the role of Manipuri leaders and organizations in the struggle for self-determination and independence.

26. HIS-HE-801: History of East Asia (1840 to 1949 C.E.)

1) Understand the historical developments in East Asia during the specified period.
2) Analyze the impact of imperialism, modernization, and nationalism on East Asian countries.
3) Interpret key events, figures, and movements in the history of East Asia.
4) Evaluate the socio-political and economic dynamics shaping East Asian societies.

27. HIS-HE-801: Environmental Issues in India

1) Understand the historical context and contemporary challenges of environmental issues in India.
2) Analyze the impact of human activities, policies, and natural processes on the Indian environment.
3) Interpret the socio-economic implications of environmental degradation and conservation efforts in India.
4) Evaluate strategies for sustainable development and environmental governance in India.

28. HIS-HE-801: History of the North East India From 1826 to 1947

1) Gain an understanding of the historical developments in Northeast India during the specified period.
2) Analyze the impact of colonialism, migration, and indigenous resistance movements on the region.
3) Interpret key events, figures, and movements in the history of Northeast India.
4) Evaluate the socio-political and economic challenges facing the region.

29. HIS-HG-801: History of Freedom HIS Movement in India

1) Understand the history and significance of the freedom movement in India.
2) Analyze the various phases, leaders, and ideologies of the Indian freedom struggle.
3) Interpret key events, movements, and strategies employed in the struggle for independence.
4) Evaluate the legacy of the freedom movement and its impact on post-independence India.

30. HIS-HC 802: History of Communication in India

1) Understand the historical evolution of communication technologies and media in India.
2) Analyze the role of communication in shaping social, political, and cultural developments in India.
3) Interpret key milestones, innovations, and challenges in the history of Indian communication.
4) Evaluate the impact of globalization and digital media on communication practices in contemporary India.

31. HIS-HC 803: History of Contemporary Manipur (1950- 2000)

1) Analyze the political, economic, and social developments in Manipur during the specified period.
2) Understand the impact of statehood, insurgency, and regional movements on Manipuri society and polity.
3) Interpret key events, figures, and movements in the history of contemporary Manipur.
4) Evaluate the challenges and opportunities facing Manipur in the post-independence era.

32. HIS-HE 802: Dissertation

1) Develop a research proposal on a historical topic of interest.
2) Conduct independent research using primary and secondary sources.
3) Analyze and interpret historical evidence to address research questions.
4) Present findings coherently and persuasively in a dissertation format.

33. HIS-HG-802: History of Modern Europe (1789-1945 CE)

1) Gain a comprehensive understanding of modern European history.
2) Analyze the political, economic, and cultural developments in Europe during the specified period.
3) Interpret key events, figures, and movements in the history of modern Europe.
4) Evaluate the impact of nationalism, industrialization, imperialism, and world wars on European society.

34. HIS-HG-802: Women in Indian History

1) Understand the role and status of women in different periods of Indian history.
2) Analyze the socio-cultural, economic, and political factors influencing women's lives.
3) Interpret women's contributions to various spheres of Indian society and culture.
4) Evaluate historical narratives and representations of women in Indian history.

35. HIS-HG-802: Making Contemporary India

1) Analyze the socio-political, economic, and cultural transformations in contemporary India.
2) Understand the complexities of nation-building, democracy, and diversity in India.
3) Interpret key policy debates, social movements, and cultural trends shaping contemporary India.
4) Evaluate the challenges and prospects for India's future development and global role.

COURSE OUTCOMES OF B.Sc ZOOLOGY

ZOO-HC 501 Non-chordates I: Protista to Pseudocoelomates

1. Understand the diversity, classification, and evolutionary relationships of non-chordate organisms from Protista to Pseudocoelomates.

2. Demonstrate knowledge of the anatomical features, physiological adaptations, and ecological roles of various non-chordate taxa.

3. Analyze the significance of non-chordates in ecosystem dynamics and human interactions.

ZOO-HC 502 Principles of Ecology

1. Comprehend the fundamental principles governing the structure and function of ecosystems.

2. Apply ecological theories and concepts to analyze population dynamics, community interactions, and ecosystem processes.

3. Evaluate human impacts on ecosystems and propose sustainable management strategies.

ZOO-SE 501 Apiculture / Aquarium Fish keeping

1. Gain practical skills in the management and care of honeybee colonies or aquarium fish.

2. Understand the principles of apiculture or aquarium fish keeping, including breeding, nutrition, and disease control.

3. Apply knowledge of apiculture or aquarium fish keeping to real-world scenarios, such as hobbyist or commercial operations.

ZOO-HC 503 Non-chordates II: Coelomates

1. Explore the diversity and evolutionary relationships of coelomate animals.

2. Analyze the anatomical structures, physiological processes, and ecological roles of coelomate taxa.

3. Evaluate the significance of coelomates in various ecosystems and their interactions with other organisms.

ZOO-HC 504 Cell Biology

1. Understand the structure and function of cells at the molecular and organelle levels.

2. Explain cellular processes such as metabolism, cell division, and signal transduction.

3. Apply knowledge of cell biology to understand disease mechanisms and biomedical research.

ZOO-SE 502 Sericulture / Medical Diagnostics

1. Acquire practical skills in silk production through sericulture or in performing medical diagnostics techniques.

2. Understand the principles of sericulture or medical diagnostics, including equipment, procedures, and data analysis.

3. Apply sericulture or medical diagnostics knowledge to address industry challenges or healthcare needs.

ZOO-HC 601 Diversity of Chordates

1. Explore the diversity, evolutionary history, and ecological roles of chordate animals.

2. Analyze the anatomical features, physiological adaptations, and behavior of chordate taxa.

3. Evaluate the conservation status and management strategies for various chordate species.

ZOO-HC 602 Physiology

1. Understand the physiological processes governing the function of organ systems in animals.

2. Analyze physiological adaptations to different environmental conditions and life histories.

3. Apply physiological principles to understand health, disease, and performance in animals.

ZOO-HC 603 Fundamentals of Biochemistry

1. Comprehend the structure and function of biomolecules such as proteins, carbohydrates, lipids, and nucleic acids.

2. Explain biochemical pathways involved in metabolism, energy production, and molecular regulation.

3. Apply knowledge of biochemistry to understand cellular processes, disease mechanisms, and biotechnological applications.

ZOO-HG 601 Animal Diversity

1. Explore the diversity of animals across different taxonomic groups and ecological niches.

2. Analyze the evolutionary relationships and adaptations of animals to their environments.

3. Evaluate the conservation status and management strategies for diverse animal species.

ZOO-HC 604 Comparative Anatomy of Vertebrates

1. Understand the anatomical similarities and differences among vertebrate taxa.

2. Analyze the functional significance of anatomical features in vertebrate evolution and ecology.

3. Apply comparative anatomical knowledge to interpret evolutionary relationships and adaptations in vertebrates.

ZOO-HC 605 Physiology: Life Sustaining Systems

1. Comprehend the physiological mechanisms involved in maintaining homeostasis and sustaining life in animals.

2. Analyze the interplay between organ systems in supporting physiological functions such as circulation, respiration, and digestion.

3. Apply knowledge of physiological systems to understand responses to environmental challenges and disease states.

ZOO-HC 606 Biochemistry of Metabolic Processes

1. Understand the biochemical pathways involved in cellular metabolism, including glycolysis, Krebs cycle, and oxidative phosphorylation.

2. Analyze the regulation of metabolic pathways and the interconnection between different metabolic processes.

3. Apply knowledge of metabolic biochemistry to understand metabolic diseases, energy metabolism, and metabolic adaptations in organisms.

ZOO-HC 701 Molecular Biology

1. Comprehend the molecular mechanisms underlying gene expression, replication, and regulation in organisms.

2. Analyze the structure and function of DNA, RNA, and proteins in cellular processes.

3. Apply molecular biology techniques to investigate genetic variation, gene function, and molecular evolution.

ZOO-HC 702 Principles of Genetics

1. Understand the principles of inheritance, genetic variation, and population genetics.

2. Analyze genetic mechanisms underlying phenotypic traits, genetic disorders, and evolutionary processes.

3. Apply genetic principles to solve problems in agriculture, medicine, and conservation biology.

ZOO-HE 701/ ZOO-HE 701/ ZOO-HE 701 Fish & Fisheries / Biology of Insecta / Microbiology

1. Gain specialized knowledge in fish biology and fisheries management, insect biology, or microbiology.

2. Understand the ecological, economic, and public health importance of fish, insects, or microorganisms.

3. Apply knowledge of fish, insect, or microbial biology to address environmental, agricultural, or medical challenges.

Of course, here are the course outcomes for the remaining papers:

ZOO-HG 701 Environment and Public Health

1. Understand the interactions between the environment and public health, including the spread of diseases, pollution, and environmental degradation.

2. Analyze the impact of environmental factors on human health and well-being.

3. Evaluate strategies for environmental management and public health interventions to mitigate risks and promote health.

ZOO-HC 703 Developmental Biology

1. Comprehend the processes of embryonic development, including cell differentiation, morphogenesis, and organogenesis.

2. Analyze the molecular mechanisms underlying developmental processes and their regulation.

3. Apply knowledge of developmental biology to understand birth defects, regeneration, and evolutionary developmental biology.

ZOO-HC 704 Evolutionary Biology

1. Understand the principles of evolutionary theory, including natural selection, adaptation, and speciation.

2. Analyze patterns and mechanisms of evolution across different taxonomic groups and ecological contexts.

3. Apply evolutionary biology principles to interpret biological diversity, phylogenetic relationships, and conservation strategies.

ZOO-HE 702/ ZOO-HE 702/ ZOO-HE 702 Parasitology/ Reproductive Biology/ Biotechniques

1. Gain specialized knowledge in parasitology, reproductive biology, or biotechniques.

2. Understand the biology, ecology, and epidemiology of parasites, reproductive processes, or biotechnological methods.

3. Apply knowledge of parasitology, reproductive biology, or biotechniques to address challenges in healthcare, agriculture, or biotechnology.

ZOO-HG 702 Insect Vectors and Diseases

1. Understand the role of insects as vectors of human and animal diseases.

2. Analyze the biology, ecology, and behavior of insect vectors and their interactions with pathogens.

3. Evaluate strategies for vector control and disease prevention in public health and veterinary medicine.

ZOO-HC 801 Animal Biotechnology

1. Comprehend the principles and applications of biotechnology in animal agriculture, medicine, and conservation.

2. Analyze the use of genetic engineering, cloning, and other biotechnological tools in animal research and industry.

3. Evaluate the ethical, social, and environmental implications of animal biotechnology.

ZOO-HC 802 Immunology

1. Understand the structure and function of the immune system in animals.

2. Analyze the cellular and molecular mechanisms of immune responses to pathogens and foreign substances.

3. Apply knowledge of immunology to understand disease mechanisms, vaccination strategies, and immunotherapy.

ZOO-HC 803 Animal Behaviour and Chronobiology

1. Comprehend the principles of animal behavior, including ethology, behavioral ecology, and behavioral genetics.

2. Analyze the adaptive significance of animal behaviors in relation to ecological, evolutionary, and physiological contexts.

3. Apply knowledge of animal behavior and chronobiology to understand patterns of activity, communication, and social organization in animals.

ZOO-HC 804 Biostatistics and Bioinformation

1. Understand the principles of biostatistics and bioinformatics for analyzing biological data.

2. Apply statistical methods and computational tools to analyze and interpret biological datasets.

3. Use biostatistics and bioinformatics techniques to address research questions in ecology, genetics, and biomedical sciences.

ZOO-HE 802 Dissertation

1. Demonstrate proficiency in designing and conducting independent research in a specialized area of zoology.

2. Analyze and interpret data to address research questions or hypotheses.

3. Communicate research findings effectively through written reports and oral presentations.

ZOO-HG 802 Animal Cell Biotechnology

1. Understand the principles and applications of cell culture techniques in animal biotechnology.

2. Analyze the use of animal cells in biopharmaceutical production, tissue engineering, and regenerative medicine.

3. Apply cell biotechnology methods to address challenges in healthcare, agriculture, and environmental conservation.

COURSE OUTCOME OF BSc MATHEMATICS

MAT-HC-501 Calculus

1. Understand the fundamental concepts of calculus including limits, derivatives, and integrals.

2. Apply calculus techniques to solve problems in optimization, rates of change, and areas under curves.

3. Analyze functions and their behavior using calculus tools such as differentiation and integration.

MAT-HC-502 Algebra, Complex Trigonometry & Logic

1. Comprehend algebraic structures, complex numbers, and trigonometric functions.

2. Apply logical reasoning and algebraic techniques to solve mathematical problems.

3. Analyze properties of algebraic structures and their applications in mathematics and other disciplines.

MAT-HC-503 Real Analysis

1. Understand the theoretical foundations of real analysis including sequences, series, and continuity.

2. Apply real analysis techniques to study the properties of real-valued functions and their limits.

3. Analyze the convergence and divergence of sequences and series using rigorous mathematical proofs.

MAT-HC-504 Differential Equations

1. Comprehend different types of ordinary and partial differential equations and their solutions.

2. Apply differential equation techniques to model physical, biological, and engineering phenomena.

3. Analyze the behaviour of dynamical systems using qualitative and numerical methods for solving differential equations.

MAT-HC-601 Theory of Real Functions

1. Understand the properties of real-valued functions, including continuity, differentiability, and integrability.

2. Apply advanced techniques from real analysis to study the convergence and divergence of real functions.

3. Analyze the behavior of real functions and their applications in mathematical modeling and optimization.

MAT-HC-602 Computer Science & Programming in C

1. Gain proficiency in programming using the C language and understanding of computer science fundamentals.

2. Apply programming techniques to solve mathematical problems and implement algorithms.

3. Analyze algorithms and data structures for efficiency and correctness in computational tasks.

MAT-HC-603 Multivariate Calculus

1. Understand the calculus of functions of several variables, including partial derivatives and multiple integrals.

2. Apply multivariate calculus techniques to analyze surfaces, volumes, and optimization problems in higher dimensions.

3. Analyze vector calculus operations such as gradient, divergence, and curl in various mathematical and physical contexts.

MAT-HC-604 Partial Differential Equations

1. Comprehend the theory and solutions of partial differential equations arising in mathematical physics and engineering.

2. Apply techniques such as separation of variables, Fourier series, and transforms to solve partial differential equations.

3. Analyze the behavior of solutions to partial differential equations and their applications in modeling wave phenomena, heat transfer, and quantum mechanics.

Certainly, here are the remaining course outcomes:

MAT-HC-605 Riemann Integration

1. Understand the theory of Riemann integration and properties of Riemann integrable functions.

2. Apply integration techniques to compute definite integrals and evaluate areas under curves.

3. Analyze the convergence of Riemann sums and their applications in calculus and real analysis.

MAT-HC-606 Numerical Analysis

1. Comprehend numerical methods for solving mathematical problems including approximation, interpolation, and numerical integration.

2. Apply numerical algorithms to solve equations, compute derivatives, and integrate functions numerically.

3. Analyze the accuracy, stability, and efficiency of numerical algorithms in practical computations.

MAT-HC-701 Metric Spaces

1. Understand the theory of metric spaces, including distance functions, open and closed sets, and convergence.

2. Apply metric space concepts to analyze continuity, compactness, and completeness of metric spaces.

3. Analyze topological properties of metric spaces and their applications in analysis and geometry.

MAT-HC-702 Mechanics (Dynamics & Statics)

1. Gain proficiency in solving problems in classical mechanics including dynamics and statics.

2. Apply principles of mechanics to analyze motion, forces, and equilibrium of particles and rigid bodies.

3. Analyze physical systems using mathematical techniques from calculus and linear algebra.

MAT-HC-703 Complex Analysis

1. Understand the theory of complex functions, including analyticity, contour integration, and power series.

2. Apply complex analysis techniques to solve problems in physics, engineering, and applied mathematics.

3. Analyze the behavior of complex functions using tools such as Cauchy's theorem and residues.

MAT-HC-704 Group, Ring Theory and Linear Algebra

1. Comprehend algebraic structures such as groups, rings, and vector spaces, and their properties.

2. Apply algebraic techniques to study symmetry, algebraic equations, and linear transformations.

3. Analyze abstract algebraic structures and their applications in cryptography, coding theory, and quantum mechanics.

MAT-HC-801 Laplace Transform & Vectors

1. Understand the theory and applications of Laplace transforms in solving differential equations and systems.

2. Apply vector algebra and calculus techniques to study vectors in two and three dimensions.

3. Analyze vector operations and their geometric interpretations in various mathematical and physical contexts.

MAT-HC-802 Advanced Real Analysis

1. Comprehend advanced topics in real analysis including measure theory, Lebesgue integration, and functional analysis.

2. Apply advanced real analysis techniques to study spaces of functions, Fourier analysis, and distributions.

3. Analyze the convergence of sequences and series of functions and their applications in analysis and probability.

MAT-HC-803 Probability Theory

1. Understand the fundamentals of probability theory, including random variables, probability distributions, and stochastic processes.

2. Apply probability models and techniques to analyze random phenomena and statistical data.

3. Analyze the behavior of random variables and their applications in finance, engineering, and science.

MAT-HC-804 Mathematical Modelling

1. Comprehend the process of mathematical modeling, including problem formulation, model construction, and analysis.

2. Apply mathematical techniques to develop and analyze models for real-world phenomena in various disciplines.

3. Analyze the effectiveness of mathematical models in predicting and understanding complex systems.

COURSE OUTCOMES OF BSc CHEMISTRY

CHM-SE 501: IT Skills for Chemists

1. Develop proficiency in using IT tools and software relevant to chemistry, including data analysis, visualization, and modeling.

2. Apply IT skills to solve chemical problems, analyze experimental data, and communicate scientific findings effectively.

3. Understand the ethical and security considerations related to IT use in the context of chemistry research and industry.

CHM-SE 501: Basic Analytical Chemistry

1. Understand the principles and techniques of analytical chemistry for qualitative and quantitative analysis of chemical substances.

2. Gain practical skills in laboratory methods such as spectroscopy, chromatography, and titration.

3. Apply analytical chemistry techniques to solve problems in environmental monitoring, quality control, and research.

CHM-SE 501: Chemical Technology & Society

1. Comprehend the role of chemical technology in shaping society, including its impact on economy, environment, and health.

2. Analyze the ethical, social, and environmental implications of chemical technologies and industrial processes.

3. Evaluate strategies for sustainable and responsible chemical innovation and development.

CHM-SE 501: Chemoinformatics

1. Understand the principles and methods of chemoinformatics for storing, retrieving, and analyzing chemical data.

2. Gain proficiency in using chemoinformatics tools and databases for structure-activity relationship studies, virtual screening, and drug design.

3. Apply chemoinformatics techniques to support research and development in pharmaceuticals, materials science, and other fields.

CHM-SE 501: Business Skills for Chemists

1. Develop skills in project management, communication, and entrepreneurship relevant to careers in the chemical industry.

2. Understand business concepts such as marketing, finance, and intellectual property management in the context of chemistry.

3. Apply business skills to advance careers in research, development, manufacturing, and management roles in the chemical sector.

CHM-SE 502: Analytical Clinical Biochemistry / Pharmaceutical Chemistry / Pesticide Chemistry / Fuel Chemistry / Renewable Energies (solar and biogas) / Biofertilizer

1. Gain specialized knowledge in one of the selected areas of chemistry relevant to clinical biochemistry, pharmaceuticals, pesticides, fuels, renewable energies, or biofertilizers.

2. Understand the chemical principles, analytical techniques, and applications specific to the chosen field.

3. Apply knowledge of analytical chemistry, organic chemistry, and specialized topics to address challenges and opportunities in the chosen area.

CHM-HG 601: Chemistry 1: Atomic Structure, Bonding, General Organic Chemistry & Aliphatic Hydrocarbons

1. Understand the atomic structure, chemical bonding, and molecular geometry of elements and compounds.

2. Gain proficiency in organic chemistry principles including nomenclature, functional groups, and reaction mechanisms.

3. Apply knowledge of atomic and molecular structure to understand the properties and behavior of organic molecules and aliphatic hydrocarbons.

CHM-HG 602: Chemistry 2: s-and p-Block Elements, Transition Elements & States of Matter**

1. Comprehend the properties and reactions of elements in the s- and p-blocks of the periodic table.

2. Understand the chemistry of transition elements including coordination complexes, oxidation states, and catalysis.

3. Analyze the behavior of matter in different states including gases, liquids, and solids, and apply principles of physical chemistry to explain phase transitions and thermodynamic properties.

CHM-HG 701: Chemistry 3: Chemical Energetics, Equilibria & Functional Group Organic Chemistry

1. Understand the principles of chemical energetics, including thermodynamics, entropy, and Gibbs free energy.

2. Analyze chemical equilibria including acid-base, solubility, and complexation equilibria, and apply equilibrium principles to solve problems.

3. Gain proficiency in the chemistry of functional groups in organic compounds, including reaction mechanisms, stereochemistry, and synthesis strategies.

CHM-HG 702: Chemistry 4: Solutions, Phase Equilibrium, Conductance & Functional Group Organic

1. Comprehend the behavior of solutions, including colligative properties, solubility, and phase diagrams.

2. Understand phase equilibrium in multicomponent systems and apply phase rule principles to analyze phase diagrams.

3. Gain proficiency in conducting and interpreting chemical experiments related to conductance and electrochemistry.

CHM-HG 801 Chemistry 5: Coordination Chemistry, Acids and Bases, Noble Gases, Stereochemistry, Amino Acids, Peptides and Proteins

1. Understand the principles of coordination chemistry, including ligand field theory, coordination numbers, and isomerism.

2. Analyze acid-base reactions and buffer systems, including pH calculations and titration curves.

3. Comprehend the properties and reactivity of noble gases, including their chemical bonding and applications.

4. Gain proficiency in stereochemistry principles and their applications in chemical synthesis and molecular recognition.

5. Understand the structure, properties, and functions of amino acids, peptides, and proteins in biological systems.

CHM-HG 802: Chemistry 6: Electrochemistry, Chemical Kinetics, Transition Elements, Lanthanoids and Actinoids

1. Comprehend electrochemical principles, including electrode potentials, electrolysis, and electrochemical cells.

2. Analyze chemical reaction rates and mechanisms, including factors affecting reaction rates and rate laws.

3. Understand the properties and reactivity of transition elements, lanthanoids, and actinoids, including coordination chemistry and complex formation.