Program Outcome

Undergraduate Anthropology

The Department of Anthropology aims to equip students with a comprehensive understanding of human diversity, cultures, and societies. Upon completing the program, students will be able to:

1. Demonstrate a strong foundation in anthropological theory, methods, and concepts.
2. Apply critical thinking and analytical skills to address complex human issues and challenges.
3. Conduct empirical research, including fieldwork and ethnographic studies, to gain practical experience.
4. Analyze and interpret cultural, social, and biological data to make informed and ethical decisions.
5. Engage in interdisciplinary approaches to address contemporary global problems.
6. Communicate effectively and present research findings professionally.
7. Understand and appreciate cultural diversity and promote intercultural awareness and sensitivity.
8. Contribute to the field of anthropology and apply anthropological insights to real-world situations, fostering positive social change.

Course Outcome

Core Paper 1

After completing the course "Introduction to Biological Anthropology," students should be able to:

1. Understand the Historical Context:
    - Describe the historical development of physical anthropology and the transition to modern biological anthropology.
    - Differentiate between traditional and modern approaches in biological anthropology.
2. Grasp the Theories of Human Evolution:
    - Explain the key theories of human evolution, including Lamarckism, Darwinism, the Synthetic theory, and the Mutation theory.
    - Analyze the impact of these theories on our understanding of human evolution.
3. Comprehend Primate Biology:

- Identify the general characteristics, distribution, and classification of non-human primates.
- Compare the anatomy and behavior of human and non-human primates, recognizing similarities and differences.

4. Master the Fundamentals of Genetics:
    - Explain the structure and function of animal cells, including relevant organelles.
    - Demonstrate an understanding of cell division processes such as mitosis and meiosis.
    - Apply Mendel's Laws of inheritance to human genetics and inheritance patterns.
5. Acquire Practical Skills:
    - Perform laboratory techniques, including dry lab and wet lab procedures.
    - Calibrate and standardize various anthropological instruments.
    - Demonstrate proficiency in using instruments like anthropometry tools, spreading calipers, sliding calipers, weighing machines, and steel tape.
6. Apply Somatometric Measurements:
    - Accurately measure and interpret somatometric parameters such as stature, sitting height, body weight, maximum head length, maximum head breadth, maximum bizygomatic breadth, bigonial breadth, morphological facial height, head circumference, and minimum frontal breadth.
7. Analyze Biological Anthropological Data:
    - Collect and analyze biological anthropological data effectively.
    - Interpret the significance of somatometric measurements in the context of human biology and evolution.

Core Paper 2

Upon completing the course "Introduction to Socio-cultural Anthropology," students should be able to:

1. Understand the Anthropological Perspective:
    - Recognize the foundational principles and orientation of socio-cultural anthropology.
    - Explain the scope and relevance of socio-cultural anthropology in the broader field of anthropology.
    - Distinguish socio-cultural anthropology from sociology and understand their respective contributions.
2. Grasp Fundamental Concepts:

- Define key concepts such as society, culture, status, role, groups, institutions, social stratification, and civil society.
- Analyze the relationships between these concepts and their significance in understanding human societies.

3. Comprehend Social Organization and Structure:
    - Describe the principles of social organization and social structure.
    - Explain the functions and systems that underlie social organizations and institutions.
4. Master Ethnographic Research Methods:
    - Understand the theory and practice of ethnographic fieldwork, including its purpose and methods.
    - Demonstrate knowledge of survey methods, comparative analysis, and historical research approaches in socio-cultural anthropology.
5. Apply Practical Techniques in Data Collection:
    - Utilize various data collection techniques, including observation, interviewing, questionnaire and schedule design, case studies, and life history research.
    - Evaluate the appropriateness of each technique for specific research situations.
6. Analyze Social Anthropological Data:
    - Collect, analyze, and interpret data using the practical techniques learned in the course.
    - Apply these techniques to real-world scenarios, demonstrating the ability to gather and process socio-cultural data effectively.

Core paper 3

Upon successful completion of the course "Archaeological Anthropology," students will be able to:

1. Understand the Foundations of Archaeological Anthropology:
    - Define the scope and objectives of archaeological anthropology.
    - Recognize its interconnections with other disciplines, highlighting its role in reconstructing human history and culture.
2. Master Dating Methods and Techniques:
    - Differentiate between absolute and relative dating methods used in archaeological research.
    - Apply various dating techniques, including radiocarbon dating, potassium-argon dating, dendrochronology, and stratigraphy, to estimate the age of archaeological sites.

3. Comprehend Geochronology and Environmental Context:
    - Explain the geochronological framework of the Pleistocene epoch.
    - Analyze glacial and interglacial periods, pluvial and interpluvial events, and their impact on human prehistory.
4. Acquire Knowledge of Cultural Evolution:
    - Interpret the concept of culture in archaeological anthropology.
    - Describe techniques of tool manufacture and evaluate their relative efficiency.
    - Classify tools into primary and combination fabrication types.
    - Identify and discuss the earliest evidence of culture at significant archaeological sites around the world.
5. Perform Typo-technological Analysis:
    - Accurately identify, interpret, and create drawings of prehistoric tool types.
    - Categorize core tool types, flake tool types, blade tool types, microlithic tool types, and Neolithic tool types.
    - Analyze the significance of tool typologies in understanding ancient cultures and human technological advancements.
6. Apply Archaeological Anthropology Skills:
    - Utilize the knowledge and practical skills acquired during the course to analyze archaeological materials and sites effectively.
    - Contribute to the field of archaeological anthropology by conducting research, classifying artifacts, and interpreting their cultural significance.

Core paper 4

Upon completing the course "Fundamentals of Human Origin & Evolution," students will be able to:

1. Understand Primate Evolution:
    - Describe the origins, evolution, and radiation of primates, including key species like Ramapithecus and Dryopithecus.
    - Analyze the distribution, features, and phylogenetic relationships of early primates.
2. Comprehend the Evolution of Hominins:
    - Explain the appearance of the Australopithecines and their distribution, features, and phylogenetic relationships.
    - Explore the emergence of Homo habilis and the related archaeological findings.

- Examine Homo erectus across Asia, Europe, and Africa, including their distribution, features, and phylogenetic status.

3. Investigate Human Ancestry:
    - Examine the fossil evidence related to the Neanderthals and Archaic Homo sapiens sapiens.
    - Trace the origin of modern humans (Homo sapiens sapiens), including their distribution and features.
4. Analyze Theories of Human Evolution:
    - Compare and contrast the Multiregional and Out of Africa theories of human evolution.
    - Understand the hominization process, including key milestones in human evolutionary history.
5. Apply Anthropological Measurement Techniques:
    - Perform craniometry, including measurements of cranial length, breadth, bizygomatic breadth, frontal breadth, nasal height, nasal breadth, bi-mastoid breadth, occipital breadth, and facial height.
    - Calculate cranial and nasal indices for evaluating cranial and nasal morphology.
    - Conduct osteometry measurements on long bones, including length, minimum circumference, and caliber index calculations.
6. Identify and Compare Fossil Casts:
    - Identify and study casts of fossils from the hominidae family.
    - Create accurate drawings and comparisons of key characteristics found in these fossil casts.
7. Apply Evolutionary Concepts:
    - Apply knowledge of human evolution to understand the development of various hominin species and their significance in the human evolutionary timeline.

Core Paper 5

Upon completing the course "Tribes and Peasants in India," students will be able to:

1. Define and Conceptualize Tribes and Peasants:
    - Define the concept of "tribe" and identify the problems associated with nomenclature, distribution, and classification of tribes.
    - Recognize the distinctive features of tribes in India and their socio-cultural diversity.
    - Understand the concept of "peasantry" and the various approaches used to study peasants, encompassing economic, political, and cultural dimensions.

2. Analyze the Tribal Scenario in India:
    - Explore the historical background of tribal administration in India.
    - Discuss the constitutional safeguards and the significance of the Draft National Tribal Policy.
    - Evaluate the challenges of acculturation, assimilation, and integration faced by tribal communities.
    - Assess the impact of development schemes and programs on tribal life, including their consequences and benefits.
3. Examine the Indian Village and Caste System:
    - Investigate the concept of the Indian village and its importance in rural life.
    - Analyze the social organization, economy, and changes in Indian villages.
    - Evaluate the dynamics of the caste system and its changes within Indian society.
4. Understand Ethnicity Issues:
    - Examine the tribal and peasant movements in India, including their historical context, goals, and consequences.
    - Discuss identity issues related to tribal and peasant communities and the challenges they face.
5. Apply Ethnographic Research:
    - Analyze ethnographic studies related to tribes and peasants in India.
    - Critically assess research questions, theoretical frameworks, methods, key findings, and their relevance in the context of the study's objectives.
    - Connect the content of ethnographies with the concepts of tribe and peasantry, and synthesize the information effectively.
6. Develop Critical Thinking and Analysis Skills:
    - Enhance critical thinking and analytical skills by evaluating the findings of ethnographic studies in relation to contemporary resources.
    - Recognize the importance of interdisciplinary approaches in the study of tribes and peasants in India.

Core Paper 6

Upon completing the course "Human Ecology," students will be able to:

1. Define Key Concepts in Ecology:
    - Define essential ecological concepts, such as ecosensitivity, adaptation, acclimation, acclimatization, and ecosystem.

- Identify and describe the different types and components of ecosystems, including both biotic and abiotic factors.

2. Understand Methods of Studying Human Ecology:
    - Analyze the methods used to study human ecology and assess their applicability in ecological research.
    - Explain how humans adapt to various ecological stresses, including heat, cold, and high altitudes.
    - Discuss ecological rules and their relevance to human populations.
3. Recognize Culture as an Adaptive Tool:
    - Identify the role of culture in human adaptation.
    - Examine various modes of human adaptation in pre-state societies, including hunting and food gathering, pastoralism, shifting cultivation, agriculture, and peasantry.
4. Explore Ecological Themes in State Formation:
    - Investigate ecological themes related to state formation, including the Neolithic revolution and hydraulic civilization.
    - Analyze the impact of urbanization and industrialization on human societies and their ecological consequences.
5. Apply Anthropological Measurement Techniques:
    - Perform size and shape measurements on biological dimensions, including stature, sitting height, body weight, total upper extremity length, and nasal dimensions.
    - Calculate size and shape indices, such as body mass index, ponderal index, relative sitting height, and nasal index.
6. Design and Execute a Research Project:
    - Create a research design addressing an environmental problem related to human ecology.
    - Execute a research project based on the chosen design, demonstrating the ability to apply ecological concepts and methods in practical research.
7. Develop Critical Thinking and Problem-Solving Skills:
    - Enhance critical thinking and problem-solving skills by analyzing real-world environmental challenges and proposing solutions.
    - Evaluate the implications of human adaptation and cultural practices on the environment and society.

Core Paper 7

Upon completing the course "Biological Diversity in Human Populations," students will be able to:

1. Understand Biological Variability:
    - Define the concept of biological variability and identify its sources, including genetic variation.
    - Explain the structuring of genetic variation and the interpretation of human variation.
    - Recognize the significance of genetic polymorphism, encompassing serological, biochemical, and DNA markers in human populations.
2. Evaluate the Concept of Race:
    - Analyze the concept of race and its historical context.
    - Examine the UNESCO Statement on Race and critically appraise various contributions by scholars like Risley, Guha, Rickstett, and Sarkar in understanding ethnic elements in Indian populations.
    - Compare and contrast different racial groups from around the world, including a critical evaluation of their categorization and characteristics.
3. Explore Demographic Anthropology:
    - Define demographic anthropology, its meaning, and scope.
    - Identify sources of demographic data and understand demographic processes.
    - Analyze the demographic profile of Indian populations and their growth structure.
    - Examine the National Population Policy and its implications.
4. Investigate Bio-cultural Factors:
    - Analyze the role of bio-cultural factors in influencing diseases and nutritional status.
    - Explore the evolution of human diet and its impact on health.
    - Discuss biological perspectives on the aging process among different populations.
5. Apply Anthropological Measurement Techniques:
    - Conduct craniometric measurements on the skull and mandible, demonstrating proficiency in anthropological measurement techniques.
    - Determine the A, B, O, and Rh blood groups of ten subjects, and analyze the genetic implications of blood group distribution.
6. Analyze Demographic Data:

- Collect demographic data from secondary sources, demonstrating the ability to access and assess demographic information.
- Apply statistical methods to analyze and interpret demographic data.

7. Develop Critical Thinking and Research Skills:
    - Enhance critical thinking skills by evaluating the concept of race and genetic polymorphism in human populations.
    - Develop research and analytical skills in assessing demographic data and its implications on human populations.

Core Paper 8

Upon completing the course "Theories of Culture and Society," students will be able to:

1. Understand the Evolution of Anthropology:
    - Explain the emergence of anthropology and its historical development, including its connection to evolutionary theory and colonialism.
    - Identify and analyze the key theories that contributed to the early development of anthropology, such as evolutionism, diffusionism, and culture area theories.
2. Explore Fieldwork Traditions:
    - Trace the emergence of the fieldwork tradition in anthropology and its significance.
    - Analyze the historical particularism and American cultural tradition in the context of fieldwork-based research.
3. Examine Theoretical Foundations:
    - Understand the theoretical foundations of anthropological thought by examining the works of prominent theorists and schools of thought.
    - Discuss the contributions of Durkheim and his theory of social integration, as well as functionalism and structural-functionalism in British social anthropology.
4. Evaluate Structuralism and Symbolism:
    - Analyze the structuralist perspective in anthropology, including the works of Claude Levi-Strauss and Edmund Leach.
    - Understand the symbolic and interpretative approach to the study of culture and society.
5. Apply Theoretical Perspectives:
    - Identify contemporary issues and formulate research questions rooted in theoretical perspectives learned in the course.

- Recognize variables in a research study and develop hypotheses based on theoretical frameworks.
- Distinguish between hypothesis testing and exploratory research and understand when each is appropriate.

6. Choose Appropriate Research Techniques:
    - Identify the universe and unit of study for a research project and provide justifications for their selection.
    - Select the most suitable research techniques and methods within the context of theoretical frameworks.
7. Conduct Data Collection and Analysis:
    - Implement data collection and analysis methods in alignment with the chosen theoretical framework.
    - Demonstrate the ability to connect theoretical concepts to practical research activities.
8. Develop Critical Thinking and Research Skills:
    - Enhance critical thinking skills by applying various theoretical perspectives to contemporary issues.
    - Develop research skills, including formulating research questions, hypotheses, and selecting appropriate methods for data collection and analysis.

Core paper 9

Upon completing the course "Human Growth and Development," students will be able to:

1. Understand the Concepts of Human Growth and Development:
    - Define and differentiate between the concepts of human growth, development, differentiation, and maturation.
    - Explore the evolutionary perspective on human growth and development.
2. Analyze Prenatal and Postnatal Growth:
    - Examine the prenatal period of growth from conception until birth, including normal patterns of development.
    - Investigate the postnatal period of growth from birth to senescence, including variations from normal growth, such as canalization, catch-up growth, and catch-down growth.
    - Discuss ethnic and gender differences in growth curves and the concept of a secular trend in human growth.
3. Evaluate Bio-cultural Factors Affecting Growth:

- Identify the bio-cultural factors (genetic, social, and ecological) that influence patterns of human growth and variation.
- Describe the methods and techniques used to study human growth.
- Understand the significance and applicability of growth studies in understanding human development.

4. Assess Nutritional Epidemiology and Body Composition:
    - Analyze the concept of a balanced diet and its importance for human growth and development.
    - Evaluate the impact of malnutrition, both overnutrition and undernutrition, with specific reference to conditions like obesity, Kwashiorkor, and Marasmus.
    - Assess nutritional status using relevant anthropometric indices.
5. Study Human Physique and Body Composition:
    - Describe models and techniques used for assessing human physique and body composition.
    - Analyze gender and ethnic differences in human physique and body composition.
    - Apply somatotyping methods developed by researchers like Sheldon, Parnell, Heath, and Carter to understand human physique.
6. Apply Anthropometric Measurement Techniques:
    - Perform somatometric measurements, including stature, body weight, mid upper arm circumference, and more.
    - Calculate various growth-related indices such as height for age, weight for age, and BMI for age.
    - Assess obesity using different anthropometric measures and body adiposity indices.
    - Estimate body composition, including fat percentage and muscle mass, using skinfold thickness and bioelectric impedance methods.
7. Analyze Nutritional and Anthropometric Data:
    - Evaluate dietary patterns and assess nutritional status using anthropometric indices.
    - Apply statistical and analytical skills to interpret data related to human growth and development.

Core Paper 10

Upon completing the course "Research Methods," students will be able to:

1. Understand Fieldwork Tradition in Anthropology:

- Explain the fieldwork tradition in anthropology and the ethnographic approach.
- Recognize the contributions of key figures such as Malinowski, Boas, and other pioneers to the field of ethnographic research.
- Differentiate between cultural relativism and ethnocentrism and understand the etic and emic perspectives in anthropological research.
- Describe comparative and historical research methods, as well as techniques for establishing rapport and identifying representative informants.
- Demonstrate the ability to maintain a field diary and logbook during fieldwork.

2. Develop Research Design and Data Collection Skills:
    - Create a research design that includes a review of the literature, a conceptual framework, research problem formulation, and hypothesis development.
    - Apply appropriate sampling techniques and references in the research process.
    - Construct genealogies and use pedigree analysis in anthropological research.
    - Acquire data analysis and report writing skills, including chapterization and preparation of texts for submission and publication.
    - Understand the concepts of preface, notes (end and footnotes), annotated bibliography, references cited, review, and index in research reporting.
3. Explore Ethics and Politics of Research:
    - Discuss the ethical issues related to human subject research, including privacy, confidentiality, academic fraud, and plagiarism.
    - Address conflicts of interest, authorship, and publication ethics.
    - Recognize the importance of ethical conduct in anthropological research.
4. Differentiate Between Qualitative and Quantitative Research:
    - Understand the basic tenets of qualitative research and its relationship with quantitative research.
    - Define types of variables and explore methods for presenting and summarizing data, such as tabulation and illustration.
    - Apply descriptive statistics, including measures of central tendency and standard deviation, in data analysis.
5. Apply Anthropological Data Collection Techniques:
    - Utilize a variety of data collection techniques, including observation (direct, indirect, participant, and non-participant), questionnaire and schedule design, interviews (unstructured, structured, key informant, focused group discussions, and free listing), pile sorting, case study, and life history collection.
6. Develop Practical Research Skills:

- Apply the knowledge and skills acquired in the course to conduct anthropological research effectively.
- Demonstrate the ability to collect, analyze, and interpret anthropological data using appropriate research methods and techniques.

Core Paper 11

Upon completing the course "Prehistoric Archaeology of India," students will be able to:

1. Understand Pleistocene Chronology and Palaeolithic Cultures:
    - Describe the Pleistocene chronology of India and its significance in prehistoric archaeology.
    - Identify and analyze the various Palaeolithic cultures in India, including the Lower Palaeolithic cultures in the Kashmir Valley and Peninsular India, Middle Palaeolithic culture, and Upper Palaeolithic culture.
    - Recognize the characteristic features, major tool types, important sites, and chronology of these Palaeolithic cultures, supported by stratigraphic evidence.
2. Explore Mesolithic Cultures:
    - Explain the characteristic features and major tool types of Mesolithic cultures in India.
    - Identify important regions and sites associated with the Mesolithic period.
    - Analyze the chronology of Mesolithic cultures, substantiated by stratigraphic evidence.
    - Discuss some significant sites in Odisha related to these cultural periods.
3. Study Neolithic Cultures:
    - Describe the characteristic features and major tool types of Neolithic cultures in India.
    - Identify important regions and sites associated with the Neolithic period.
    - Analyze the chronology of Neolithic cultures with supporting stratigraphic evidence.
    - Discuss significant sites in Odisha related to these cultural periods.
4. Examine Prehistoric Art and Rock Art:
    - Explore prehistoric art in India with a special focus on Central India and Odisha.
    - Recognize and interpret rock art and its significance in understanding prehistoric cultures.
5. Apply Lithic Technology Identification Skills:

- Identify various types of tools used in prehistoric periods, including hand axe varieties, chopper/chopping tools, cleaver varieties, knives, burins, end scrapers, borers, microlithic tools, and bone tools.
- Understand the lithic technology associated with these tools and their relevance in prehistoric archaeology.

6. Develop Practical Research and Analysis Skills:
    - Apply practical skills in identifying prehistoric tools and lithic technology.
    - Develop the ability to analyze and interpret archaeological evidence from prehistoric sites in India.
    - Apply knowledge of prehistoric cultures, chronology, and stratigraphic evidence in the field of archaeology.

Core Paper 12

Upon completing the course "Anthropology in Practice," students will be able to:

1. Understand the Relationship Between Academic and Applied Anthropology:
    - Differentiate between academic anthropology and applied anthropology.
    - Recognize the structure, activities, and controversies within the field of applied anthropology.
    - Identify key issues and challenges faced by practitioners of applied anthropology.
    - Understand the distinctions between applied anthropology, action anthropology, and development anthropology.
2. Explore the Role of Anthropology in Development:
    - Analyze the role of anthropology in development, including its contribution to public policy.
    - Demonstrate the importance of needs assessment and community development in anthropological practice.
    - Discuss the relevance of anthropology in the context of non-governmental organizations (NGOs), business, environment, community health, social and economic sustainability, and cultural resource management.
3. Examine Future Dynamics in Anthropology:
    - Explore emerging trends in the field of anthropology, such as anthropology of tourism, anthropology in census activities, design and fashion, and visual anthropology.
    - Identify the evolving role of anthropology in various sectors and industries.
4. Apply Biosocial Anthropology in Practical Scenarios:

- Evaluate the bio-social elements of human development at both the national and international levels.
- Understand the application of the conceptual framework of forensic anthropology in judicial settings, including criminal and civil cases.
- Analyze the relationship between population dynamics and various aspects of culture, such as means of subsistence, kinship, social complexity, social stratification, and political organization.
- Develop skills in bio-social counseling for individuals or populations.

5. Develop Practical Research and Analysis Skills:
    - Visit a relevant organization, such as an NGO, corporate office, or census office, and provide observations and insights based on the visit.
    - Write a project related to constitutional provisions or the evaluation of a development project or report.
    - Demonstrate the ability to identify and analyze various pieces of evidence in a portrayed crime scene.
    - Conduct research and write projects on topics such as religious tourism, tribal tourism, health tourism, fashion, human rights, and ecotourism.
    - Write a project on the demographic profile of a population using secondary data.
    - Collect data on bio-social problems and design counseling strategies, providing analysis and interpretation based on the collected data.

Core paper 13

Upon completing the course "Forensic Anthropology," students will be able to:

1. Understand the Foundations of Forensic Anthropology:
    - Define forensic anthropology and its role in forensic science.
    - Explore the brief history of forensic anthropology, its scope, and applications.
    - Understand how forensic anthropology integrates with other forensic disciplines.
2. Develop Expertise in Human Skeletal Biology:
    - Gain knowledge of basic human skeletal biology, allowing for the identification of human and non-human skeletal remains.
    - Learn methods for estimating ancestry, age, sex, and stature from skeletal remains.
    - Understand the techniques and procedures for discovering and recovering skeletal human remains.
3. Master Personal Identification Techniques:

- Explore the concepts of personal identification, both complete and partial, in forensic anthropology.
- Learn various methods of identification in living persons, including somatometry and somatoscopy.
- Understand the role of occupational marks, scars, bite marks, tattoo marks, fingerprints, footprints, lip prints, nails, handwriting, and deformities in personal identification.

4. Study Serology and Forensic Odontology:
    - Gain knowledge in serology, focusing on the identification and individualization of bloodstains, urine, semen, and saliva.
    - Explore the field of forensic odontology, including tooth structure and growth, bite marks, and the application of DNA profiling.
5. Apply Practical Skills:
    - Conduct hands-on exercises related to the study of human long bones, allowing for the estimation of age, sex, and stature from skeletal remains.
    - Perform somatometric and somatoscopic observations on living individuals, applying the techniques learned in the course.
    - Identify bloodstains, urine, semen, and saliva in practical scenarios.
    - Examine fingerprints and handwriting for personal identification.
6. Demonstrate Competency in Forensic Anthropological Techniques:
    - Develop practical skills and knowledge in the field of forensic anthropology, enabling students to apply their expertise in real-world forensic cases.
    - Apply principles of forensic anthropology to solve cases involving human remains and personal identification.

Core Paper 14

Upon completing the course "Fieldwork and Dissertation," students will be able to:

1. Conduct Empirical Research:
    - Plan and execute empirical research among tribal, rural, and urban communities in Odisha.
    - Apply fieldwork techniques to collect data from the chosen communities.
    - Develop practical research skills and adapt research methods to diverse community settings.
2. Apply Ethnographic Methods:
    - Employ ethnographic methods to understand the culture, society, and daily life of the studied communities.

- Document and analyze social practices, customs, traditions, and behaviors within the selected communities.
- Gain proficiency in participant observation, interviews, and data collection methods.

3. Engage in In-Depth Study:
    - Undertake a comprehensive study over a minimum period of 21 days, immersing in the communities under the guidance of a teacher or teachers.
    - Develop a deep understanding of the dynamics, challenges, and unique characteristics of tribal, rural, and urban communities in Odisha.
4. Conduct Independent Research:
    - Demonstrate the ability to conduct independent research and gather primary data.
    - Apply critical thinking and analytical skills to evaluate the information collected during fieldwork.
5. Prepare and Present Dissertation:
    - Develop two copies of a well-structured dissertation based on the fieldwork and research findings.
    - Present research findings in the form of a seminar to showcase the knowledge and insights gained during the fieldwork.
6. Undergo Dissertation Examination:
    - Participate in the examination of the dissertation, which involves assessment by an internal and an external examiner.
    - Defend the research conducted during the fieldwork and demonstrate the ability to communicate the findings effectively.
7. Apply Research Skills and Ethnographic Expertise:
    - Apply the research and ethnographic skills acquired during the course to address real-world issues in various community settings.
    - Use the knowledge gained to contribute to the field of anthropology and make a positive impact on the studied communities.

CO and PSO for Physics Department

Core Courses	Course Outcomes
CC1 Mathematical Physics I	1) Basic understanding of calculus which are integral part of any branch of Physics 2) Understand divergence gradient and curl and their physical interpretation which are very important for theories of electricity and magnetism to be taught later. 3) Basic knowledge of matrices and determinants i.e. inverses, adjoint, linear vector spaces, basis transformations, how to calculate eigen values, eigen vectors. Solve simple problems with physics-oriented application. 4) To develop the problem-solving capability of the students.
CC2 Mechanics	1) Students learn accurately how to describe motion of objects, planetary motions, gravitation etc. Understand the motion of objects in different frame of references. 2) Know how to apply the conservation principle and symmetry of a system. 3) Understand laws of motion, reference frames, and its applications i.e., projectile motion, Simple harmonic oscillator, Rocket motion, elastic and inelastic collisions. 4) Understand the idea of conservation of angular momentum, central forces effective potential. 5) Understand the application of central force to the stability of circular orbits, Kepler's laws Of planetary motion. 6) Understand the dynamics of rotating objects i.e., rigid bodies, angular velocity, the moment of inertia and related examples involving the centrifugal force and coriolis force. 7) Learn that different kinds of matter have various properties. For example, pressure, surface tension are important properties for a fluid, Modulus are important properties of solid objects.

	8) Understand the basics of material properties like, elasticity, elastic constants and their relation, torsion of a cylinder, bending of a beam, cantilever, beam supported at its end and loaded in the middle. 9) Know the basics of motion of fluid which includes streamlined and turbulent flows, equation of continuity, critical velocity, flow of a liquid through a capillary tube.
CC3 Electricity and Magnetism	1) To learn about basic concepts of electrical charges and currents and their properties 2) Understand the concept of conductors, dielectrics, inductance and capacitance. 3) Basic knowledge about the nature of magnetic materials. 4) Understand the concept of static and time varying fields. 5) Gain knowledge on electromagnetic induction and Faraday's law and its applications 6) Learn about EM waves and its propagation 7) Learn to use and solve Maxwell's equations
CC4 Waves and Optics	1) Students get idea about various types of waves and their propagation. 2) Basic understanding of physical and geometrical optics To provide a knowledge of various optical phenomena, for example interference, diffraction, polarization etc.
CC5 Mathematical Physics II	1) Understand how to expand a function in a Fourier series. 2) Solving differential equation using power law expansion (so called Frobenius method). 3)Learn about various special functions i.e. Legendre, Bessel functions, generating functions and their properties. 3) Fourier integral and its properties and application to signal analysis and also in quantum mechanics 4) Application of probability and various distribution functions in Physics.

	Learn to solve partial differential equation which is very important in all branches of physics.
CC6 Thermal Physics	1) Understand the basic principle and laws of Thermodynamics 2) Understand the concepts of Entropy, various thermodynamic potentials and their applications in various systems 2) Gain knowledge about microscopic behavior of systems in explaining pressure, transport properties, viscosity, diffusion etc.
CC7 Analog System and Application	1) To know basic boolean principle and how various electronic instruments work based on this 2) To motivate the students to apply the principles of electronics in their day-to-day life. 3) Learn various network theorems, diodes and their application Study various theory and working principles of transistors, regulated power supply, amplifiers, concept of feedback, OPAMP, Multivibrators and Oscillators
CC8 Mathematical Physics III	1) To study complex analysis, Cauchy Riemann conditions, Analyticity, Cauchy Integral formula, Laurent and Taylor series expansion and definite integrals using contour integration. 2)
CC9 Elements of Modern Physics	(1) To know about Radiation and its nature, old quantum theory, concept of wave-particle duality and de Broglie hypothesis. (2) To learn about Schrodinger equation as first principle, probabilistic interpretation of quantum mechanics, commutation relation and their meaning. These are very crucial as students learn Quantum Mechanics for the first time and these are basic building block of modern physics. Students learn about Nuclear structure and various models. Interaction within and with nucleus. Gamma, Beta decay. Nuclear Fission and Fusion reaction.
CC10 Digital systems and applications	1) To learn integrated circuits (IC), number system and Boolean description, introduction to logic systems, various

	Gates 2) To understand product and sum in logical expression, conversion between truth table and logical expression, Karnaughmap 3) To learn how to Implement different circuits: adder, subtractor, idea of multiplexer, demultiplexers, encoder, decoder To know registers and counters, computer organization, data conversion
CC 11 Quantum Mechanics and Applications	1) One of the most important subject in undergraduate course. Students solve various quantum mechanical features by solving various potentials: example, Finite and infinitewell, Harmonicoscillator 2) Learn Quantum theory of Hydrogen atoms, solution of Schrodinger equation under central force, Orbital angular momentum and spin angular momentum 3) To know generalized angular momenta, Electron's magnetic moment, Energy of amagnetic dipole, Stern-Garlach experiment 4) To study Fine structure of hydrogen atoms, atoms in presence of electric and magnetic fields-application of Quantum mechanics for atomic systems 5) To learn Many electron atoms, identical particles, Pauli's principle.
CC12 SolidStatePhysics	1) Students learn about crystal structure and lattice dynamics. 2) Understanding quantum properties of matter like magnetic property, dielectric property 3) To understand elementary band theory 4) Superconductivity – one of major breakthrough in modern science
CC 13 ElectromagneticTheory	1) Learn Maxwell's equations, gauge transformations, Pyonting vector, Electromagnetic field energy density, momentum density etc. 2) Propagation of electromagnetic wave through different medium 3) Polarization

CC14 Statistical Mechanics	1) To understand statistical properties of matter, connections with thermodynamics 2) To use these theory in practical systems (ideal gas, Bose and Fermi systems), Identical particles To learn Bose-Einstein statistics, and its application, Fermi-Dirac statistics and its application
DSE 1 Classical Dynamics	1) To understand calculus of variation 2) To learn about small oscillation 3) To understand about rigid body motion 4) To know about non-linear dynamics
DSE 2 Nulcear and Particle Physics	1) To learn general properties of nuclei, various nuclear models, radioactivity 2) To understand nuclear reactions and interaction of nuclear radiation with matter 3) To know about the detectors for nuclear radiations and particle accelerators To learn and understand fundamentals of particle physics.
DSE 3 Nano Materials and applications	1) To learn about nanoscale systems, their band structures, application of Schrodinger equation for such nano structures 2) To know how to synthesis nanomaterials and how to characterize them 3) To know various properties of nanomaterials, e.g.optical and electrical (transport) properties
DSE 4 Project	1) Students learn to write a project by searching different material e.g. books, online journal paper, different online sources etc 2) Students gain a deep knowledge about a specific topic 3) By representing the project in presentation form they can develop their communication skill
Practical Topics	Course outcomes
Practicals of Mechanics, Thermodynamics, Electricity and Magnetism, Waves and Optics, Modern Physics	1) Various theories which students learn in theory lesson are verified in practical classes. 2) Students learn various practical situation, how to handle tools and instruments, measurement techniques, graph plotting, statistical / error

	estimations etc. Physics is essentially a practical based subject, knowledge of proving / disproving a certain theory is important. Practicals bridge between theoretical knowledge and real-life situation
Practical based on Computation and Programming (Sci Lab language)	1) Understand how to write an algorithm. 2) Various numerical methods to solve many problems numerically. e.g. finding solution of a equation, integration and differentiation etc. 3) Plotting different kinds of graphs, how to label them etc.
Program Specific Outcome (PSO)	1) Physics deals with a wide variety of systems. Therefore, basic principles are more-or-less same used by physicists at every level. Each of these theories are experimentally verified in a number of ways and found to be an sufficiently appropriate description of nature. Students get oriented along this line of thinking and earn enough proficiency to use Physical Principles/concepts to explain various phenomena. 2) Physics uses mathematics as a medium to organize and formulate experimental results. Students gather very good knowledge on mathematics required for formulating and solving problems. 3) Students learn to perform various types of numerical calculations. 4) Students have learned laboratory skills, enabling them to take measurements in a physics laboratory and analyze the measurements to draw valid conclusions. 5) Students will develop good oral and written scientific communication skill. 6) Students learn to think critically and work independently.

PROGRAM SPECIFIC OUTCOME

UNDER-GRADUATE, GEOGRAPHY

This Program Outcome intends to describe the learning objectives and goals for the entire academic program of Geography Honours, Undergraduate Level. It enables a student to appreciate in-depth knowledge of geographic concepts, theories and methods. This will also facilitate the student to understand the scope and evolution of the diverse discipline of Geography that the students are expected to have acquired during this three-year academic program.

- PSO-1: - Proficiency in using GIS and other geospatial technologies.
- PSO-2: - Strong research and analytical skills for conducting independent studies and fieldwork.
- PSO-3: - Effective written and oral communication skills for presenting research findings
- PSO-4: - Understanding of global and regional issues related to environment, society, and geopolitics. Awareness of the interconnection of physical and human geography.
- PSO-5: - Preparation for potential careers in the field like urban planning, environmental management, geospatial analysis, or further academic pursuits.

COURSE OUTCOME

SEMESTER I

COURSE CODE	COURSE NAME
CC1	**Geomorphology**

COURSE OUTCOME

- CO-1:: Defining Geomorphology, its nature and scope and its various fields in Geomorphology development which took place in 19th and 20th century in European and American school and the recent trend it follows.
- CO-2:: Understanding the Interior Structure of the earth and defining the Concept of Isostasy with regards to the principles of Airy and Pratt’s model and describing rocks and its type.

- CO-3:: Develop an idea about Plate Tectonics Theory and acquire knowledge about types of Folds and Faults and their formation and Occurrence of Earthquakes and Volcanoes, their types and various Landforms associated with it.
- CO-4:: Understanding Geomorphic Processes like Weathering and Mass Wasting and understanding the concept of Cycle of Erosion through the perspective of Davis and Penck landform development models.
- CO-5:: Understanding the Evolution of Earth's Landforms through Erosional and Depositional process and the causes and consequences of different landforms associated with Fluvial, Karst, Aeolian, Glacial and Coastal.

CC2-Cartography

- CO-1:: Understanding Cartography- its nature and scope, understanding different kinds of maps and its scientific aspect of Cartography and how Cartography acts as a science of human communication and its different branches.
- CO-2:: Understanding Geodesy and defining the shape of the earth i.e., Spherical, Ellipsoidal and Geoid Earth, develop the skills to identify Geographical Coordinates like latitude and Longitude of a place, Graticules. Comprehend the concept of Scale and the Construction of types of Scales i.e., Plain, Comparative and Diagonal Scale
- CO-3:: Learning about Map Projections, its Meaning and how and where it is used and the brief History of map projection transformation of their area, Distance and Direction, develop and idea and usage of Simple Cylindrical Projection, Conical Projection with one standard projection.
- CO-4:: Understanding the concept of Slope Analysis and Geological Map Gradient and slope Interpretation of Bedding plane, Strike and Dip structure & stratigraphy of Geological map. Slope defined and methods of determination of slope through Wentworth and Smith method.

CC 03 Human Geography

- CO-1:: Defining Human Geography their Nature and scope, acquire knowledge about Major Themes of human geography and Contemporary Relevance, how man and nature interact and adjust with each other.
- CO-2:: Gaining knowledge about the Society i.e. Race, Religion & Languages of the World, their cultural count, meaning cultural regions of the world.

- CO-3:: Develop the idea about population, factors affecting population distribution, how the population grows and distributed all over the world its Population Composition and Demographic Transition Theory and problems of population faced in underdeveloped world.
- CO-4:: Acquire knowledge about Settlements its types and pattern of Rural Settlements; Functional Classification of towns and how the trends of World Urbanization work.

CC 4 Climatology

- CO-1:: Understand the concept of atmospheric composition and Structure, Variation with Altitude, Latitude and season
- CO-2:: Understand the concept of Insolation and Temperature, factors responsible and how it is distributed all over the earth, how Heat Budget is distributed and how Temperature Inversion takes place.
- CO-3:: Understand the importance of atmospheric pressure and winds and how are they circulated all over the earth, planetary Winds, Forces affecting Winds, General Circulation, mechanism of Jet Streams.
- CO-4:: Understand how atmospheric Moisture works, Evaporation, Humidity, Condensation, Fog and Clouds, Stability and Instability, understanding the major Climatic Regions given by Koppen, how precipitation takes place and its types.
- CO-5:: Understand the mechanism of Cyclones and their types i.e Tropical Cyclones and Extra Tropical Cyclones, importance of monsoon its Origin and Mechanism.

CC 5: Oceanography

- CO-1:: Understand the Bottom Relief of Ocean, Atlantic, Indian Ocean and Pacific
- CO-2:: Understand the role of Temperature and salinity of ocean and how the determinants and distribution process work, T-S Diagram
- CO-3:: Analyse the movement of Ocean water, Waves, Currents (Atlantic, Pacific and Indian), concept of Tides: Types and Theories
- CO-4:: Understand what are Ocean Deposits, what are the Types and how it is distributed all over the earth, Coral Reefs : Types, understand the concept of Theory of Origin through the perspective of Darwin and Dana, Louis Agasiz)

CC 6:Statistical Methods in Geography

- CO-1:: Understand the importance of use of Data in Geography: Geographical Data Matrix, Tapes and Sources of Data, Scales of Measurement (Nominal, Ordinal, Interval, Ratio).
- CO-2:: Learn to use the Tabulation and Descriptive Statistics i.e Frequencies. Study the Distribution & measures of Central Tendency (Mean, Median and Mode)
- CO-3:: Learn about the measures of Dispersion (mean Deviation, Standard Deviation, Variance and Coefficient of Variation).
- CO-4:: Interpret the measures of Association and Correlation: Rank correlation, Product moment correlation and Simple linear Regression.

CC 7: Geography of Odisha

- CO-1:: Acquire the knowledge about the Physiographic of Odisha, its Drainage patterns, Climate, Soil, Natural Vegetation
- CO-2:: Understanding the concept of Agriculture and its Production and Distribution of Rice, Pulses, Oil seeds; and the problems associated with Agriculture and Prospects
- CO-3:: Identifying Minerals and power recourses and Distribution of Iron Ore, Bauxite, Coal, Iron and steel industry, Aluminium Industry, Cotton Textile
- CO-4:: Analysing the Population distribution and its Growth and what is the mode of Transport i.e Roadways & Railways

CC 8 Evolution of Geographical Thought

- CO-1: Perceive the Geographical concepts of ancient and classical period of Greek, Roman & Indian.
- CO-2: Appreciate the contribution of modern geographical thought likeCarl Ritter, Ratzel, Vidal Dela Blache
- CO-3:: Gain knowledge about Dichotomy in Geography– Environmental Determinism and Possibilism, Systematic and Regional, Ideographic and Nomeothetic.
- CO-4: Analyzing the recent trends of Quantitative Revolution in Geography, Behavioural approach in Geography, radicalism in Geography.

CC 9 Economic Geography

- CO-1:: Understand the Concept and classification of economic activity, Factors affecting location of Economic Activity with special reference to Agriculture, Analyze the Location of Economic Activity throughVon Thunen Theory and Weber's theory.
- CO-2:: Gain knowledge about Primary activities their Types and problems associated with it and agriculture, agricultural regions of the world, forestry and fishing grounds of the earth
- CO-3:: Analyze the Secondary activities and its Manufacturing in Cotton Textile, Iron and Steel Regions of the world:Study about the Special Economic Zones and its significance.
- CO-4:: Understand Tertiary Activities like Transport, Roads and Railways, Air and Water, Trade and how it impacts world economy

CC 10:Environmental Geography

- CO-1:: Recognize Environmental Geography its Concept and Scope,its Environmental contrast i.e Biotic Abiotic, Global, Continental, Local,Environmental control of light, Temperature, Water, topography and edaphic factors
- CO-2: Understand the concept of Ecosystem its Structure and Functions,how Tropic level, Food Chain, Bio- geo-chemical Cycle (Nitrogen and Carbon), Energy flow works in an Ecosystem.
- CO-3: Addressing Environmental Problems in Tropical, Temperate and Polar Ecosystems.
- Environmental pollution (water and air)
- CO-4:: Encourage environmental Programmes and Policies of Major Global & National programme and policies, concept of spaceship earth, earth summit 1992, wildlife act of India 1972, water pollution control act of India 1974, National Environmental tribunal– 1995 of India.

CC 11:Regional Planning and Development

- CO-1: Understand and identify Region as an integral part of geographical study, Evolution and Types of Regional planning: Formal, Functional, and Planning Regions, Need for Regional Planning; Characteristics of an Ideal Planning Region
- CO-2: understand how Delineation of Planning Region works, Approaches and Methods, Planning Regions of India

- CO-3: Understand the Theories and Models for Regional Planning: Growth Pole Model of Perroux; Myrdal, Hirschman, Rostow.
- CO-4: Analyzing the Policies and Programs for Rural and Regional Development Planning in India, Concept of Human development Index

CC 12:Remote Sensing and GIS

- CO-1: Have knowledge about Remote Sensing and GIS: Definition and their Components, Platforms and their Types, Advantages and Limitation of Remote Sensing & Principle of Remote Sensing
- CO-2: Aerial Photography and Satellite Remote Sensing: Principles, Types and Geometry of Aerial Photograph; EMR Interaction with Atmosphere and Earth Surface; Satellites and Types of Sensors.
- CO-3: GIS Data Structures: Types (spatial and Non-spatial), Raster and Vector Data Structure, GPS elements and Uses.
- CO-4: Manual Image Interpretation and Analysis: Image Elements, Land use/ Land Cover Mapping from Satellite Images.

CC 13:Geography of India

- CO-1: Gain knowledge about Physiographic Divisions of India, their soil and vegetation, and the climate (characteristics and classification)which influence the whole Indian subcontinent.
- CO-2: Analyse the concept of Population and its distribution, Demographic structure, trend of population growth in India
- CO-3: Have knowledge about mineral and power resources distribution in the country and utilisation of iron ore, coal, petroleum, Natural gas;
- CO-4: Develop an idea about the agricultural production and distribution of rice and wheat, and how industrial development takes place in sectors like automobile, Information technology, Iron & Steel, Cotton and Textile Industries

CC 14: Disaster Management

- CO-1: Understand the concept of hazards, Disasters, Natural and man made hazards, Types of hazards, Concept of disaster management, Vulnerability and risk with respect to hazard.

- CO-2: Develop an idea about Disaster management cycle, Pre disaster management, During disaster management, Post Disaster review and management, Measures taken for Prevention, mitigation, preparedness, Adaptation.
- CO-3: Detail study of nature and characteristics of hazards: Flood, Cyclone, Drought, Earthquake. Manmade hazards – Industrial and Fire.
- CO-4: Indigenous community based disaster preparedness. Role of NDMA, NIDM, NDRF, OSDMA & ODRAF in managing disaster, Disaster working system. Role of NGOs and GOs in disaster management.

Statement of PSOs

B.Sc Mathematics

PSO1	Develop the knowledge on hyperbolic function and higher order derivative of function.
PSO2	Apply the derivative in many real life problem to optimize the results.
PSO3	Create the sketch of different curve to help in many civil and mechanical works.
PSO4	Proficiency in line integral and understand their interpretation as volume , area in different regions
PSO5	Evaluate many properties of vectors after gaining the knowledge about vectors and their operations.

Course Code	**Course Name**	**Course Outcomes**	
C-I	**Calculus**	**CO1**	Derive the hyperbolic function from exponential function. Express the hyperbolic function in terms of logarithm function.
		CO2	Determine the value of hyperbolic function at different points
		CO3	Discuss the higher order derivative of different function involving hyperbolic functions
		CO4	Explain the increasing or decreasing property of a function by using derivative.
		CO5	Determine the maximum and minimum value of the function by using derivative
		CO6	Explain about the concave upward and concave downward property of a function by using the derivative
		CO7	Analyse the various real life problem like profit and loss in economics, business problem and population growth problem. Compute the various result from the above problem with the help of derivative.
		CO8	Understand the basic definition of asymptote . Compute the various type of asymptote of different equation of curve
		CO9	Draw the diagram of different equation of curve by applying the different properties of curve
		CO10	Understand the basic concepts of Reimann sum and apply it to find out the integral of different function
		CO11	Discuss the various method to determine the integral. Apply it to find out the volume and area of different regions.
		CO12	Understand the concept of Vectors and its operations. Apply those ideas to discuss the different properties on Vectors

Statement of PSOs

BSc Mathematics: Discrete Mathematics	
PSO1	Understanding of foundational concepts in discrete mathematics, including sets, logic, relations, functions, and mathematical induction. Proficiency in propositional and first-order logic, including the ability to construct logical arguments, truth tables, and proofs.
PSO2	Applying combinatorial mathematics, including permutations, combinations, and counting principles. Learning number theory concepts, such as prime numbers, divisibility, congruence, and their applications.
PSO3	Learning matrix operations and algebra and their applications.
PSO4	Understanding of graph theory, graph representations, and graph algorithms, as well as the ability to analyse and solve problems related to graphs.

Course Code	Course Name	Course Outcomes	
C-II	Discrete Mathematics	CO1	Understanding of basic mathematical concepts such as sets, relations, functions, and logic. Be able to construct and understand mathematical proofs using methods like direct proof, proof by contradiction, and mathematical induction.
		CO2	Explore topics in number theory, such as divisibility, modular arithmetic, and prime numbers. Understand set operations, relations, and functions and apply them to solve problems related to set theory.
		CO3	Solve combinatorial problems related to counting, permutations, combinations, and the inclusion-exclusion principle.
		CO4	Develop critical thinking skills and the ability to analyse and evaluate mathematical arguments and solutions.
		CO5	Learn matrix algebra in dealing with linear systems and linear transformations.
		CO6	Analyse and solve problems related to graph theory, including graph representation, connectivity, paths, and cycles.

Statement of PSOs

BSc Mathematics: Differential Equations	
PSO1	Understanding of ordinary differential equations, including their types, classifications, and applications in various fields.
PSO2	Proficiency in solving ODEs analytically using methods like separation of variables, integrating factors and exact equations.
PSO3	Competency in solving initial value problems (IVPs) and understanding the concept of existence and uniqueness of solutions.
PSO4	Ability to model complex real-world systems using ODEs, translating physical, biological, and engineering problems into mathematical equations.

Course Code	Course Name	Course Outcomes	
C-IV	Differential Equations	CO1	Students should be able to understand the fundamental concepts of differential equations, solution techniques of variety of differential equations, including first-order and second-order ordinary differential equations.
		CO2	Familiarity with various solution techniques, such as separation of variables, integration, substitution, and more.
		CO3	Apply differential equations to model real-world problems from various fields, such as physics, engineering, biology, economics, and more.
		CO4	Understanding the particular and general solutions of ordinary differential equations, as well as the application of appropriate initial or boundary conditions.
		CO5	An appreciation of the wide range of applications of differential equations in various scientific and engineering disciplines such as predator-prey model, battle model and epidemic model of influenza etc.

Statements of PSOs

BSc Mathematics: Real Analysis	
PSO1	Develop analytical and critical thinking skills by studying abstract mathematical concepts and their applications.
PSO2	Acquire a strong foundation in the principles of real analysis, which forms the basis for advanced mathematical studies.
PSO3	Apply mathematical rigor and precision to solve problems related to real numbers, sequences, and series.
PSO4	Develop the ability to work with limits, continuity, and convergence, which are essential in various fields of mathematics and science.
PSO5	Understand the importance of mathematical analysis in solving practical problems and its relevance in various scientific disciplines.

Course Code	**Course Name**	**Course Outcome**	
C-III	Real Analysis	**CO1**	Understand the fundamental properties of real numbers, including algebraic and order properties.
		CO2	Grasp the concepts of boundedness, supremum, and infimum, and apply them to sets of real numbers.
		CO3	Demonstrate a thorough understanding of the completeness property of real numbers and the Archimedean Property.
		CO4	Gain proficiency in working with intervals, open sets, closed sets, and limit points of sets.
		CO5	Apply the Bolzano-Weierstrass theorem to various sets, including their closure, interior, and boundary.
		CO6	Analyse sequences and subsequences, and determine whether they are bounded, convergent, or divergent.
		CO7	Apply various tests for the convergence or divergence of infinite series, including the Cauchy Criterion, comparison test, ratio test, and integral test.

Statement of PSOs

B.Sc Mathematics

PSO1	Develop a strong foundation in Group Theory and the different properties of different types of groups
PSO2	Evaluate the different properties of different type of subgroups.
PSO3	Develop the idea on Lagrange Theorem and create the number of process to find out the order of elements , subgroup and groups.
PSO4	Apply the different properties of External direct product to determine the different subgroups of different order.
PSO5	Gain proficiency in Group homomorphism and group isomorphism to develop the knowledge on higher mathematics.

Course Code	**Course Name**	**Course Outcomes**	
C-VI	**Group Theory-I**	**CO1**	Understand the basic concepts of groups and properties of group.
		CO2	Learn the details of subgroup and their properties.
		CO3	Understand the basic idea and different properties of cyclic subgroup
		CO4	Describe the different operations and properties on permutation group
		CO5	Discuss about the various properties of isomorphism on groups
		CO6	Explain the different types of cosets and their properties . Also derive the Lagrange Theorem by using the cosets.
		CO7	Learn about the external direct product and apply it to discuss the different properties of groups and subgroups
		CO8	Learn the definition and different properties of the normal subgroup. Apply it to discuss about the factor group.
		CO9	Understand the definition and different properties of Group homomorphism. Apply it to derive the different results on group.

Statement of PSOs

BSc Mathematics: PDE and system of ODEs	
PSO1	Able to construct PDEs and learn the solution techniques of first order PDEs such as method of characteristics, separation of variables and reduction to canonical forms.
PSO2	Understanding how PDEs are used to model and analyse physical and engineering systems, such as heat conduction, wave propagation, fluid dynamics etc.
PSO3	Proficiency in solving boundary value problems and initial value problems for various PDEs, and recognizing the differences between these types of problems.
PSO4	Competency in modeling real-world problems using systems of ODEs and translating complex systems into mathematical equations.

Course Code	Course Name	Course Outcomes	
C-VII	PDE and system of ODEs	CO1	Comprehensive understanding of construction of PDEs by elimination of arbitrary constants and functions as well as learn the analytical solution of first order PDEs.
		CO2	Ability to solve linear PDEs analytically using techniques such as separation of variables and method of characteristics.
		CO3	Learning their significance in modelling various physical phenomena, including diffusion, heat transfer, wave propagation, and more.
		CO4	Proficiency in classifying PDEs into various types, including parabolic, hyperbolic, and elliptic, and understanding their unique characteristics and applications.
		CO5	Competency in solving second order PDEs with various initial and boundary conditions, which have significance to deal with physical problems.
		CO6	Ability to analyse and solve both linear and nonlinear systems of ODEs, including finding equilibrium points, stability analysis, and phase plane analysis.

Statements of PSOs

BSc Mathematics: Theory of Real functions	
PSO1	Develop a strong foundation in calculus, including techniques for evaluating limits, derivatives, and integrals.
PSO2	Apply mathematical concepts and theorems to analyse real functions and solve problems related to limits, continuity, and differentiability.
PSO3	Gain proficiency in using Taylor's theorem and its applications in approximating functions and understanding their properties.
PSO4	Understand the importance of integration and apply Riemann integration to evaluate definite integrals.
PSO5	Develop skills in analysing sequences and series of functions, including concepts of convergence, continuity, and differentiability.

Course Code	**Course Name**	**Course Outcome**	
C-V	Theory of Real functions	**CO1**	Understand and apply L'Hopital's Rules and other intermediate forms to evaluate limits of indeterminate forms in calculus.
		CO2	Grasp the concepts of mean value theorems, including Cauchy's mean value theorem, and apply them to analyse functions.
		CO3	Master Taylor's theorem with Lagrange's form of remainder and Taylor's theorem with Cauchy's form of remainder, and their applications.
		CO4	Apply Taylor's series and Maclaurin's series to approximate various functions, including exponential and trigonometric functions.
		CO5	Understand the principles of Riemann integration, including upper and lower sums, and the conditions for integrability.
		CO6	Analyse the convergence of improper integrals, including Beta and Gamma functions
		CO7	Comprehend series of functions and their properties, including continuity, derivability, and integration of the sum function.

Statements of PSOs

BSc Mathematics: Numerical Methods and Scientific computing	
PSO1	
PSO2	Students acquainted with various numerical methods and finding solution of different types of problems arises in different branches of science.
PSO3	Students can handle physical problems to find an approximate solution.
PSO4	Use of good mathematical software will help in getting the accuracy one need from the computer and can access the reliability of the numerical results and determine the effect of round of error or loss of significance.
PSO5	After getting trained a student can opt for advanced courses in numerical analysis in higher mathematics.

Course Code	**Course Name**	**Course Outcome**	
C-VIII	Numerical Methods and Scientific computing	**CO1**	To learn to apply various numerical techniques for solving real life problems.
		CO2	The problems which can not be solved by usual formulae and methods can be solved approximately using numerical techniques.
		CO3	to fit curve to the data by using different methods of interpolation and extrapolation
		CO4	Students will be able to solve the nonlinear equations and system of linear equations using numerical methods.
		CO5	Examine the appropriate numerical differentiation and integration method to solve problems.
		CO6	Students become expert in solving different numerical problems by using computer programming techniques of MATLAB.

Statements of PSOs

BSc Mathematics: Ring Theory	
PSO1	Develop a strong foundation in modern algebra, specifically in ring theory, and its applications in abstract algebra.
PSO2	Apply mathematical concepts to understand and analyse algebraic structures, including rings and ideals.
PSO3	Gain proficiency in the manipulation and analysis of various types of rings, including integral domains, principal ideal domains, and unique factorization domains.
PSO4	Recognize the importance of ring theory as a key component of modern algebra and its relevance in advanced topics like Galois groups.
PSO5	Prepare students for more advanced courses in ring theory and related areas of abstract algebra.

Course Code	**Course Name**	**Course Outcome**	
C-X	Ring Theory	**CO1**	Understand the fundamental concepts of rings, including their definitions, properties, and examples.
		CO2	Identify and analyse subrings, integral domains, and fields within the context of ring theory.
		CO3	Comprehend the concept of ideals, including ideal generation and operations on ideals.
		CO4	Master the concepts of prime and maximal ideals and their significance in ring theory.
		CO5	Understand the properties of ring homomorphisms and apply them to various ring structures.
		CO6	Apply the isomorphism theorems (I, II, and III) to relate different rings and analyse their structures.
		CO7	Learn about polynomial rings over commutative rings, division algorithms, and unique factorization in rings like Z[x].

Statements of PSOs

BSc Mathematics: Topology of Metric spaces	
PSO1	To enhance the abstract thinking and visualisation of students
PSO2	Develop students ability to handle abstract ideas of Mathematics and Mathematical proofs.
PSO3	On completion of the course student will learn to work with abstract topological spaces. They will ready to take all analysis courses in higher education.

Course Code	**Course Name**	**Course Outcome**	
DSC-IX	Topology of metric spaces	**CO1**	This gives knowledge on open sets, closed sets, continuous functions, connectedness and compactness in metric spaces
		CO2	Demonstrate the concept of metric spaces, sequences in metric spaces, complete metric spaces.
		CO3	introduce the students the maps between topological spaces.
		CO4	Explains the concept of convergence and continuity.
		CO5	Proves basic results about completeness, compactness, connectedness and convergence within these structures.
		CO6	Be able to utilise metric space arguments to obtain a variety of results
		CO7	Will have the idea of uniform continuity, homeomorphism, equivalent metrices and isometry, uniform convergence of sequence of functions.

Statements of PSOs

BSc Mathematics: LINEAR ALGEBRA	
PSO1	Apply the fundamental principles of linear algebra to solve mathematical problems and real-world applications.
PSO2	Analyse and solve systems of linear equations using matrix methods. Apply eigenvalues and eigenvectors to analyse and diagonalize matrices.
PSO3	Utilize linear transformations and understand their role in geometry and computer graphics.
PSO4	Utilize linear transformations and understand their role in geometry and computer graphics.
PSO5	Prepare students for more advanced courses in linear algebra and related areas. It has application in computer science, finance mathematics, industrial mathematics, bio mathematics etc.

Course Code	**Course Name**	**Course Outcome**	
C-XII	Linear Algebra	**CO1**	Understanding of Basic Concepts: Students should develop a solid understanding of fundamental concepts in linear algebra, such as vectors, matrices, vector spaces, and linear transformations.
		CO2	Vector Spaces and Subspaces: Understanding the properties of vector spaces and subspaces, including span, basis, dimension, and linear independence.
		CO3	Linear Transformations: Understanding the concept of linear transformations and being able to represent them with matrices.
		CO4	Orthogonality: Understanding orthogonality and inner products, as well as applications in least squares problems and orthogonal diagonalization.
		CO5	Problem-Solving Skills: Developing problem-solving skills by applying linear algebra to real-world problems and applications.
		CO6	Applications in Science and Engineering: Students should be able to apply linear algebra concepts to solve problems in various fields, such as physics, engineering, computer science, and economics.
		CO7	Problem-Solving Skills: Developing problem-solving skills by applying linear algebra to real-world problems and applications.

Statement of PSOs

B.Sc Mathematics

PSO1	Create the real life problem into mathematical model using linear equations. Develop the different methods to solve the linear programming problem.
PSO2	Understand the concepts of duality and apply it to find out the optimal solution of Primal and dual problem
PSO3	Gain more knowledge on Transportation problem and execute in different business problem to minimize the transportation cost.
PSO4	Apply the idea of assignment problem to find the different assignments by which expenditure cost should be minimum in many business problem.
PSO5	Develop the knowledge to take decision through the game theory.

Course code	**Course name**	**Course outcomes**	
DSE-I	**Linear Programming Problem**	**CO1**	Understand the basic concepts of Linear Programming Problems. Formulate the problem into Linear Programming problem using the basic concepts.
		CO2	Solve the Linear programming problem by using the Simplex method to find out the optimal solution. Extend the simplex method as Big-M and two-phase method to solve the linear programming method in some special cases.
		CO3	Understand the concept about dual and duality. Apply the duality to find the optimal solution of Primal and Dual problem.
		CO4	Formulate the Transportation problem and discuss the different method to find initial basic solution and optimal solution of transportation problem
		CO5	Analyse the different concepts on assignment problem and various method to solve the assignment problems.
		CO6	Evaluate the value of the game and optimal strategy of players by applying the various methods and basic definition of different terms related to game

Statement of PSOs

BSc Mathematics: Multivariate Calculus	
PSO1	Understanding of multivariate functions, their partial derivatives and interpreting their geometric and physical meaning. Learning the gradient vector and its significance in indicating the direction of the steepest ascent of a function.
PSO2	Able to find critical points, including maxima, minima, and saddle points of multivariate functions.
PSO3	Proficiency in calculating double and triple integrals, and understanding their interpretation as volume, mass, and other physical quantities in different coordinate systems.
PSO4	Evaluating line integrals along curves and understand their physical and geometric interpretations.
PSO5	Understanding the concepts of divergence and curl of vector fields and their significance in physics and engineering, especially in the context of the divergence theorem and Stokes' theorem.

Course Code	Course Name	Course Outcomes	
C-XI	Multivariate Calculus	CO1	Demonstrate a solid understanding of functions of multiple variables. Calculate and interpret gradients and directional derivatives of multivariable functions.
		CO2	Compute partial derivatives and interpret their geometric and physical significance in the context of multivariable functions.
		CO3	Evaluate multiple integrals, including double and triple integrals, over various regions and apply them to calculate physical quantities and areas/volumes.
		CO4	Understand and work with vector fields, including concepts such as divergence and curl.
		CO5	Calculate line integrals along curves in vector fields, apply Green's theorem and Stokes' theorem for evaluating line integrals and surface integrals.
		CO6	Apply the divergence theorem to relate triple integrals over volumes to surface integrals.

Statements of PSOs

BSc Mathematics: Probability and Statistics	
PSO1	Apply mathematical and statistical techniques to analyse and solve complex problems in various fields.
PSO2	Demonstrate proficiency in data analysis, interpretation, and presentation, utilizing statistical methods and tools.
PSO3	Apply statistical principles to design experiments, collect data, and perform hypothesis testing, contributing to scientific research and problem-solving in various domains.
PSO4	Demonstrate an understanding of the practical applications of probability and statistics in fields such as engineering, economics, social sciences, and natural sciences.
PSO5	Exhibit a strong foundation in probability and statistics, which can be applied to further studies in advanced statistical methods, machine learning, and data science.

Course Code	**Course Name**	**Course Outcome**	
DSE-II	Probability and Statistics	**CO1**	Understand the fundamental concepts of probability, including sample spaces, events, and probability rules, and apply them to solve real-world problems.
		CO2	Demonstrate proficiency in probability distributions and density functions, including continuous random variables, and their applications in data analysis and decision-making.
		CO3	Apply mathematical expectations to analyse and interpret data, calculate moments, and understand measures of location and dispersion.
		CO4	Gain proficiency in working with special probability distributions such as binomial, Poisson, and normal distributions, as well as their applications in various fields.
		CO5	Explore and analyse sampling distributions, the Central Limit Theorem, and various statistical distributions (e.g., chi-square, t, F) to make informed inferences and hypothesis testing.
		CO6	Understand the principles of regression and correlation analysis and apply the method of least squares to model relationships between variables.
		CO7	Utilize statistical techniques to analyse data, draw meaningful conclusions, and make informed decisions in various practical scenarios.

Statements of PSOs

BSc Mathematics: Complex Analysis	
PSO1	Develop a strong foundation in complex analysis, including the theory of functions of a complex variable.
PSO2	Apply mathematical concepts to understand and analyse complex numbers and their properties.
PSO3	Gain proficiency in complex integration and theorems like Cauchy's Theorem and Morera's theorem.
PSO4	Learn techniques for evaluating complex integrals and counting the zeros of polynomials.
PSO5	Recognize the importance of complex analysis as a prerequisite for advanced courses in mathematical analysis and related fields.

Course Code	**Course Name**	**Course Outcome**	
C-XIII	Complex Analysis	**CO1**	Understand the fundamental concepts of complex numbers, including their basic properties, convergence, and the complex plane.
		CO2	Identify different types of sets in the complex plane and analyse functions on the complex plane, distinguishing between continuous and holomorphic functions.
		CO3	Comprehend power series and their applications in complex analysis.
		CO4	Master Cauchy's Theorem and its applications, including Goursat's theorem, the evaluation of integrals, and Cauchy's integral formulas.
		CO5	Analyse Morera's theorem, sequences of holomorphic functions, and the Schwarz reflection principle.
		CO6	Understand the concepts of zeros, poles, and meromorphic functions, including the residue formula and its applications.
		CO7	Apply the argument principle and complex logarithm to analyse meromorphic functions and their properties.

Statements of PSOs

BSc Mathematics: Differential Geometry	
PSO1	Realising the behaviours of different surfaces.
PSO2	Analyze different curves and surfaces.
PSO3	Characterize different surfaces.
PSO4	Student will learn the Serret-fernet formulae, relation between tangent, normal and bi-normal, first and second fundamental forms and ideas of various curvatures.
PSO5	Prepares students to take more advanced courses in surface theory and geometry

Course Code	**Course Name**	**Course Outcome**	
DSE-III	Differential Geometry	**CO1**	Students learn different curves and surfaces and their nature, verify smooth surface, regular surface, orientable surface etc
		CO2	Get the knowledge of parametrization of curves and surfaces.
		CO3	Able to demonstrate conjugate and asymptotic lines, developables and minimal surfaces
		CO4	Students develop a facility to compute quantities of geometric interest such as curvature, geodesic, semi geodesic coordinates or ones representing asymptotic lines or principal curvatures.
		CO5	The theory of surfaces introduces the fundamental quadratic forms of a surface, intrinsic and extrinsic geometry of surfaces and the Gauss-Bonnet theorem.

Statement of PSOs

B.Sc Mathematics

PSO1	Understand the concepts on Automorphism, commutator subgroup, group action Sylow theorems.
PSO2	Develop the knowledge on advance courses in algebra by implementing direct products, group action, class equation and their applications
PSO3	Evaluate the order of elements and number of subgroups by interpretating the concepts of Sylow theorem.
PSO4	Apply the group action to develop the different properties of group.
PSO5	Analyse the different results obtained from Cauchy's theorem and Caley's theorem.

Course Code	**Course Name**	**Course Outcomes**	
C-XIV	**Group Theory-II**	**CO1**	Understand the basic concepts of Automorphism , inner automorphisms and their properties.
		CO2	Apply the factor group to automorphism groups and study the characteristic groups.
		CO3	Understand the basic concepts of commutator group and their properties.
		CO4	Learn about the different properties of external product, internal product and fundamental theorem of finite abelian groups.
		CO5	Apply the group actions to develop different properties of groups.
		CO6	Analyse the Generalized Caley's Theorem and Index Theorem.
		CO7	Understand the concepts on group action, Class equations, Conjugate class.
		CO8	Analyse Cauchy-Theorem and Sylow theorems on groups.
		CO9	Discuss the consequences of Sylow Theorem.
		CO10	Analyse the simplicity of alternating group

CRITERIA 2.6.1

Key Indicator- 2.6 Student Performance and Learning Outcome (90)

Metric No.		Weightage
2.6.1. Q_1M	***Programme Outcomes (POs) and Course Outcomes (COs) for all Programmes offered by the institution are stated and displayed on website*** Write description in a maximum of 500 words ***File Description:*** • Upload Additional information • Provide Link for Additional information	25

Statements of POs

Program outcomes: Describe what students are expected to know and would be able to do by the time of graduation. These relate to the skills, knowledge, and behaviours that students acquire as they progress through the program.

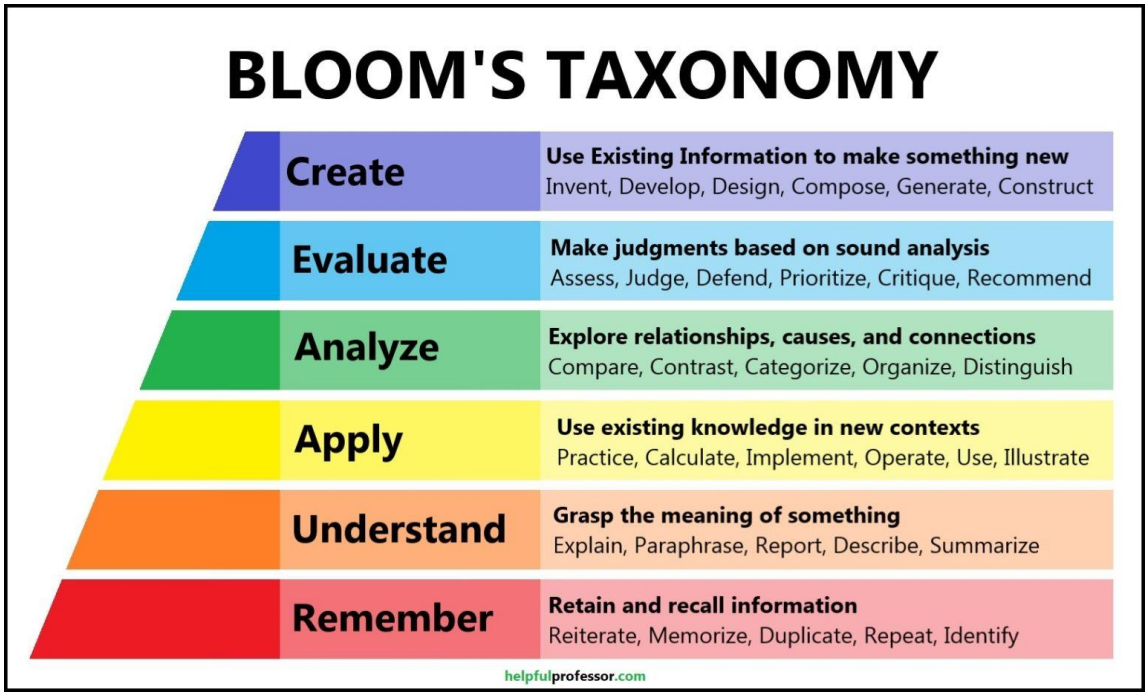
Undergraduate Programme: B.A	
PO1	**Broad Knowledge Base**: Acquire a comprehensive understanding of human culture, history, language, and behavior across various disciplines in the arts and humanities.
PO2	**Critical Thinking:** Develop the ability to analyze, critique, and synthesize complex ideas and arguments.
PO3	**Effective Communication**: Master written, oral, and visual communication skills, effectively conveying ideas and information in various contexts.
PO4	**Cultural Awareness:** Understand and appreciate diverse cultural, historical, and social perspectives.
PO5	**Research Abilities**: Conduct in-depth research using primary and secondary sources and employ interdisciplinary approaches.
PO6	**Ethical Reasoning**: Recognize and analyze ethical issues and dilemmas in various societal contexts.
PO7	Lifelong Learning: Foster a passion for continuous learning and exploration in arts, culture, and humanities.
Undergraduate Programme: B.Sc	
PO1	**Scientific Knowledge**: Acquire a solid foundation in scientific theories, methodologies, and empirical findings across various disciplines.
PO2	**Analytical Thinking**: Develop the ability to critically analyze scientific data, draw accurate conclusions, and apply scientific reasoning to real-world problems.
PO3	**Laboratory Skills**: Gain proficiency in using scientific tools, conducting experiments, and documenting findings.
PO4	**Research Abilities**: Understand the research process and engage in independent or collaborative research projects.
PO5	**Communication**: Effectively communicate scientific information in written, spoken, and visual formats to peers, professionals, and the general public.
PO6	**Ethical Awareness**: Understand and apply ethical considerations in scientific research and practice
PO7	**Continuous Learning**: Stay updated with advancements in scientific knowledge and technology through lifelong learning.

Undergraduate Programme: B.Com	
PO1	Business Acumen: Acquire a robust understanding of business principles, commerce, finance, and global economic structures. .
PO2	Quantitative Skills: Develop proficiency in quantitative and statistical techniques essential for financial analysis and business decision-making.
PO3	Problem Solving: Apply business and economic principles to address real-world commercial challenges
PO4	Technological Proficiency: Understand and employ contemporary business software, tools, and technologies.
PO5	Effective Communication: Communicate business ideas, reports, and analyses coherently to diverse stakeholders.
PO6	Ethical and Legal Awareness: Recognize the ethical and legal implications of business decisions and operations.
PO7	Teamwork and Leadership: Work collaboratively in teams, take initiative, and demonstrate leadership in business settings.

Statements of PSOs

Program Specific Outcomes are statements that describe what the graduates of a specific undergraduate program should be able to do.

Name of the Programme: BSc Geology	
PSO1	**Fundamental Knowledge of Earth Systems**: Upon completion, students will be able to demonstrate a comprehensive understanding of the Earth's composition, structure, processes, and history. They will have a solid grounding in the principles of geology including remote sensing, mineral exploration and applied geology in the field of engineering.
PSO2	**Field and Laboratory Proficiency:** Graduates will develop hands-on expertise in geological field methods, including mapping, sampling, and observational skills. They will also demonstrate proficiency in laboratory techniques, including the use of microscopes, geochemical analyses, and other instrumental methods relevant to geoscientific research
PSO3	**Environmental Awareness**: Graduates will understand the role of geology in environmental issues, such as natural hazards, resource exploration, and environmental protection, and will be prepared to apply their knowledge for sustainable solutions
PSO4	**Professional Ethics**: Graduates will recognize the ethical implications of geological work, including responsible and sustainable resource management, objective reporting of findings, and consideration of indigenous rights and knowledge in geologic endeavors



- Bloom's Taxonomy attempts to classify learning stages from remembering facts to creating new ideas based on the acquired knowledge.
- The idea of Bloom's Taxonomy is that learning is a consecutive process. Before applying a concept in real life, we must understand it. Before we understand a concept, we must remember the key facts related to it.
- Therefore, although initially described as a framework, it is now often depicted as a pyramid.

ACTION VERBS ACCORDING TO BLOOM'S TAXONOMY

Below are the words listed, categorically, you can use it to write your Course Outcomes.

Remember	define identify describe label list name state match recognize select	locate memorize quote recall reproduce tabulate tell copy discover duplicate	enumerate listen observe omit read recite record repeat retell examine
Understand	explain describe interpret paraphrase summarize classify compare differentiate discuss distinguish extend	convert demonstrate estimate express identify indicate infer relate	illustrate judge observe order report represent research review rewrite show trace

	predict associate contrast cite	restate select translate ask	discover generalize discover
Apply	solve apply illustrate modify use calculate change choose demonstrate discover experiment	relate show sketch complete construct dramatize interpret manipulate paint prepare teach	act collect compute explain list operate practice simulate transfer write
Analyze	analyze compare classify contrast distinguish infer separate explain select categorize connect	differentiate divide order prioritize survey calculate conclude correlate deduce devise diagram	dissect estimate evaluate experiment focus illustrate organize outline plan question test
Evaluate	Reframe criticize evaluate order appraise judge support compare decide discriminate recommend summarize argue test	choose convince defend estimate grade measure predict rank score select assess	conclude consider critique debate distinguish editorialize justify persuade rate weigh
Create	design compose create plan combine formulate invent hypothesize substitute write compile construct develop	generalize integrate modify organize prepare produce rearrange rewrite adapt anticipate arrange assemble choose	collaborate facilitate imagine intervene make manage originate propose simulate solve support test validate

- For examples. BSc Geology. 14 Core Papers. One set of Course Outcomes (min 3-7 nos.) for each paper.

- You can create one CO for each unit, for ease, from that specific paper for example CC-3.

- Or you can create numbers of COs in point of view of the subject matter of that specific paper as a whole. It's at your own discretion.

- Try to use maximum variety of words listed as "action verbs" above in your outcomes.

- Use the Artificial Intelligence platform by clicking on the url https://chat.openai.com/ to optimise your work if facing difficulties in forming sentences in English.

- The "Course Outcomes" should be based on the questions which are appearing in mid sem, end sem and practical examination over recent years which is related to Criteria 2.6.2 which will be discussed later.

- For an overall comparison of Course Outcomes and the related subject syllabus, you can refer to BSc Geology Syllabus of Sambalpur University via this link https://www.suniv.ac.in/docs/Geology-Syllabus.pdf and the Course Outcomes has been made accordingly which is attached below.

Name of the Programme : BSc Geology			
Course Code	Course Name	Course Outcome	
Semester I			
CC1	**General geology and Quaternary geology**	**CO1**	Describe the components of the solar system and planets; the terrestrial and jovian planets, Meteorites and Asteroids, origin of the Universe
		CO2	Define the field of geology and explain its relevance and to trace the history and development of geological processes that affecting the Earth and importance to understanding Earth and its processes.
		CO3	Associate the naturally occurring landforms with erosive and depositional action of the rivers, wind, underground water and glaciers
		CO4	Distinguish between the Earth's crust, mantle, outer and inner core in terms of composition, state, and properties.
		CO5	Define and distinguish between different types of volcanoes and earthquakes based on their origins, characteristics, and manifestations and to understand the tectonic settings and geological environments conducive to the formation of earthquakes and volcanic eruptions.
		CO6	Define the Quaternary Period and understand its temporal significance in Earth's geologic history and Analyze the drivers of Quaternary climatic changes, Ice Age, sea level changes during the Quaternary
CC2	**Tectonics and Remote sensing**	**CO1**	Describe the processes of orogeny and the various stages of mountain building. And Distinguish among different types of mountain ranges
		CO2	Define the concept of isostasy and its significance in Earth's lithospheric balance and Analyze the principles of Airy and Pratt isostasy and recognize evidence of isostatic adjustments in geological features.
		CO3	Define the concept of plate tectonics and describe its key principles and components. Identify and characterize the major lithospheric plates and their boundaries and Analyze the interactions between plates at divergent, convergent, and transform boundaries and their geologic consequences.
		CO4	Define remote sensing and understand its significance in acquiring information about the Earth's surface without direct contact and Comprehend the spatial, spectral, radiometric, and temporal resolutions of satellite sensors.
		CO5	Comprehend the spatial, spectral, radiometric, and temporal resolutions of satellite sensors.
		CO6	Distringuish between various marine sediments and differentiate between the various underwater geological features, such as continental shelves, slopes, abyssal plains, and oceanic ridges
Semester II			
CC3	**Crystallography and Mineralogy**	**CO1**	Define and differentiate between crystalline and amorphous substances and various crystal systems with axial relationship and symmetry elements present
		CO2	Define minerals and classify them based on their chemical compositions and physical properties.
		CO3	Recognize and identify common rock-forming minerals using hand specimens and basic laboratory tests.
		CO4	Study of atomic structure, chemistry, physical, properties and uses of minerals of common silicate minerals
CC4	**Optics and Geochemistry**	**CO1**	Comprehend the behavior of light as it interacts with minerals, including concepts of birefringence, pleochroism, and interference figures.

		CO2	Apply the concepts to identify minerals by using polarising microscope based on their optical properties.
		CO3	Define geochemistry and understand its role in interpreting Earth's formation, processes, and history.
		CO4	Recognize the distribution and behavior of elements in the Earth's crust, mantle, core, and in solar system
		CO5	Describe the concepts of cosmic abundance and chondritic distribution of elements.
Semester III			
CC5	**Igneous petrology**	**CO1**	Define igneous rocks and distinguish between intrusive and extrusive varieties based on origin, texture, and cooling history.
		CO2	Understand the processes of magma formation, including partial melting, differentiation, and assimilation.
		CO3	Explain Petrogenesis of Felsic and Mafic igneous rocks;
		CO4	Identify the igneous rocks through megascopic and microscopic techniques of important igneous rocks
CC6	**Sedimentary petrology**	**CO1**	Define sedimentary rocks and understand their significance in recording Earth's surface processes and history.
		CO2	Differentiate between clastic, chemical, and organic sedimentary rocks based on origin, composition, and depositional environment.
		CO3	Recognize and interpret primary sedimentary structures such as bedding, cross-bedding, ripples, and mud cracks; Describe sedimentary textures, including grain size, sorting, and matrix, and understand their significance in sediment maturity and transport history.
		CO4	Understand principles of stratigraphy, including principles of superposition, original horizontality, and cross-cutting relationships; Analyze sedimentary basins in terms of their origin, evolution, and infill patterns.
		CO5	Identify sedimentary rocks through megascopic and microscopic techniques of important igneous rocks
CC7	**Metamorphic petrology**	**CO1**	Define metamorphism and recognize the significance of metamorphic processes in Earth's lithosphere and Differentiate between various types of metamorphism, including regional, contact, and dynamic.
		CO2	Identify and characterize the main metamorphic facies and relate them to the pressure-temperature conditions of metamorphism.
		CO3	Categorize the metamorphic grade of rocks based on mineral assemblages and index minerals.
		CO4	Analyze the relationship between metamorphism and deformation
		CO5	Identify sedimentary rocks through megascopic and microscopic techniques of important igneous rocks
Semester IV			
CC8	**Palaeontology**	**CO1**	Define paleontology and understand its significance in interpreting Earth's biological history and past environments.
		CO2	Understand the processes of fossilization, including mineralization, compression, and impression.
		CO3	Differentiate between various sub-disciplines of paleontology, such as micropaleontology, invertebrate paleontology, vertebrate paleontology, and paleobotany.
		CO4	CO4: Recognize and classify different types of fossils based on preservation mode, such as molds, casts, and trace fossils.
		CO5	Identification of important invertebrate and plant fossils

CC9	**Stratigraphy**	**CO1**	Define stratigraphy and recognize its significance in decoding the geological history of India and Relate global stratigraphic principles to the specific context of the Indian subcontinent
		CO2	Recognize and implement foundational principles such as the Law of Superposition, Principle of Original Horizontality, and Principle of Lateral Continuity.
		CO3	Demonstrate Precambrian, Paleozoic, Mesozoic and Cenozoic stratigraphy of India
		CO4	Identification and interpretation of stratigraphic assemblages
CC10	**Structural geology**	**CO1**	Define key terms and concepts such as dip. Strike, stress, strain, deformation, and rheology.
		CO2	Recognize, describe, and classify primary structures like bedding, foliation, lineation, and secondary deformation structures like folds, faults, unconformities and joints.
		CO3	Understand the kinematics and dynamics of these structures, and the tectonic settings in which they form.
		CO4	Use standard tools and techniques to measure and map geological structures in the field. Interpret field data to construct geological cross-sections and deduce the tectonic history of a region.
Semester V			
CC11	**Processes of formation and Mineral economics**	**CO1**	Understand the geological processes leading to ore formation, including magmatic concentration, hydrothermal processes, sedimentary processes, and metamorphic processes.
		CO2	Describe origin, occurrence, distribution and uses of coal and petroleum; Atomic minerals
		CO3	Describe the characteristic features, formation conditions, and distribution of major ore deposit types
		CO4	Comprehend the importance of Strategic, essential and critical minerals. Sustainable developments of minerals; Conservation of mineral resources.
CC12	**Economic geology**	**CO1**	Define ores and differentiate between ore minerals and gangue minerals and identification of different metalogenic provinces in India
		CO2	Identify the various methods used in mineral exploration, ranging from geophysical and geochemical techniques to remote sensing. Evaluate the effectiveness and limitations of these methods in different geological settings.
		CO3	Describe the mineralogy, mode of occurrence, origin, Indian distribution and uses of common industrial minerals
		CO4	Mega scopic identification and uses of important metallic and non-metallic minerals; Distribution of important ores and other economic minerals in India
Semester VI			
CC13	**Groundwater and Engineering geology**	**CO1**	Define groundwater, differentiate between the unsaturated and saturated zones, and recognize the significance of groundwater in the hydrologic cycle.
		CO2	Understand the concepts of porosity, permeability, and hydraulic conductivity and their relevance in groundwater movement and Comprehend Darcy's Law and its implications for groundwater movement
		CO3	Utilize geophysical and geochemical methods to detect and characterize groundwater reservoirs and Understand the principles and techniques of well drilling, pumping tests, and water level measurements.
		CO4	Comprehend the engineering properties of rocks and soil

		CO5	Understand the role and significance of engineering geology in civil engineering projects and apply the required measurement, precaution in building dams, bridge, tunnels
CC14	**Mining and Environmental geology**	**CO1**	Comprehend the concepts of Drilling, Surveying; Sampling; Assaying and ore reserve estimation and Recognize the importance of geology throughout the mining life cycle
		CO2	Explain various open caste and underground mining methods
		CO3	Recognize the relationship between geological processes and the occurrence of natural disasters like flood, cyclone, earthquake, volcanic explosion, landslide and Tsunami and Application of it for preventive measures
		CO4	Justify the importance of solid waste management including mining waste, radioactive waste and fluorosis & arsenic poisoning in India
		CO5	Solve using mathematical principles in Borehole problems, assay and ore reserve estimation

PROGRAM SPECIFIC OUTCOME: B.A. HISTORY

After graduating with History Honours, they will be able to demonstrate comprehensive knowledge of scholarly research and professional literature relating to the discipline. It is expected that besides the skills specific to the discipline, these wider life skills of argumentation and communication, attitudes and temperaments, and general values inherent in a discipline that studies human beings in their social context. The purpose is to sensitize students to the existence and desirability of multiple perspectives through which knowledge about the past is constructed. Department of History, aims to familiarise students with significant developments in the history of South Asia and certain other parts of the world, through different time periods

PSO1	**Advanced Historical Research Skills** *****Graduates will have advanced research skills. *****Including the ability to identify and utilize primary and secondary sources. *****Conduct archival research, and engage in historiographical analysis.
PSO2	**Critical Analysis and Historiography** *****Graduates will demonstrate a deep understanding of historical theory and historiography. ***** Be able to critically assess and engage with historical debates and interpretations.
PSO3	**Specialization** *****Honours students often choose a specific area of historical specialization, and program outcomes will reflect a deep understanding of that specialization, whether it's a particular time period, region, or theme. *****Graduates will have honed their writing and presentation skills to a high level, enabling them to communicate complex historical ideas effectively.
PSO4	**Ethical and Professional Conduct** *****Honours programs may emphasize ethical conduct in research and historical practice, as well as professional behaviour in academic and historical settings**.** *****Graduates will be skilled in critical thinking, problem-solving, and the application of historical knowledge to analyse complex issues
PSO5	**Public History and Outreach** *****Some programs may include an emphasis on public history and community engagement. *Preparing graduates for careers in museums, archives, education, and other public history settings.

Name of the programme: B.A. History			
Course Code	Course Name	Course Outcome	
		SEMESTERS	
CC1(SEM-1)	History of India-1	CO1	Reconstructing Ancient Indian History.
		CO2	Pre-historic Hunter-Gatherers and Food Production
		CO3	The Harappan Civilization
		CO4	Cultures in Transition
CC2(SEM-1)	Social formations and cultural patterns of the ancient world.	CO1	Evolution of Man
		CO2	Neolithic Culture
		C03	Bronze Age Civilizations
		C04	Ancient Greece
CC3(SEM-2)	History of India 2 (300BCE-750CE)	CO1	Economy and Society (circa 300 BCE to circa CE 300)
		CO2	Changing Political Formations (circa 300 BCE to circa CE 300)
		CO3	Towards Early Medieval India [circa CE fourth century to CE 750]
		CO4	Religion, Culture, Philosophy and Society
CC4(SEM-2)	Social formations and cultural patterns of the medieval world.	CO1	Polity and Economy in Ancient Rome
		CO2	Economic Developments in Europe from 7th to 14th Centuries
		CO3	Religion and Culture in Medieval Europe
		CO4	Societies in Central Islamic Lands
CC5(SEM-3)	History of India 3(750-1206CE)	CO1	Studying Early Medieval India: Political Structures
		CO2	Agrarian Structure and Social Change
		CO3	Trade and Commerce
		CO4	Religious and Cultural Developments
CC6(SEM-3)	Rise of the modern west-1	CO1	Transition from Feudalism to Capitalism
		CO2	Early Colonial Expansion
		CO3	Renaissance and Reformation
		CO4	Economic Developments of the Sixteenth Century
CC7(SEM-3)	History of India 4(1206-1526CE)	CO1	Sultanate: Political Structures
		CO2	Emergence of Regional Identities
		CO3	Society and Economy
		CO4	Religion, Society and Culture
CC8(SEM-4)	Rise of modern west 2	CO1	The English Revolution and European Politics in the 18th century
		CO2	Rise of Modern Science
		CO3	Mercantilism and European Economy
CC9(SEM-4)	History of India 5(1526-1750CE)	CO1	Establishment of Mughal Rule
		CO2	Consolidation of Mughal Rule
		CO3	Society and Economy
		CO4	Cultural Ideals

CC10(SEM-4)	Historical theories and methods	CO1	Meaning and Scope of History
		CO2	Traditions of Historical Writing
		CO3	History as Interdisciplinary Practice
		CO4	Historical Methods
CC11(SEM-5)	History of modern Europe -1(1780-1880CE)	CO1	The French Revolution (1789)
		CO2	Revolution and its European Repercussions
		CO3	Restoration and Revolution: c. 1815 -1848
		CO4	Socio-Economic Transformation and Remaking of States (Late 18th Century to Late 19th Century**)**
CC12(SEM-5)	History of India -7(1750-1857CE)	CO1	Expansion and Consolidation of Colonial Power
		CO2	Colonial State and Ideology
		CO3	Economy and Society
		CO4	Popular Resistance
CC-DSE-1(SEM-5)	History and culture of Odisha -1	CO1	Historical Geography
		CO2	1.Matharas and Eastern Gangas and Sailodbhavas 2.Bhaumakaras 3.Somavamsis
		CO3	1.Imperial Gangas 2.Suryavamsi Gajapatis 3. Post- Gajapati Political developments upto 1568.
		CO4	1.Social and Cultural Life in Early and Medieval Odisha 2.Growth and Decay of Urban Centres 3.Trade and Commerce 4.Taxation and Land Revenue

CC-DSE-2(SEM-5)	History and culture of Odisha-2	CO1	1. Afghan Conquest and Mughal Rule in Odisha-Administration 2. Maratha rule in Odisha – Administration 3. British Occupation and Early Colonial Administration: Land Revenue, Salt Policy, Jail and Police Administration
		CO2	1. Resistance Movements: Ghumsar Rebellion, Paik rebellion, Revolt of 1857 and Surendra Sai, Keonjhar Uprisings. 2. Famine of 1866 – Causes and Consequences 3. Growth of Education and Language Movement
		CO3	1. Growth of Nationalism 2. Formation of Separate Province of Orissa. 3. Prajamandal Movement
		CO4	1.Nationalist Politics in Odisha 2.Quit India Movement 3.Merger of Princely States
CC-13(SEM-6)	History of India -8(1857-1950CE)	CO1	Cultural Changes, Socio and Religious Reform Movements
		CO2	Nationalism: Trends up to 1919
		CO3	Gandhian Nationalism after 1919: Ideas and Movements
		CO4	Communalism and Partition
CC-14(SEM-6)	History of modern Europe(1880-1939CE)	CO1	Liberal Democracy, Working Class Movements and Socialism in the 19th and 20th Centuries
		CO2	The Crisis of Feudalism in Russia and Experiments in Socialism.
		CO3	Imperialism, War, and Crisis: c. 1880-1939

		CO4	Intellectual Developments since circa 1850: Major Intellectual Trends
CC-DSE-3(SEM-6)	History and culture of Odisha -3	CO1	1. Buddhism in Odisha 2. Jainism in Odisha 3. Saivism in Odisha
		CO2	1. Saktism and Tantricism in Odisha 2. Growth of Vaishnavism in Odisha and Cult of Jagannath 3. Growth of Odia Literature : Sarala Mahabharata
		CO3	4. Pancha-Sakha Literature 1. Buddhist Art and Architecture 2. Jaina Art 3. Evolution of Temple Architecture - Parsurameswar, Mukteswar, Lingaraja,
		CO4	Jagannath and Konarka 1. Christian Missionaries – Education and Health 2. Mahima Movement and its Impact 3. Neo-Hindu Movements – Brahmo, Arya Samaj.
CC-DSE-4(SEM-6)		CO	PROJECT REPORT

GOVERNMENT WOMEN'S COLLEGE ,SUNDARGARH B.A ODIA (HONS) COURSE

SEMESTER – I Core -1

Odia sahityara itihas (part- 1)

Programme specific outcomes of semester -I , Core -1

The objective of this paper is to help students the acquire fundamental knowledge about the history of odia literature. This paper mainly based on odia sahityara bhumika, odia sahityare juga bibhajana prasanga, prakasarala jugara sahitya, sarala juga, panchasakha juga o santha sahityara prusthabhumi.

Course outcomes of core -1

Co -1: To provide knowledge about odia sahityara pramukha itihas grantha (only introduction) juga bibhajana abang namakarana.

Co-2: To provide knowledge about odia sahityara praksarala sahitya ra prusthabhumi abang bhumika , prak sarala sahityara baisishtya , charjyagitika o natha sahitya , samajika mulya , dharmika abastha , sahityika o bhasatatwika mulyayana etyadi .

Co-3: To provide knowledge about panchasakha jugiya srastha balaram das o jagannath das .

Co-4: To provide knowledge about panchasakha jugiya srastha achyutananda , jashobanta o sishu ananta das.

SEMESTER – I , Core -2

Madhyajugiya odia sahitya

Programme specific outcomes of semester -I , Core -2

To objective of this paper to help students to acquire knowledge about madhyajugiya odia sahitya , madhyajugiya kabya kabitara angika o atmika baichitrya abang madhyajugiya odia giti parampara .

Course outcomes of course -2

Co-1: To provide knowledge about madhyajugiya odia sahitya ra prusthabhumi (samajika , sanskritika , rajanitika o dharmika)

Co-2 : To provide deep knowledge madhyajugiya kabya kabitara angika baichitrya

Co-3: To provide deep knowledge about madhyajugiya kabya kabitara atmika bibhaba.

Co-4: To provide knowledge about madhyajugiya odia giti kabitara parampara o bikashdhara .

SEMESTER – II , Core -3

Adhunika Odia sahitya

Programme specific outcomes of semester -2 , core -3

The objective of this paper to help students to acquire knowledge about adhunika odia literature.

Course outcomes of core -3

Co -1 : To provide knowledge about adhunika odia sahityara prusthabhumi, o nabajagarana (engraji sikhyara bistara , pattapatrika prakashana , mudranjantra pratistha o bhasa andolana)

Co-2: To provide knowledge about adhunika odia sahityara pramukha srastha o srushti (radhanath ray, Gangadhar meher, madhusudan Rao o fakirmohan senapti)

Co-3: To provide knowledge about adhunika odia sahityare satyabadi dhara o baishithya .

Co-4: To provide knowledge about adhunika odia sahityara sabujadhara o pragatibadidhara.

SEMESTER -II Core -4

Swadhinata parabarti odia sahitya

Programme specific outcomes of semester -2

The objective of this paper is to help students to acquire knowledge about swadhinata parabarti kabita, katha sahitya , nataka o ekankika abang odia gadya sahitya .

Course outcomes of core -4

Co-1 : To provide knowledge about swadhinata parabarti odia kabya kabita.

Co-2: To provide knowledge about swadhinata parabarti odia katha sahitya.

Co-3: To provide knowledge about swadhinata parabarti odia nataka o ekankika.

Co-4: To provide knowledge about swadhinata parabarti odia gadya sahitya ra bikashdhara.

SEMESTER – III , Core -5

Odia bhasa o lipi ra aeitihasika bikashkrama

Programme specific outcomes of semester -3 , core -5

The objective of this paper is help students to know about odia bhasa , lipi o abhilekha ra bikashdhara.

Course outcomes of core -5

Co-1: To provide knowledge about odia bhasa ra udbhaba o bikashkrama.

Co-2: To provide knowledge about lipira aeitihasika bibartana.

Co-3: To provide knowledge about odia abhilekha ra bhasa (shilalekha, tamralelha o prachina sananda)

Co-4 : To provide knowledge about charjyapada o sarala sahityara bhasa.

SEMESTER -III, Core-6

Bhasa ra sangya swarupa , odia bhasa ra baishithya o bibhidata.

Programme specific outcomes of semester -3 , core -6

The objective of this paper is help students to know about odia bhasa , bhasa sidhhanta.

Course outcomes of core -6

Co-1: To provide knowledge about bhasa ra sangya , swarupa o prakarbheda

Core-2: To provide knowledge about bhasa utpatti samparkiya bibhinna sidhhanta.

Co-3: To provide knowledge about odia bhasara anchalika Rupa.

Co-4: To provide knowledge about odia bhasa upare bibhinna bhasara prabhab (drabida, astrik, jabanika o engraji)

SEMESTER – III, Core-7

Odia byabaharika byakarana

Programme specific outcomes of semester -3 , core -7

The objective of this paper help students to know about linguistics and literature in the form of the correct speaking and writing.

Course outcomes of core -7

Co-1: To provide knowledge about odia barna bichara , bakyara gathana riti o prakarbheda

Co-2: To provide knowledge about karaka , bibhakti, krudanta o taddhita.

Co-3: To provide knowledge about upasarga , sandhi o samasa.

Co-4: To provide knowledge about odia sabda bhandara.

SEMESTER – IV, core -8

Odia lokasanskruti o lokasahitya

Programme specific outcomes of semester -4 , core-8

The objective of this paper is help students to acquire knowledge about our culture, tradition , folk literature relation with society etc.

Course outcomes of core -8

Co-1 : To provide knowledge about lokasanskruti o lokasahitya ra sangya, swarupa o prakarbheda.

Co-2: To provide knowledge about odia lokagitara swarupa , prakarbheda o bibhinna diga.

Co-3: To provide knowledge about odia lokakahani ra swarupa o prakarbheda.

Co-4: To provide knowledge about odia lokanataka ra swarupa o prakarbheda (pala, daskathiaa, dandanacha, chhou, lila, dadhi, dalkhai, karma)

SEMESTER -IV , Core -9

Sahitya tatwa(prachya o paschatya)

Programme specific outcomes of semester -4 , Core -9

The objective of this paper is to help students to acquire fundamental knowledge about the defination of prachya o paschatya tatwa kabya kabita(rasa,dhwani,bakroktti,alankar,classicism, romanticism,pratikabada, chitrakalpa) This paper mainly based on kabya kabita defination, lakhyana, prayojana, feature and type etc.

Course outcomes of core-9

Co-1: To provide knowledge about rasa o dhwani

Co-2: To provide knowledge about riti bakroktti o alankara

Co-3: To provide knowledge about classicism romanticism.

Co-4: To provide knowledge about pratikabada, chitrakalpabada.

SEMESTER -IV, Core-10

Odia kabita o prachina ru adhunika

Programme specific outcomes of semester -4 , core-10

The objective of this paper is to help students to acquire fundamental knowledge about the relationship between prachina o adhunika kabya kabita. Features of ancient and modern poetry of odia literature.

Course outcomes of core -10

Co-1: To provide knowledge about sarala Mahabharat.

Co-2: To provide knowledge about the bhagabata (chabisa guru prasanga)- jagannath das.

Co-3: To provide knowledge about dinakrushna dasanka rasakallola(prathama chhanda) o upendra bhanjanka koti brahmand sundari(pratham chhanda)

Co-4: To provide knowledge about adhunika kabita (mahajatra, mangale aaila Usha, bandira Sandhya anuchinta, pratima Nayak)

SEMESTER -V, Core-11

Odia nataka o ekankika

Programme specific outcomes of semester -5 , core -11

The objective of this paper is to help students to acquire fundamental knowledge about the drama and one act play of odia literature. This paper mainly based on odia nataka o ekankika.

Course outcomes of core -11

Co-1: To provide knowledge about the raktamati- kalicharan pattanayak

Co-2: To provide knowledge about nandikakeshari – manoranjan das or tataniranjana – bijaya mishra

Co-3: To provide knowledge about kokuaa- bijaya Kumar satapathy or bhukha – mangalucharan biswal

Co-4: To provide knowledge about smruti bibhrat ekankika – pranabandhu kara o chhadmabeshi – biswajit das

Co-5: To provide knowledge about prakalpa prastuti.

SEMESTER -V , Core-12

Odia katha sahitya

Programme specific outcomes of semester -5 , core-12

The core objective of this paper to help students to acquire knowledge about the novel and short story of odia literature. This paper is mainly based on “odia katha sahitya “.

Course outcomes of core -12

Co-1: To provide knowledge about odia katha sahityara bikashkrama.

Co-2: To provide knowledge about chha mana atha guntha novel by fakirmohan senapti.

Co-3: To provide knowledge about DanaPani – gopinath mahanty.

Co-4: To provide knowledge about galpa sahitya.(Debatara bidhata, mansara bilala, madhubanara mayer)

Co-5: To provide knowledge about prakalpa prastuti.

SEMESTER -VI, Core -13

Odia gadya sahitya

Programme specific outcomes of semester -6 , core -13

The objective of this paper is to help students to acquire knowledge about the biography,auto-biography , criticism,prose etc.

Course outcomes of core -13

Co-1: To provide knowledge about atmajibani, bhramana kahani o samalochana khetra(sangya, swarupa o prakarbheda)

Co-2: To provide knowledge about mo phuta dangara kahani-phaturananda.

Co -3: To provide knowledge about paschima africare odia dhenki-bhubaneswar behera .

Co-4: To provide knowledge about odia prabandha (bhasa o jatiyata, mu satyadharma kahuchhi, bibekananda)

Co-5: To provide knowledge about prakalpa prastuti.

SEMESTER -VI, Core -14

Odia bhasa ra byabaharika prayoga

Programme specific outcomes of semester -6, core -14

The objective of this paper is to help students to acquire knowledge about creativity, personal development, self- independence etc. This paper mainly based on odia bhasara byabaharika prayoga.

Course outcomes of core-14

Co-1: To provide knowledge about bhasana kala, dalagata alochana o sakhyatkar.

Co-2: To provide knowledge about sambada prastuti , feature rachana o bigyapana prastuti.

Co -3: To provide knowledge about karjyalayare odia likhana bidhi.

Co-4: To provide knowledge about odia bhasara vomputorykarana abang hardware, odia fonts, key – board , word processing, banan o byakarana janchaka prakriya, odiare internet ta byabahar, odia samajika website.

Co -5: To provide knowledge about prakalpa prastuti.

SEMESTER -V , Core DSE-1

Odishara sanskrutika itihas o odia sahitya

Programme specific outcomes of semester -5 , core -DSE-1

The objective of this paper is to help students to acquire knowledge about the history of odisha culture and odia literature.

Course outcomes of Core DSE-1

Co-1: To provide knowledge about odishara sankhipta itihas

Co-2: To provide knowledge about odishare boudha sanskruti, shaiba sanskruti o baishnaba sanskruti.

Co-3: To provide knowledge about Sri jagannath o adibasi sanskruti.

Co-4: To provide knowledge about odia osha brata o parba parbani.

SEMESTER -V , Core DSE- 2

Odia sishu sahitya o bigyana bhittika sahitya .

Programme specific outcomes of semester -5 , core DSE-2

The objective of this paper is to help students to acquire knowledge about the odia child literature and scientific literature.

Course outcomes of core DSE-2

CO-1: To provide knowledge about odia sishu sahityara swarupa o prakarbheda.

Co-2: To provide knowledge about odia bigyan bhittika sahityara swarupa o bikashdhara.

Co-3: To provide knowledge about pruthibi bahare manisha- gokulananda mahapatra

Co-4: To provide knowledge about bichitra biswa- debakanta mishra.

SEMESTER -VI, Core- DSE-3

Odia padya sahitya.

Programme specific outcomes of semester -6, core DSE-3

The objective of this paper is to help students to acquire knowledge about odia padya, galpa, prabandha o samalochana sahitya.

Course outcomes of core DSE-3

Co-1: To provide knowledge about poetry (jaganath janana, Akasha prati, jatrasangita, mousumi)

Co-2: To provide knowledge about short story (dimiri phula, bhanga khelana, andha ratira sujya, basi mada)

Co-3: To provide knowledge about prose and criticism (mahasrota, chitragribara uchita abhimana, tinoti samalochana)

Co-4: To provide knowledge about novel(matira manisha- kalindi Charan panigrahi)

SEMESTER – VI , Core DSE-4

Prabandha prastuti o upastapana.

Programme specific outcomes of semester 6, Core DSE-4

The objective of this paper is to help students to acquire knowledge about prepare project paper and research.

Course outcomes of core DSE-4

Co-1: To provide knowledge about definition of criticism, characteristics and types.

Co-2: To provide knowledge about definition of translation, characteristics and types.

Co-3: To provide knowledge about rule of publication.

Co-4: To provide knowledge about rule of research.

SEMESTER -II, MIL(Odia)

Jogajoga ra anubidhi, riti o madhyama.

Programme specific outcomes of semester -2

The objective of this paper is to help students to acquire knowledge about language literature and grammar . This paper mainly based on communication.

Course outcomes

Co-1: To provide knowledge about jogajoga ra paribhasa, anubidhi, parisara o prakarbheda.

Co-2: To provide knowledge about sakhyatkar, bhasana kala.

Co-3: To provide knowledge about samabadara paribhasa, parisara o sambada prastuti.

Co-4: To provide knowledge about odia bhasa ra barnnamala, barnnasudhira nirakarana.

PROGRAM SPECIFIC OUTCOME: B.A. EDUCATION (HONS)

Program outcome describe what students are expected to know and would be able to do by the time of graduation. These relate to the skills, knowledge and behaviours that students acquire as they progress through the program.

PO.

1. In-Depth Knowledge: Graduates should have a deep understanding of their chosen field of study, whether it's history, literature, psychology, or any other subject.

2. Critical Thinking: The program aims to develop critical thinking skills, enabling students to analyze information, think logically, and make informed decisions.

3. Research Skills: Students often acquire research skills, including the ability to gather and interpret data, conduct independent research, and write scholarly papers.

4. Communication Skills: Graduates should be proficient in written and oral communication, which is valuable in a wide range of careers.

5. Problem-Solving: The degree program often encourages problem-solving abilities and the application of theoretical knowledge to real-world issues.

COURSE CODE (CC)	COURSE NAME(CC-1)	COURSE OUTCOME(CO)

SEMESTER 1

CC-1 EDUCATIONAL PHILOSOPHY

CO-1. Understanding Philosophical Foundations: Students should be able to understand and articulate the major philosophical foundations of education, such as idealism, realism, pragmatism, and existentialism.

2. Critical Thinking: Developing the ability to think critically and engage in philosophical analysis of educational issues and concepts.

3. Ethical Reflection: Exploring the ethical dimensions of education and developing the ability to reflect on moral and ethical dilemmas in educational settings.

4. Educational Theories: Familiarity with key educational theories and the ability to apply them to real-world educational practices.

5. Historical Perspective: Understanding the historical development of educational philosophies and their impact on current educational systems.

6. Application to Practice: Applying philosophical principles to real-world educational scenarios and problem-solving.

7. Communication Skills: Developing the ability to communicate philosophical ideas and arguments effectively through written and oral presentations.

8. Interdisciplinary Perspective: Integrating insights from various philosophical traditions and disciplines to address complex educational issues.

9. Self-Reflection: Encouraging students to reflect on their own educational beliefs and values and how they impact their teaching or learning practices.

PRACTICAL: Prepare a Report on field visit to a seat of learning in the locality.

CC-2 --- EDUCATIONAL PSYCHOLOGY

CO: 1. Understanding of Learning Theories: Students will gain knowledge of various learning theories, such as behaviorism, cognitivism, and constructivism, to comprehend how individuals learn and acquire knowledge.

2. Developmental Psychology: A grasp of human development, including cognitive, social, and emotional development, is essential for understanding how learners evolve over time.

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3. Individual Differences: Recognizing and addressing individual variations in learning styles, abilities, and needs, including special education considerations.

4. Motivation and Learning: Understanding the factors that motivate learners and how to create a motivating educational environment.

5. Classroom Management: Developing skills in classroom management and behavior modification techniques to create a positive learning environment.

6. Assessment and Evaluation: Learning how to design and implement effective assessments and evaluations to gauge student progress and adjust instruction accordingly.

7. Educational Interventions: Exploring strategies and interventions to support struggling learners and those with diverse educational needs.

8. Educational Technology: Utilizing technology for enhancing teaching and learning.

9. Ethical and Cultural Considerations: Understanding the ethical responsibilities of educators and considering cultural diversity and inclusivity in educational settings.

10. Research Skills: Developing research and critical thinking skills to assess educational practices and make informed decisions.

PRACTICAL: Administer and interpret of any psychology test relating to intelligence or personality.

SEMESTER—2

CC—3 EDUCATIONAL SOCIOLOGY

C1. Sociological Perspective: Developing a sociological understanding of education, which involves analyzing education systems, institutions, and practices from a social and cultural context.

2. Inequality and Education: Exploring the impact of social inequalities, such as race, class, gender, and ethnicity, on access to and outcomes in education.

3. Educational Systems and Structures: Understanding the organization and structure of educational systems at various levels, from local schools to national policies.

4. Educational Policy Analysis: Evaluating and critiquing educational policies, including their impact on students, teachers, and society as a whole.

5. Socialization and Education: Examining how education contributes to the socialization and social development of individuals within a society.

6. School Culture and Environment: Investigating the role of school culture and environment in shaping students' experiences and outcomes.

7. Global Perspectives: Considering international and cross-cultural aspects of education to understand how different societies approach educational issues.

8. Education and Social Change: Analyzing how education can be a catalyst for social change and examining the role of education in addressing social issues.

9. Research and Data Analysis: Developing research skills to conduct sociological research related to education and use data to inform educational discussions and policies.

10. Educational Equity and Inclusion: Promoting discussions and strategies related to making education more equitable and inclusive, considering diverse populations and marginalized groups.

PRACTICAL: Prepare a Report on study of a social unit (Home,/SCHOOL/VILLAGE)

CC—04 CHANGING PEDAGOGICAL PERSPECTIVE.

1. Understanding different pedagogical approaches and their historical context.

2. Analyzing the impact of technology on teaching and learning.

3. Developing the ability to design and implement innovative teaching methods.

4. Enhancing critical thinking and problem-solving skills in education.

5. Fostering a deeper awareness of diverse learning styles and needs.

6. Promoting reflection on the role of the teacher in the learning process.

7. Exploring the ethical and social implications of changing pedagogical perspectives.

PRACTICAL: Prepare a Report on Rating scale / checklist /observation schedule to evaluate classroom teaching.

SEMESTER ---3

CC—5 EDUCATIONAL ASSESSMENT & EVALUATION

CO--1. Understanding the principles and theories of educational assessment.

2. Developing proficiency in designing valid and reliable assessments.

3. Gaining knowledge of various assessment methods, including formative and summative assessments.

4. Learning how to use technology for assessment and data analysis.

5. Analyzing the impact of assessment on learning outcomes.

6. Exploring ethical considerations in educational assessment and evaluation.

7. Demonstrating the ability to interpret and use assessment results to improve instruction.

8. Developing skills in providing constructive feedback to students.

9. Understanding the role of assessment in educational policy and decision-making.

10. Designing and implementing effective evaluation strategies for educational programs and interventions.

PRACTICAL: Construction of Unit test on a school subject based on blueprint and reporting.

CC—6 EDUCATIONAL RESEARCH

CO---. Understanding the principles and methodologies of educational research.

2. Developing proficiency in conducting literature reviews and research design.

3. Gaining knowledge of various research methods, both qualitative and quantitative.

4. Learning how to collect, analyze, and interpret data related to education.

5. Developing critical thinking and problem-solving skills in research.

6. Demonstrating the ability to formulate research questions and hypotheses.

7. Acquiring knowledge of ethical considerations and research ethics in education.

8. Learning how to write and present research findings effectively.

9. Developing the skills to evaluate and critique educational research studies.

10. Applying research to inform educational practice and policy.

PRACTICAL: Develop a Research Proposal on any EDUCATIONAL PROBLEMS.

CC—7 STATISTICS IN EDUCATION

CO-- 1. Understanding of Statistical Concepts: Students should grasp fundamental statistical concepts like measures of central tendency, variability, and correlation.

2. Data Analysis Skills: Students should be able to collect, organize, and analyze educational data using statistical techniques.

3. Interpretation: The ability to interpret statistical results and draw meaningful conclusions from educational data is a crucial outcome.

4. Research Design: Knowledge of how to design research studies in education, including selecting appropriate data collection methods and sample sizes.

5. Inferential Statistics: Learning to apply inferential statistics such as hypothesis testing and confidence intervals to educational research.

6. Descriptive Statistics: Proficiency in summarizing data through graphical representations and descriptive statistics.

7. Ethical Considerations: Understanding the ethical issues related to data collection and analysis in education.

8. Practical Application: The ability to apply statistical techniques to solve real-world educational problems and make informed decisions.

9. Computer Skills: Proficiency in using statistical software packages like SPSS, R, or Excel for data analysis.

10. Critical Thinking: Developing critical thinking skills to evaluate and critique research findings and methodologies in education.

PRACTICAL: Analyse the achievement data using different statistical techniques such as MEAN, MEDIAN, and MODE & SD.

SEMESTER ----4

CC—8 HISTORY OF EDUCATION IN INDIA .

CO-- . Historical Context: Understanding the historical, social, cultural, and political context of education in India.

2. Evolution of Education: Tracing the evolution of education systems, institutions, and practices in India from ancient times to the present.

3. Key Figures and Movements: Familiarity with prominent figures, reformers, and movements that have shaped education in India.

4. Policy and Governance: Knowledge of education policies, governance structures, and their impact on Indian society.

5. Societal Impact: Analyzing how education has influenced and been influenced by Indian society, including issues related to caste, gender, and class.

6. Language and Literature: Understanding the role of languages and literature in Indian education.

7. Educational Philosophy: Exploring the educational philosophies and ideologies that have guided Indian educational thought and practices.

8. Educational Institutions: Studying the development and significance of educational institutions, including universities, schools, and specialized centers of learning.

9. Global Perspective: Comparing Indian education with global educational trends and historical developments.

10. Contemporary Issues: Examining current challenges and issues in the Indian education system, including access, quality, and inclusivity.

PRACTICAL: A REPORT ON IMPIEMENTATION OF NEP(1986) IN RESPECT OF RECOMMENDATIONS FOR ELEMENTARY.

CC—9 GUIDANCE AND COUNSELLING.

CO-- 1. Understanding of Counseling Theories: Students should gain a solid understanding of various counseling theories and approaches, such as cognitive-behavioral therapy, person-centered therapy, and psychodynamic theories.

2. Communication Skills: Developing effective communication skills, including active listening, empathy, and non-verbal communication, is often a key outcome of counseling courses.

3. Ethical and Professional Standards: Students should learn about the ethical and professional standards that guide the practice of counselling, including issues related to confidentiality, boundaries, and cultural competence.

4. Assessment and Diagnosis: Some courses may cover assessment and diagnosis techniques to help students identify and address mental health issues.

5. Counselling Techniques: Learning specific counselling techniques and interventions to help clients deal with their concerns and challenges.

6. Cultural Competence: Understanding and respecting cultural diversity and its impact on counselling is an important outcome.

7. Career Counselling: For courses focused on career counselling, outcomes may include helping clients with career development, goal-setting, and job search strategies.

8. Group Counselling Skills: If the course covers group counselling, students may learn how to facilitate group sessions effectively.

9. Crisis Intervention: Preparing students to respond to crisis situations and provide immediate support.

10. Research and Evaluation: Developing research and evaluation skills to assess the effectiveness of counseling interventions.

PRACTICAL: A CASE-STUDY OF A CHILD WITH SPECIAL NEEDS AND CHILD FROM SOCIALLY DISADVANTAGED BACKGROUND.

SEMESTER---5

CC—10 DEVELOPMENT OF EDUCATION IN ODISHA.

CO---1. Understanding of Odisha's Educational Landscape: Students should gain a comprehensive understanding of the current state of education in Odisha, including challenges, opportunities, and policy frameworks.

2. Educational Policy and Planning: Developing the ability to analyze and contribute to educational policy and planning initiatives tailored to Odisha's context.

3. Socioeconomic and Cultural Factors: Understanding the socioeconomic, cultural, and historical factors that influence education in Odisha, and how these impact students and communities.

4. Teacher Training and Development: Learning strategies to enhance teacher training and professional development programs to improve the quality of education.

5. Inclusive Education: Promoting inclusive education practices that address the needs of marginalized groups, including tribal communities and disadvantaged students.

6. Educational Technology: Exploring the integration of technology in education to bridge gaps and enhance learning outcomes in Odisha.

7. Community Engagement: Emphasizing the importance of involving local communities in education development and fostering partnerships with stakeholders.

8. Language and Multilingual Education: Addressing language diversity and the need for multilingual education to ensure effective communication and learning.

9. Quality Assessment and Improvement: Developing skills in educational assessment and continuous quality improvement to enhance teaching and learning outcomes.

10. Research and Data Analysis: Equipping students with research skills to conduct studies related to education in Odisha, helping inform evidence-based policies and practices.

PRACTICAL: SEMINAR PRESENTATION ON DEVEIOPMENT OF EDUCATION IN ODISHA.

CC--- 11. INFORMATION AND COMMUNICATION TECHNOLOGY IN EDUCATION.

CO---1. Technology Integration: Students should be able to integrate various ICT tools and resources into the teaching and learning process.

2. Pedagogical Strategies: Understanding how to adapt pedagogical approaches to leverage technology for enhanced learning outcomes.

3. Educational Software and Tools: Proficiency in using educational software, learning management systems, and other technology platforms commonly used in education.

4. Digital Literacy: Developing digital literacy skills to navigate, evaluate, and use digital information effectively and ethically.

5. Differentiated Instruction: The ability to use technology to tailor instruction to individual student needs and learning styles.

6. Multimedia Content Creation: Proficiency in creating and using multimedia content, such as videos, animations, and interactive presentations, to enhance lessons.

7. Blended and Online Learning: Designing and facilitating blended and online learning experiences, including online assessments and discussions.

8. Accessibility and Inclusivity: Ensuring that technology-enhanced education is accessible to all students, including those with disabilities.

PRACTICAL: DEVELOPMENT OF AN OBJECTIVE TEST USING ANY ASSESSMENT TOOL OR USING RUBISTAR.

DSE---1 PEDAGOGY OF LANGUAGE(ENGLISH /ODIA)

CO---1. Language Proficiency: Develop proficiency in the target language (Odia or English) to serve as a model for students.

2. Linguistic Awareness: Understand the phonetics, grammar, and syntax of the language to facilitate accurate and effective teaching.

3. Language Acquisition Theories: Familiarity with theories of language acquisition and how they apply to language teaching.

4. Language Skills Development: Help students develop all four language skills - reading, writing, listening, and speaking - in the target language.

5. Literacy Instruction: Strategies for teaching literacy skills, including reading comprehension and writing skills.

6. Vocabulary Building: Techniques for expanding students' vocabulary in the target language.

7. Culture and Context: Integrate cultural and contextual elements into language teaching to make it more relevant and engaging.

8. Differentiated Instruction: Tailor instruction to meet the diverse needs and abilities of students, including those with varying language proficiency levels.

9. Assessment and Evaluation: Develop effective methods for assessing and evaluating students' language proficiency and progress.

10. Materials and Resources: Identify and create appropriate teaching materials, including textbooks, audio-visual aids, and online resources.

11. Technology Integration: Incorporate technology and digital resources to enhance language learning and teaching.

12. Multilingualism and Multiculturalism: Promote an appreciation for linguistic diversity and multiculturalism in language education.

13. Bilingual Education: Understand and implement strategies for teaching in a bilingual or multilingual context if applicable.

PRACTICAL: SCHOOL INTERNSHIP(DELIVERY OF 5 LESSIONS FOLLOWING HERBARTIAN/ 5E/ ICON MODEL)

DSE---2 A. PEDAGOGY OF SOCIAL SCIENCES

CO--1. Understand the foundational concepts: Gain a deep understanding of key concepts, theories, and themes in social sciences, such as history, geography, sociology, and political science.

2. Develop curriculum and lesson plans: Learn how to design and develop age-appropriate curriculum and engaging lesson plans for teaching social science topics.

3. Apply teaching methodologies: Acquire various teaching methodologies and strategies to make social science lessons interactive, inclusive, and engaging for students.

4. Assess and evaluate: Learn how to design fair and effective assessments to evaluate students' understanding of social science concepts.

5. Promote critical thinking: Encourage critical thinking, analytical skills, and a broader perspective in students when examining social issues and historical events.

6. Foster cultural sensitivity: Understand the importance of fostering cultural sensitivity and inclusivity when teaching social sciences in a diverse classroom.

7. Use technology and resources: Explore the use of technology and educational resources to enhance social science teaching and learning.

8. Reflect on teaching practice: Reflect on your teaching methods and adapt them to meet the diverse needs of your students and the evolving field of social sciences.

DSE –2 B. PEDAGOGY OF MATHEMATICS.

CC--- 1. *Understanding Mathematical Concepts*: Develop a deep understanding of fundamental mathematical concepts, including algebra, calculus, geometry, and statistics.

2. *Problem-Solving Skills*: Enhance problem-solving skills by applying mathematical principles to a variety of real-world problems.

3. *Mathematical Reasoning*: Improve mathematical reasoning and critical thinking abilities to analyze, justify, and communicate mathematical solutions effectively.

4. *Mathematical Communication*: Enhance the ability to express mathematical ideas and solutions clearly through written and oral communication.

5. *Mathematical Modeling*: Learn how to create mathematical models to represent and solve practical problems in fields such as science, engineering, and economics.

6. *Computer Skills*: Develop proficiency in using mathematical software and tools for computation, visualization, and data analysis.

7. *Advanced Topics*: Depending on the level of the course, students may study advanced topics in mathematics, such as abstract algebra, differential equations, number theory, or complex analysis.

8. *Probability and Statistics*: Understand the principles of probability and statistics, including data analysis, hypothesis testing, and statistical inference.

9. *Mathematical Proof*: Gain experience in writing mathematical proofs and understand the principles of mathematical rigor and logic.

10. *Mathematical Applications*: Explore how mathematics is applied in various fields, including physics, engineering, economics, and computer science.

SEMESTER ---6

CC---13 CONTEMPORARY TRENDS AND ISSUES IN INDIAN EDUCATION.

CO---1. *Understanding Educational Policies*: Gain insights into the current educational policies and reforms in India, including the National Education Policy (NEP) and their implications for teaching and learning.

2. *Societal and Cultural Context*: Analyze the impact of societal and cultural factors on education in India and how they influence educational practices and outcomes.

3. *Educational Equity*: Explore issues related to educational equity, access, and inclusion in the Indian context, with a focus on marginalized and underprivileged communities.

4. *Curriculum and Pedagogy*: Examine contemporary curriculum design and pedagogical approaches that align with the evolving needs of students and society.

5. *Assessment and Evaluation*: Understand modern methods of student assessment and evaluation, with an emphasis on continuous and comprehensive evaluation (CCE) and alternative assessment methods.

6. *Technology in Education*: Explore the integration of technology in the classroom and its impact on teaching and learning, including e-learning and digital resources.

7. *Teacher Professional Development*: Address the challenges and opportunities for teacher training, development, and capacity building to meet the changing demands of education.

8. *Global Education Trends*: Compare and contrast Indian education trends with global practices and innovations in education.

9. *Educational Research and Analysis*: Develop skills in researching and analyzing educational issues, using data and evidence to inform decision-making.

PRACTICAL---PREPARE A REPORT ON PERCEPTION OF STAKEHOLDER'S OF EDN ON ANY OF THE CURRENT ISSUES..

CC ----14 EDUCATIONAL MANAGEMENT AND LEADERSHIP.

CO----1. *Understanding Educational Systems*: Develop a comprehensive understanding of educational systems, including their structure, policies, and regulations.

2. *Leadership Theory and Practice*: Explore leadership theories and models and apply them to educational contexts, developing effective leadership skills.

3. *Strategic Planning*: Learn how to develop and implement strategic plans for educational institutions, aligning goals with the institution's mission and vision.

4. *Organizational Management*: Acquire skills in managing educational organizations, including budgeting, resource allocation, and human resource management.

5. *Curriculum Development*: Understand curriculum design and development, ensuring that educational programs meet the needs of students and the community.

6. *Assessment and Accountability*: Develop methods for assessing and evaluating educational programs and ensuring accountability in educational leadership.

7. *Change Management*: Learn how to manage and lead change initiatives within educational institutions, adapting to evolving needs and challenges.

PRACTICAL----REPORT ON THE ROLE OF SMC/SMDC IN SCHOOL MANAGEMENT.

DSE---3 A..POLICY AND PRACTICES IN SCHOOL EDUCATION IN INDIA.

B. POLICY AND PRACTICES IN HIGHER EDUCATION IN INDIA.

CC--- 1. *Understanding Higher Education Landscape*: Gain a deep understanding of the higher education landscape in India, including the various types of institutions, their structures, and roles.

2. *Higher Education Policies*: Analyze national and state-level policies that govern higher education and their impact on institutions and stakeholders.

3. *Quality Assurance and Accreditation*: Learn about quality assurance mechanisms and accreditation processes in higher education and their significance for institutions.

4. *Governance and Administration*: Understand the governance and administrative structures of higher education institutions, including the roles of regulatory bodies and governing boards.

5. *Curriculum Development*: Explore curriculum design and development in higher education, with a focus on aligning programs with industry and societal needs.

6. *Student Services and Support*: Learn about student services, counseling, and support systems to enhance the overall student experience.

7. *Faculty Development*: Address strategies for faculty development, including pedagogical training and research support.

PRACTICAL—ANALYSIS OF ANY POLICY DOCUMENT BEING IMPLEMENTED IN THE FIELD OF HIGHER EDUCATION IN INDIA.

DSE----4---DISSERTATION/ RESEARCH PROJECT.

CO-- 1. *Research Proposal*: Develop the ability to create a clear and well-structured research proposal that outlines the research questions, objectives, and methodologies.

2. *Literature Review*: Gain proficiency in conducting a comprehensive literature review to identify existing research in the chosen area of education.

3. *Research Design*: Understand various research designs, data collection methods, and statistical tools suitable for educational research.

4. *Data Collection*: Learn how to collect, organize, and analyze data using appropriate research instruments and methods, such as surveys, interviews, or observations.

5. *Data Analysis*: Acquire skills in data analysis techniques, including qualitative and quantitative analysis, and the use of statistical software.

6. *Research Ethics*: Understand and adhere to ethical guidelines and standards when conducting educational research, including informed consent and confidentiality.

7. *Research Presentation*: Develop the ability to present research findings effectively through written reports and oral presentations.

8. *Critical Thinking*: Enhance critical thinking skills to evaluate research questions, hypotheses, and findings critically.

9. *Problem-Solving*: Apply problem-solving skills to address challenges and obstacles encountered during the research process.

10. *Research Methodologies*: Explore and apply various research methodologies relevant to educational research, such as case studies, experiments, or surveys.

11. *Data Interpretation*: Interpret research findings and draw meaningful conclusions based on the data collected.

12. *Research Collaboration*: Work effectively in research teams, collaborate with peers, and learn to integrate diverse perspectives in the research process.

13. *Publication and Dissemination*: Understand the process of publishing research in academic journals and disseminating findings to a wider audience.

14. *Research Ethics*: Adhere to ethical principles throughout the research project, including the responsible and respectful treatment of participants and data.

15. *Research Contribution*: Contribute to the body of knowledge in the field of education by addressing relevant research questions and gaps in the literature.

PRACTICAL----- PREPARE /DESIGN /DEVELOP A REPORT ON ANY EDUCATIONAL ISSUE OR PROBLEM.

DEPARTMENT OF ECONOMICS

Govt. Women's College, Sundargarh

Prerna Panda
Asst. Prof. in Eco
HOD

PROGRAMME OUTCOMES (PO)-B.A. ECONOMICS (HONORS)

Program Outcomes (POs) for a Bachelor of Arts (B.A.) Honors program encompass the general skills, knowledge, and attributes that graduates are expected to acquire. These outcomes reflect the overall educational goals of the program. Program Outcomes for a B.A. Honors program are given below:

1. **Depth of Knowledge**: Graduates will possess a deep understanding of the chosen major or field of study within the arts, demonstrating expertise in key concepts, theories, and methodologies.
2. **Critical Thinking**: Graduates will be skilled critical thinkers, capable of analyzing complex problems, evaluating evidence, and constructing well-reasoned arguments and creative solutions.
3. **Research Proficiency**: Graduates will have the ability to conduct independent research, including the formulation of research questions, data collection, analysis, and interpretation, culminating in the production of original scholarly work.
4. **Communication Skills**: Graduates will communicate effectively through written and oral means, demonstrating clarity, coherence, and persuasive communication of ideas to diverse audiences.
5. **Global Awareness**: Graduates will possess a global perspective, understanding the interconnectedness of the world and the implications of global issues on their chosen field of study.
6. **Problem Solving**: Graduates will demonstrate problem-solving skills applicable not only to academic contexts but also to real-world challenges in their field or in related areas.
7. **Leadership and Collaboration**: Graduates will be effective team members and leaders, capable of collaborating with others to achieve common goals and contributing positively to group dynamics.
8. **Adaptability and Lifelong Learning**: Graduates will recognize the importance of adaptability and continuous learning, staying updated with evolving knowledge and emerging trends in their field.
9. **Civic Engagement**: Graduates will be encouraged to actively engage with societal issues related to their field of study and contribute to the betterment of their communities and society at large.
10. **Professional Development**: Graduates will be prepared for various career paths or further education, possessing the skills, adaptability, and knowledge needed to excel in academia, industry, government, or the arts.

PROGRAMME SPECIFIC OUTCOMES (PSO)-B.A. ECONOMICS (HONORS)

Programme Specific Outcomes (PSOs) are statements that describe the knowledge, skills, and attributes that students are expected to gain upon completing Economics Honors academic program. They are:

1. **Economic Analysis:** Graduates will be able to apply economic theories, principles, and models to analyze and interpret complex economic issues, including but not limited to macroeconomic and microeconomic phenomena, market behavior, and policy implications.
2. **Quantitative Proficiency:** Graduates will have a strong foundation in quantitative methods and data analysis, enabling them to collect, analyze, and interpret economic data effectively. They will be proficient in using statistical tools and software to inform economic decision-making.
3. **Critical Thinking:** Graduates will develop advanced critical thinking skills, allowing them to evaluate economic arguments, identify assumptions, and propose innovative solutions to economic challenges. They will be capable of analyzing and synthesizing information from diverse sources.
4. **Research Competence:** Graduates will be equipped with the skills necessary to conduct independent research in economics. They will be proficient in designing research projects, collecting and analyzing data, and presenting research findings in a clear and coherent manner.
5. **Policy Analysis:** Graduates will be able to assess the impact of economic policies on society, businesses, and individuals. They will understand the role of government intervention in the economy and evaluate policy alternatives using economic frameworks.
6. **Global Perspective:** Graduates will have a global perspective on economic issues, recognizing the interconnectedness of economies and the importance of international trade and finance. They will be able to analyze the implications of globalization for economic growth and development.
7. **Communication Skills:** Graduates will possess effective written and oral communication skills, allowing them to communicate complex economic concepts and analyses to diverse audiences. They will be capable of producing high-quality reports, presentations, and policy briefs.
8. **Ethical and Social Responsibility:** Graduates will be aware of the ethical dimensions of economic decision-making and understand the social responsibilities associated with economic analysis and policy recommendations. They will consider the broader societal impact of economic choices.
9. **Interdisciplinary Knowledge:** Graduates will have an interdisciplinary perspective, integrating insights from related fields such as sociology, political science, and environmental studies into their economic analyses when appropriate.
10. **Professional Development:** Graduates will be prepared for various career paths, including roles in academia, government, non-profit organizations, and the private sector. They will have the skills and knowledge needed to adapt to changing economic landscapes and pursue further education if desired.

Course Outcome (CO1)-for DSC 1: Introductory Microeconomics

Course Duration: One Semester
Course Description: This course provides an introduction to the fundamental principles and introductory concepts of microeconomics. It aims to equip students with a solid foundation in microeconomic theory to analyze individual and firm behavior in various market structures.
Course Outcome:
Upon successful completion of this course, students will be able to:

1. **Understand Microeconomic Concepts**: Demonstrate a comprehensive understanding of key microeconomic concepts, including supply and demand, marginal analysis, utility, opportunity cost, and the concept of efficiency.
2. **Analyze Consumer Behavior**: Analyze consumer behavior, including the theory of consumer choice, indifference curves, and budget constraints, to explain how individuals make decisions regarding consumption.
3. **Evaluate Firm Behavior**: Evaluate the behavior of firms in different market structures, including perfect competition, monopoly, oligopoly, and monopolistic competition, by examining profit maximization, pricing strategies, and market power.
4. **Interpret Elasticity**: Calculate and interpret price elasticity of demand and supply, income elasticity, and cross-price elasticity to assess the responsiveness of quantity demanded or supplied to changes in prices and incomes.
5. **Understand Market Failures**: Recognize and analyze instances of market failures, including externalities, public goods, and information asymmetry, and propose potential policy solutions to address these failures.
6. **Utilize Marginal Analysis**: Utilize marginal analysis to make rational decisions in various economic contexts, such as production decisions, resource allocation, and consumer choices.
7. **Solve Economic Problems**: Apply microeconomic tools and reasoning to solve complex economic problems and provide well-structured economic explanations for observed phenomena.
8. **Effective Communication**: Communicate economic concepts, analyses, and findings effectively through written reports, presentations, and discussions, using appropriate economic terminology and graphical representations.
9. **Critical Thinking**: Develop critical thinking skills by assessing the validity of economic arguments, recognizing biases, and evaluating the implications of economic decisions on individuals and society.
10. **Prepare for Advanced Study**: Acquire the necessary knowledge and skills to pursue advanced courses in microeconomics and related fields, fostering a strong foundation for further academic and professional development.

Course Outcome (CO2)-for DSC 2: Mathematical Methods for Economics-I

Course Duration: One Semester
Course Description: This course introduces students to fundamental mathematical concepts and techniques essential for economic analysis. It equips students with the mathematical tools required to model, analyze, and solve economic problems.
Course Outcome:
Upon successful completion of this course, students will be able to:

1. **Mathematical Foundations**: Demonstrate a strong grasp of fundamental mathematical concepts, including algebra, calculus, and linear algebra, and apply them to solve economic problems.
2. **Graphical Representation**: Create and interpret graphical representations of economic relationships and concepts, including demand and supply curves, production functions, and utility functions.
3. **Linear Algebra**: Utilize linear algebra concepts and operations, including matrices and vectors, to solve systems of linear equations and represent economic models.
4. **Understanding Economic Models**: Analyze and understand economic models and their mathematical representations, including linear, quadratic, and exponential functions.
5. **Interpretation of Derivatives**: Interpret the economic meaning of derivatives, including marginal concepts, elasticity, and rate of change, in the context of consumer and producer behavior.
6. **Preparation for Advanced Study**: Acquire a solid foundation in mathematical methods, providing a basis for more advanced economics courses and future academic and professional development.

This Course Outcome reflects the overarching goals of the Mathematical Methods for Economics-I course, emphasizing the importance of mathematical proficiency in economic analysis and decision-making. It serves as a guide for students and instructors to assess the achievement of learning objectives.

Course Outcome (CO3)-for DSC 3: Introductory Macroeconomics

Course Duration: One Semester
Course Description: This course provides an overview of macroeconomic principles and theories.It explores the behavior of economies as a whole and equips students with the tools to understand and analyze factors influencing national income, inflation, unemployment, and economic growth.
Course Outcome:
Upon successful completion of this course, students will be able to:

1. **Macroeconomic Concepts**: Demonstrate a solid understanding of fundamental macroeconomic concepts, including GDP, inflation, unemployment, aggregate demand and supply, and the role of government in the economy.
2. **Economic Models**: Analyze and interpret macroeconomic models, including the Keynesian model, the neoclassical model, and the AD-AS model, to explain economic fluctuations and long-term growth.
3. **Measurement of Economic Performance**: Calculate and interpret economic indicators, such as Gross Domestic Product (GDP), Consumer Price Index (CPI), and Unemployment Rate, to assess the economic performance of a country.
4. **Income and Expenditure**: Understand the concepts of income and expenditure, and analyze the determinants of aggregate demand and the multiplier effect in the context of fiscal policy.
5. **Monetary Policy**: Examine the role of central banks in conducting monetary policy, including open market operations, discount rates, and reserve requirements, to influence interest rates and control inflation.
6. **Fiscal Policy**: Evaluate the use of fiscal policy tools, such as government spending and taxation, in stabilizing the economy and achieving macroeconomic objectives.
7. **Economic Growth**: Analyze the determinants of economic growth and explore the factors that contribute to long-term increases in real GDP, including technological progress and human capital accumulation.
8. **Ethical Considerations**: Recognize the ethical dimensions of macroeconomic decisions and policy choices, including issues related to income distribution and social welfare.
9. **Preparation for Advanced Study**: Acquire a strong foundation in macroeconomics, providing a basis for more advanced economics courses and future academic and professional development.

This Course Outcome encompasses the overarching goals of the Introductory Macroeconomics course, emphasizing the importance of macroeconomic understanding in analyzing economic performance and policy decisions. It serves as a guide for students and instructors to assess the achievement of learning objectives.

Course Outcome (CO4)-for DSC 4: Mathematical Methods for Economics-II

Course Duration: One Semester
Course Description: This course builds upon the foundational mathematical concepts introduced in Mathematical Methods for Economics-I. It focuses on advanced mathematical tools and techniques essential for modeling and solving complex economic problems encountered in higher-level economics courses.
Course Outcome:
Upon successful completion of this course, students will be able to:

1. **Advanced Mathematical Concepts**: Demonstrate a mastery of advanced mathematical concepts, including multivariable calculus, differential equations, and optimization techniques, and their application to economic modeling.
2. **Multivariate Analysis**: Analyze and solve economic problems involving multiple variables, such as production functions, utility functions, and general equilibrium models, using multivariate calculus and linear algebra.
3. **Optimization Techniques**: Apply optimization techniques, such as differentiation and constrained optimization, to maximize or minimize economic functions, such as utility, profit, and cost functions.
4. **Constrained Optimization**: Solve complex constrained optimization problems relevant to economic decision-making, including consumer and producer choice under budget constraints and resource allocation.
5. **Integration**: Apply integration techniques to calculate cumulative economic measures, such as total revenue, total cost, and consumer surplus.
6. **Economic Applications**: Apply mathematical methods to solve real-world economic problems, including consumer choice, production decisions, and market equilibrium.
7. **Critical Thinking**: Develop critical thinking skills by evaluating the appropriateness of mathematical models and assumptions in economic analysis and identifying limitations.
8. **Effective Communication**: Communicate mathematical analyses and economic findings effectively through written reports, mathematical notation, and verbal explanations to both technical and non-technical audiences.
9. **Ethical Considerations**: Recognize the ethical implications of mathematical modeling and analysis in economics, including issues related to fairness, transparency, and the use of data.
10. **Preparation for Advanced Study**: Acquire advanced mathematical skills, providing a strong foundation for pursuing higher-level economics courses and future academic and professional development.

This Course Outcome reflects the overarching goals of the Mathematical Methods for Economics-II course, emphasizing the importance of advanced mathematical proficiency in addressing complex economic issues and conducting rigorous economic analyses. It serves as a guide for students and instructors to assess the achievement of learning objectives.

Course Outcome (CO5)-for DSC 5: Microeconomics-I

Course Duration: One Semester
Course Description: Microeconomics-I explores advanced microeconomic concepts, theories, and models. This course delves deeper into the behavior of consumers, firms, and markets, providing students with a comprehensive understanding of microeconomic principles and their real-world applications.
Course Outcome:
Upon successful completion of this course, students will be able to:

1. **Consumer Theory**: Demonstrate a deep understanding of advanced consumer theory, including individual and market demand, utility maximization, and the analysis of consumer choice under uncertainty.
2. **Production and Cost Analysis**: Analyze the production process, cost structures, and firm behavior in various market structures, including perfect competition, monopoly, monopolistic competition, and oligopoly.
3. **Market Structure Analysis**: Evaluate the implications of different market structures on pricing, output levels, and economic efficiency, using advanced concepts such as price discrimination, barriers to entry, and contestable markets.
4. **Effective Communication**: Communicate advanced microeconomic concepts and analyses effectively through written reports, presentations, and discussions, using appropriate economic terminology and graphical representations.
5. **Critical Thinking**: Develop critical thinking skills by evaluating the validity of microeconomic arguments, recognizing assumptions, and considering the ethical and social implications of economic decisions.
6. **Interdisciplinary Application**: Apply microeconomic principles to interdisciplinary economic challenges, such as environmental economics, health economics, and industrial organization.
7. **Preparation for Advanced Study**: Acquire an advanced understanding of microeconomics, providing a strong foundation for pursuing higher-level economics courses and future academic and professional development.

This Course Outcome reflects the overarching goals of Microeconomics-I, emphasizing the importance of in-depth knowledge and analytical skills in microeconomic theory and their practical application to real-world economic issues. It serves as a guide for students and instructors to assess the achievement of learning objectives.

Course Outcome (CO6)-for DSC 6: Macroeconomics-I

Course Duration: One Semester
Course Description: Macroeconomics-I offers an in-depth exploration of advanced macroeconomic theories and concepts. This course focuses on the analysis of aggregate economic variables, government policies, and their effects on national economies.
Course Outcome:
Upon successful completion of this course, students will be able to:

1. **Macroeconomic Models**: Demonstrate a deep understanding of advanced macroeconomic models, including the Keynesian model, the neoclassical model, and the Solow growth model, and their relevance to real-world economic phenomena.
2. **Economic Growth Theories**: Analyze and evaluate various theories of economic growth, including the roles of technology, human capital, savings, and institutions in driving long-term economic development.
3. **Business Cycle Analysis**: Investigate the causes and consequences of business cycles, including recessions, expansions, and their impact on unemployment, inflation, and income distribution.
4. **Fiscal Policy**: Examine the effects of fiscal policy, including government spending and taxation, on aggregate demand, fiscal multipliers, and government debt dynamics, and evaluate their implications for economic stability.
5. **Monetary Policy**: Assess the role of central banks in conducting monetary policy, including interest rate targeting, money supply control, and unconventional monetary policy tools, and analyze their effects on inflation and economic growth.
6. **Preparation for Advanced Study**: Acquire an advanced understanding of macroeconomics, providing a strong foundation for pursuing higher-level economics courses and future academic and professional development.

This Course Outcome reflects the overarching goals of Macroeconomics-I, emphasizing the importance of in-depth knowledge and analytical skills in macroeconomic theory and their practical application to analyze complex economic phenomena and policy choices. It serves as a guide for students and instructors to assess the achievement of learning objectives.

Course Outcome (CO7)-for DSC 7: Statistical Methods for Economics-I

Course Duration: One Semester
Course Description: Statistical Methods for Economics-I provides students with a strong foundation in statistical techniques and their applications in economics. This course emphasizes both theoretical and practical aspects of statistics, equipping students with essential tools for data analysis in economic research.
Course Outcome:
Upon successful completion of this course, students will be able to:

1. **Foundations of Statistics**: Demonstrate a solid understanding of the fundamental concepts of statistics, including data types, descriptive statistics, probability, and random variables.
2. **Data Collection and Sampling**: Design effective data collection methods, including sampling techniques, surveys, and experiments, and understand the principles of data ethics and privacy.
3. **Probability Distributions**: Analyze and apply probability distributions, including the normal, binomial, and Poisson distributions, to model random economic phenomena and calculate probabilities.
4. **Regression Analysis**: Conduct simple and multiple regression analyses to explore relationships between economic variables, make predictions, and test economic hypotheses.
5. **Effective Data Presentation**: Present economic data and statistical results graphically and verbally, using appropriate visualizations and economic terminology for diverse audiences.
6. **Critical Thinking**: Develop critical thinking skills by evaluating the validity of statistical assumptions, recognizing potential biases, and considering the ethical implications of data analysis.
7. **Ethical Data Practices**: Recognize the importance of ethical data collection and analysis, including issues related to privacy, confidentiality, and responsible data handling in economics research.
8. **Preparation for Research**: Acquire essential statistical skills and knowledge to prepare for advanced research in economics, including thesis projects and further academic or professional development.

This Course Outcome reflects the overarching goals of Statistical Methods for Economics-I, emphasizing the importance of statistical proficiency in economic research and data-driven decision-making. It serves as a guide for students and instructors to assess the achievement of learning objectives.

Course Outcome (CO8)-for DSC 8: Microeconomics-II

Course Duration: One Semester
Course Description: Microeconomics-II explores advanced microeconomic concepts, theories, and models. This course delves deeper into the behavior of consumers, firms, and markets, providing students with a comprehensive understanding of microeconomic principles and their real-world applications.
Course Outcome:
Upon successful completion of this course, students will be able to:

1. **Game Theory**: Apply game theory to model and analyze strategic interactions among firms, including Nash equilibrium, dominant strategies, and the economics of cooperation and competition.
2. **Welfare Economics**: Analyze the efficiency and equity of market outcomes, including the concepts of Pareto efficiency, market failures, and government interventions to improve economic welfare.
3. **Asymmetric Information**: Investigate the role of asymmetric information in markets and explore adverse selection, moral hazard, and principal-agent problems in various economic contexts.
4. **Externalities and Public Goods**: Assess the economic consequences of externalities and the provision of public goods, as well as the design of policies to address these market failures.
5. **General Equilibrium**: Understand the concept of general equilibrium and analyze its implications for resource allocation, market clearing, and the welfare of society.
6. **Advanced Mathematical Tools**: Apply advanced mathematical and graphical techniques, including constrained optimization, Lagrange multipliers, and mathematical programming, to solve complex microeconomic problems.

This Course Outcome reflects the overarching goals of Microeconomics-II, emphasizing the importance of in-depth knowledge and analytical skills in microeconomic theory and their practical application to real-world economic issues. It serves as a guide for students and instructors to assess the achievement of learning objectives.

Course Outcome (CO9)-for DSC 9: Macroeconomics-II

Course Duration: One Semester
Course Description: Macroeconomics-II offers an in-depth exploration of advanced macroeconomic theories and concepts. This course focuses on the analysis of aggregate economic variables, government policies, and their effects on national economies.
Course Outcome:
Upon successful completion of this course, students will be able to:

1. **International Trade and Exchange Rates**: Analyze international trade theories, exchange rate determination, and the effects of trade policies on domestic and international economic variables.
2. **Open Economy Macroeconomics**: Understand the implications of open economies, including balance of payments, trade deficits, capital flows, and the macroeconomic effects of exchange rate changes.
3. **Labor Markets and Unemployment**: Analyze labor market dynamics, wage determination, and the causes of unemployment, including structural, frictional, and cyclical unemployment.
4. **Inflation and Deflation**: Investigate the causes and consequences of inflation and deflation, the role of inflation expectations, and the implications for monetary policy.
5. **Empirical Analysis**: Conduct empirical analysis using macroeconomic models and econometric methods to estimate economic relationships, test hypotheses, and make predictions based on economic data.
6. **Effective Communication**: Communicate advanced macroeconomic concepts and analyses effectively through written reports, presentations, and discussions, using appropriate economic terminology and graphical representations.
7. **Critical Thinking**: Develop critical thinking skills by evaluating the validity of macroeconomic arguments, recognizing assumptions, and considering the ethical and social implications of economic policies.
8. **Interdisciplinary Application**: Apply macroeconomic principles to interdisciplinary economic challenges, such as environmental economics, international finance, and development economics.
9. **Policy Analysis**: Evaluate the impact of macroeconomic policies, including fiscal stimulus, monetary easing, and trade agreements, on economic stability, growth, and income distribution.

This Course Outcome reflects the overarching goals of Macroeconomics-II, emphasizing the importance of in-depth knowledge and analytical skills in macroeconomic theory and their practical application to analyze complex economic phenomena and policy choices. It serves as a guide for students and instructors to assess the achievement of learning objectives.

Course Outcome (CO10)-for DSC 10:Statistical Methods for Economics-II

Course Duration: One Semester
Course Description: Statistical Methods for Economics-II provides students with a strong foundation in statistical techniques and their applications in economics. This course emphasizes both theoretical and practical aspects of statistics, equipping students with essential tools for data analysis in economic research.
Course Outcome:
Upon successful completion of this course, students will be able to:

1. **Statistical Inference**: Understand the principles of statistical inference, including estimation, hypothesis testing, and confidence intervals, and apply these techniques to draw conclusions from economic data.
2. **Hypothesis Testing**: Perform hypothesis tests using parametric and non-parametric tests to assess economic hypotheses and interpret the results in meaningful economic terms.
3. **Time Series Analysis**: Analyze time series data, including trends, seasonality, and autocorrelation, and apply appropriate techniques for forecasting economic time series.
4. **Categorical Data Analysis**: Analyze categorical data using chi-squared tests, contingency tables, and logistic regression to explore economic phenomena involving discrete outcomes.
5. **Interpretation of Results**: Interpret statistical results in the context of economic research questions, draw meaningful economic conclusions, and communicate findings effectively.

This Course Outcome reflects the overarching goals of Statistical Methods for Economics-II, emphasizing the importance of statistical proficiency in economic research and data-driven decision-making. It serves as a guide for students and instructors to assess the achievement of learning objectives.

Course Outcome (CO11)-for DSC 11: Indian Economy-I

Course Duration: One Semester
Course Description: Indian Economy-I is designed to provide students with an in-depth understanding of the Indian economy's structure, historical development, and contemporary challenges. This course explores various aspects of India's economic policies, growth patterns, and socioeconomic issues.
Course Outcome:
Upon successful completion of this course, students will be able to:

1. **Understanding Indian Economic History**: Demonstrate a comprehensive understanding of the historical evolution of the Indian economy, including its pre-independence and post-independence phases.
2. **Economic Policy Framework**: Analyze the economic policy, planning framework in India, including the role of planning, liberalization, and economic reforms in shaping the country's economic trajectory.
3. **Economic Growth and Development**: Evaluate India's economic growth patterns, development strategies, and their impact on poverty alleviation, income distribution, and human development.
4. **Economic Sectors**: Understand the contributions of different economic sectors, such as agriculture, industry, and services, to India's GDP and employment, and analyze sectoral policies.
5. **Trade and International Relations**: Examine India's trade policies, its participation in global trade, and the implications of international economic relations on the Indian economy.
6. **Fiscal and Monetary Policies**: Assess India's fiscal and monetary policies, including budgetary processes, taxation, and monetary tools, and their role in achieving macroeconomic stability.
7. **Inflation and Price Movements**: Analyze factors contributing to inflation and price movements in India, including food inflation, demand-pull, and cost-push factors.
8. **Preparation for Advanced Study**: Acquire a solid foundation in the Indian economy, providing a basis for advanced research, policy analysis, and future academic or professional development.

This Course Outcome reflects the overarching goals of Indian Economy-I, emphasizing the importance of a comprehensive understanding of the Indian economic landscape and its role in shaping the country's socioeconomic development. It serves as a guide for students and instructors to assess the achievement of learning objectives.

Course Outcome (CO12)-for DSC 12: Development Economics-I

Course Duration: One Semester
Course Description: Development Economics-I is designed to provide students with a deep understanding of the theories, issues, and challenges related to economic development. This course explores the economic, social, and political aspects of development in both developing and emerging economies.
Course Outcome:
Upon successful completion of this course, students will be able to:

1. **Theories of Economic Development**: Demonstrate a comprehensive understanding of major development theories, including classical, structuralist, neoclassical, and institutional perspectives, and critically evaluate their relevance in contemporary development contexts.
2. **Economic Growth and Development**: Analyze the concepts of economic growth and development, their differences, and the determinants of economic development in various regions and countries.
3. **Measurement of Development**: Understand and critique different indicators and indices used to measure development, including GDP, Human Development Index (HDI), and multidimensional poverty measures.
4. **Poverty and Inequality**: Analyze the causes and consequences of poverty and income inequality in developing economies, and evaluate policy approaches to poverty reduction.
5. **Human Capital Development**: Assess the role of education, healthcare, and skills development in human capital accumulation and their impact on economic growth and development.
6. **Agricultural and Rural Development**: Analyze the challenges and opportunities in the agricultural sector, rural development strategies, and their implications for food security and poverty reduction.
7. **Industrialization and Structural Transformation**: Understand the process of industrialization and structural transformation in developing economies and its impact on employment, productivity, and diversification.
8. **Economic Institutions**: Examine the importance of economic institutions, property rights, and governance structures in fostering economic development and improving institutional quality.
9. **Preparation for Advanced Study**: Acquire a solid foundation in development economics, providing a basis for advanced research, policy analysis, and future academic or professional development in the field of development economics.

This Course Outcome reflects the overarching goals of Development Economics-I, emphasizing the importance of a comprehensive understanding of the theories and practical aspects of economic development and the ability to critically assess development policies and challenges. It serves as a guide for students and instructors to assess the achievement of learning objectives.

Course Outcome (CO13)-for DSE 1: Public Economics

Course Duration: One Semester
Course Description: Public Economics explores the economic principles and policies related to government intervention in markets and the provision of public goods and services. This course covers topics such as taxation, public expenditure, welfare economics, and government regulation.
Course Outcome:
Upon successful completion of this course, students will be able to:

1. **Taxation Principles**: Demonstrate a comprehensive understanding of taxation principles, including tax incidence, tax efficiency, and the trade-offs involved in designing tax systems.
2. **Public Goods and Externalities**: Analyze public goods and externalities, including their characteristics, market failures associated with them, and the role of government in their provision and regulation.
3. **Income Distribution**: Examine the impact of taxation and government expenditure on income distribution and analyze policies aimed at reducing income inequality.
4. **Government Expenditure**: Analyze government expenditure, including its components, determinants, and the effects of public spending on economic growth and development.
5. **Budgetary Processes**: Understand the budgetary processes, fiscal policy formulation, and the role of fiscal authorities in setting government revenue and expenditure policies.
6. **Tax Incidence Analysis**: Apply tax incidence analysis to assess the burden of different taxes on consumers, producers, and the overall economy.
7. **Public Finance and Public Choice**: Explore the field of public finance and public choice theory, including voter behavior, interest groups, and the political economy of taxation and expenditure.
8. **Tax Policy Analysis**: Analyze the economic effects of different tax policies, such as progressive taxation, consumption taxes, and environmental taxes, on economic efficiency and equity.
9. **Economic Externalities**: Investigate the economic consequences of externalities, including pollution, congestion, and positive externalities, and evaluate policy measures to address them.
10. **Effective Policy Communication**: Communicate economic analyses and policy recommendations effectively through written reports, presentations, and discussions, using appropriate economic terminology and graphical representations.
11. **Critical Thinking**: Develop critical thinking skills by assessing the efficiency and equity implications of public policies, recognizing trade-offs, and considering the ethical and social dimensions of economic decisions.
12. **Policy Evaluation**: Evaluate the effectiveness and efficiency of public policies, including their impact on economic welfare, resource allocation, and social outcomes.
13. **Preparation for Advanced Study**: Acquire a strong foundation in public economics, providing a basis for advanced economics courses, policy analysis, and future academic or professional development in the field of public economics.

This Course Outcome reflects the overarching goals of Public Economics, emphasizing the importance of understanding the economic principles and policy considerations related to government intervention in the economy. It serves as a guide for students and instructors to assess the achievement of learning objectives.

Course Outcome (CO14)-for DSE 2: Money, Banking and Financial Markets

Course Duration: One Semester
Course Description: Money, Banking, and Financial Markets explores the functions of money, the banking system, and the operation of financial markets within the broader economy. This course covers topics such as the monetary system, banking regulations, central banking, and financial market instruments.
Course Outcome:
Upon successful completion of this course, students will be able to:

1. **Money and Its Functions**: Understand the functions of money in an economy, including medium of exchange, unit of account, and store of value, and analyze the evolution of money.
2. **Banking System**: Analyze the structure and operations of the banking system, including commercial banks, central banks, and their roles in the financial intermediation process.
3. **Central Banking**: Examine the functions and responsibilities of central banks, including the lender of last resort role and the control of inflation and financial stability.
4. **Money Supply and Demand**: Analyze the determinants of the money supply and the demand for money, and apply the money market framework to understand interest rate determination.
5. **Banking Regulations**: Understand banking regulations and supervision, including capital requirements, liquidity standards, and the role of regulatory authorities in maintaining financial stability.
6. **Banking Operations**: Explore the financial services offered by commercial banks, including deposit-taking, lending, and fee-based activities.
7. **Financial Market Instruments**: Familiarize with various financial market instruments, such as stocks, bonds, derivatives, and money market instruments, and analyze their characteristics and uses.
8. **Financial Intermediation**: Analyze the role of financial intermediaries in channeling funds from savers to borrowers and the impact of intermediation on the allocation of capital.
9. **Financial Crises**: Analyze the causes and consequences of financial crises, including banking crises, currency crises, and their impact on economic stability.
10. **Effective Communication**: Communicate complex financial and economic concepts effectively through written reports, presentations, and discussions, using appropriate terminology and graphical representations.
11. **Critical Thinking**: Develop critical thinking skills by assessing the implications of monetary and financial policies, recognizing financial market imperfections, and considering the ethical and social dimensions of financial decisions.
12. **Preparation for Advanced Study**: Acquire a strong foundation in money, banking, and financial markets, providing a basis for advanced economics courses, financial analysis, and future academic or professional development in the field of finance and economics.

This Course Outcome reflects the overarching goals of Money, Banking, and Financial Markets, emphasizing the importance of understanding the monetary and financial aspects of the economy and their role in shaping economic outcomes. It serves as a guide for students and instructors to assess the achievement of learning objectives.

Course Outcome (CO15)-for DSC 13: Indian Economy-II

Course Duration: One Semester

Course Description: Indian Economy-II is designed to provide students with an in-depth understanding of the Indian economy's structure, historical development, and contemporary challenges. This course explores various aspects of India's economic policies, growth patterns, and socioeconomic issues.

Course Outcome:

Upon successful completion of this course, students will be able to:

1. **Sustainability and Environmental Concerns**: Recognize the environmental challenges facing India, including resource depletion, pollution, and climate change, and evaluate policy responses.
2. **Social and Demographic Factors**: Analyze the impact of demographic factors, such as population growth and age structure, on the Indian economy and society.
3. **Data Analysis and Economic Indicators**: Utilize economic data and indicators to evaluate India's economic performance and analyze socioeconomic trends.
4. **Effective Communication**: Communicate economic analyses and findings related to the Indian economy effectively through written reports, presentations, and discussions.
5. **Critical Thinking**: Develop critical thinking skills by assessing the implications of economic policies, recognizing potential trade-offs, and considering the ethical and social dimensions of economic decisions.
6. **Financial Sector**: Understand the structure and functioning of India's financial sector, including banking, capital markets, and financial inclusion initiatives.
7. **Employment and Labor Market Dynamics**: Analyze labor market trends, employment challenges, and policies aimed at enhancing labor force participation and employment opportunities.

This Course Outcome reflects the overarching goals of Development Economics-I, emphasizing the importance of a comprehensive understanding of the theories and practical aspects of economic development and the ability to critically assess development policies and challenges. It serves as a guide for students and instructors to assess the achievement of learning objectives.

Course Outcome (CO16)-for DSC 14: Development Economics-II

Course Duration: One Semester
Course Description: Money, Banking, and Financial Markets explores the functions of money, the banking system, and the operation of financial markets within the broader economy. This course covers topics such as the monetary system, banking regulations, central banking, and financial market instruments.
Course Outcome:
Upon successful completion of this course, students will be able to:

1. **Trade and Development**: Evaluate the role of international trade, trade policies, and globalization in promoting or hindering economic development, including issues related to trade liberalization and protectionism.
2. **Foreign Aid and Development Finance**: Analyze the effectiveness of foreign aid, development finance, and debt relief mechanisms in supporting economic development and poverty reduction.
3. **Environmental Sustainability**: Recognize the environmental challenges associated with economic development, such as natural resource depletion and environmental degradation, and explore sustainable development strategies.
4. **Demography:** Understand the demographic dimensions of development, including migration theories and models.
5. **Political Economy of Development**: Analyze the political and institutional factors influencing development policies, governance, and the role of international organizations in development.
6. **Interdisciplinary Perspective**: Recognize the interdisciplinary nature of environmental economics and its connections to fields such as ecology, sociology, and political science.
7. **Preparation for Advanced Study**: Acquire a strong foundation in environmental economics, providing a basis for advanced research, policy analysis, and future academic or professional development in the field of environmental economics and sustainability.
8.

Course Outcome (CO17)-for DSE 3: Environmental Economics

Course Duration: One Semester
Course Description: Environmental Economics explores the economic principles and policy considerations related to environmental issues, sustainability, and natural resource management. This course covers topics such as market failures, externalities, pollution control, and the economics of sustainability.
Course Outcome:
Upon successful completion of this course, students will be able to:

9. **Environmental Economics Fundamentals**: Demonstrate a comprehensive understanding of the fundamental concepts and principles of environmental economics, including market failures, property rights, and the role of economics in environmental decision-making.
10. **Externalities and Environmental Impacts**: Analyze externalities, including negative externalities (e.g., pollution) and positive externalities (e.g., ecosystem services), and their implications for resource allocation and environmental quality.
11. **Valuation of Environmental Goods**: Understand various methods for valuing environmental goods and services, including contingent valuation, hedonic pricing, and revealed preference techniques.
12. **Market-Based Instruments**: Evaluate market-based environmental policy instruments, such as emissions trading systems (cap and trade) and pollution taxes, and analyze their effectiveness in reducing environmental degradation.
13. **Non-Market Valuation**: Examine the challenges and limitations of non-market valuation, including issues related to the valuation of non-use values and the ethics of valuing the environment.
14. **Natural Resource Economics**: Analyze the economic principles and challenges associated with the management of renewable and non-renewable natural resources, including fisheries, forests, and mineral resources.
15. **Sustainability Economics**: Understand the economics of sustainability, including the concept of sustainable development, intergenerational equity, and the trade-offs between economic growth and environmental protection.
16. **Effective Communication**: Communicate complex environmental economic concepts and policy recommendations effectively through written reports, presentations, and discussions, using appropriate terminology and graphical representations.
17. **Critical Thinking**: Develop critical thinking skills by evaluating the trade-offs inherent in environmental decision-making, recognizing ethical dilemmas, and considering the social dimensions of environmental issues.
18. **Policy Analysis**: Evaluate the strengths and weaknesses of environmental policies and management strategies in addressing ecological challenges and promoting sustainability.

This Course Outcome reflects the overarching goals of Environmental Economics, emphasizing the importance of understanding the economic dimensions of environmental challenges and the role of economics in informing environmental policy and decision-making. It serves as a guide for students and instructors to assess the achievement of learning objectives.

Course Outcome (CO18)-for DSE 4: Project/Dissertation

Course Duration: One Semester
Course Description: The Project/Dissertation course provides students with an opportunity to conduct independent research on a specific topic within the field of economics. This course allows students to apply their knowledge and research skills to produce a substantial research paper or dissertation.
Course Outcome:
Upon successful completion of this course, students will be able to:

1. **Research Proposal**: Develop a well-structured research proposal that defines the research question, objectives, scope, and methodology for the project or dissertation.
2. **Literature Review**: Conduct a comprehensive literature review to identify and critically analyze relevant theories, concepts, and empirical studies related to the chosen research topic.
3. **Data Collection and Analysis**: Collect, organize, and analyze relevant data using appropriate research methods, statistical tools, and econometric techniques, as necessary for the research project.
4. **Research Design**: Design a research plan that includes clear research objectives, a timeline, data sources, and ethical considerations, demonstrating the ability to conduct empirical research effectively.
5. **Hypothesis Development**: Formulate research hypotheses or questions that guide the empirical investigation and contribute to the existing body of knowledge in economics.
6. **Data Presentation**: Present research findings using appropriate graphical representations, tables, and figures, making complex economic concepts accessible to readers.
7. **Critical Thinking**: Develop critical thinking skills by assessing the validity of research findings, recognizing potential biases, and considering the implications of the research for economic theory or policy.
8. **Effective Communication**: Communicate research methods, findings, and conclusions effectively through a well-structured research paper or dissertation, adhering to academic writing standards.
9. **Interdisciplinary Perspective**: Recognize the interdisciplinary nature of research in economics and its potential connections to other fields or disciplines.
10. **Time Management**: Demonstrate effective time management skills throughout the research process, from proposal development to final submission.
11. **Presentation Skills**: Present research findings through oral presentations, defending the research methodology and outcomes before peers and faculty.
12. **Independence and Initiative**: Exhibit independence, initiative, and intellectual curiosity in pursuing a research project, making choices about research topics and methodologies.
13. **Project/Dissertation Defense**: Successfully defend the research project or dissertation during a viva voce examination, responding to questions and critiques from an examining committee.
14. **Preparation for Advanced Study or Career**: Acquire advanced research skills and experience, preparing for future academic pursuits, such as postgraduate studies, or careers in research, policy analysis, or other fields requiring research expertise.

This Course Outcome reflects the overarching goals of the Project/Dissertation course, emphasizing the development of research skills, critical thinking abilities, and effective communication of research findings in the field of economics. It serves as a guide for students and instructors to assess the achievement of learning objective.

PROGRAM SPECIFIC OUTCOME
UNDERGRADUATE, COMPUTER SCIENCE

The curriculum and syllabus for Bachelor degrees conform to outcome-based teaching learning process. In general, 14 Student Outcomes have been identified; the curriculum and syllabus have been structured in such a way that each of course meets one or more of these outcomes. Student outcomes describe what students are expected to know and be able to do by the time of graduation. These relate to the skills, knowledge and behaviours that students acquire as they progress through the program. Further, each course in the program spells out clear instructional objectives which are mapped to the student outcomes.

Program outcomes:

Knowledge Outcomes	After completing B.Sc. Computer Science Program student will be able to:
PO1:	To develop problem solving abilities using a computer;
PO2:	To prepare necessary knowledge base for research and development in Computer Science.

Skill Outcomes	After completing B.Sc. Computer Science Program students will be able to:
PO3	To build the necessary skill set and analytical abilities for developing Computer based solutions for real life problems.
PO4:	Communicate scientific information on a clear and concise manner both orally and in writing.
PO5:	To train students in professional skills related to Software Industry.

Generic Outcomes	Students will:
PO6:	Have developed their critical reasoning, logic judgement and communication skills.
PO7:	Argument the recent developments in the field of IT and relevant fields of Research and Development.
PO8:	Enhance the scientific temper among the students so that to develop a research culture and Implementation the policies to tackle the burning issues at global and local level.

Program Specific Outcomes:

PSO1:	Students get knowledge and training of technical subjects so that they will be technical professional by learning C programming,
PSO2:	Students understand the concepts of software application and projects.
PSO3:	Students understand the computer subjects with demonstration of all programming and theoretical concepts with the use of ICT.
PSO4:	Development of in-house application in terms of projects.
PSO5:	Students will build up programming, analytical and logical thinking abilities.
PSO6:	Aware them to publish their work in reputed journals.
PSO7:	To make them employable according to current demand of IT Industry and responsible citizen.

COURSE OUTCOME

COURSE NAME	COURSE CODE	COURSE OUTCOME
Core paper-I CS	**SEMESTER-I**	
After successfully completing this course, student will be able to:		
Programming in "C"	CO1	Students will study Programming in 'C' language and coding, Functions solving problems using computers.
	CO2	Students will understand concepts and can choose operators, loops, array and decision-making statements to solve the problem.
	CO3	Student will implement different Operations on arrays and will use functions, strings to solve the given problem.
	CO4	To enrich the students in logic gates, files and structures development required for programming.
	CO5	To help the students to build carrier in various branches of software development.

Core paper-II CS	SEMESTER-I	
Digital logic	CO 1	To solve problems based on interconversion of Number Systems and understand the working of different Sequential logic circuits and K-maps.
	CO2	To reduce the expression using Boolean theorems and understand working operation of different types of Flip flops as a basic building block.
	CO3	To reduce expressions using K maps in SOP and POS forms. To know the operations of shift registers and Binary Counters.
	CO4	To understand the operation of all types of Logic Gates, their families etc and also the basic Computer system and general organization of different blocks.
	CO5	To understand of the organization of memory in the Computer System and know different types of memories.

Core paper-III CS	SEMESTER-II	
After completion of this course student will be able		
Programming using "C++"	CO1	To inculcate the Analytical and thinking ability.
	CO2	To develop structured sets of simple user-defined classes using Object-Oriented principles to achieve overall programming goals.
	CO3	To understanding the significance of Object and Class Orientation Technique in Software programming.
	CO4	To employ formal methods to produce effective software designs as solutions to specific tasks.
	CO5	To develop error identification and testing strategies for code development by understanding techniques of Object-Oriented design and object-oriented testing.

Core paper-IV CS	SEMESTER-II	
After successfully completing this course, students will be able to:		
Data Structures	CO1	Students will understand system related Programming such as Operating System functioning.
	CO2	Students will capable to develop problem solving abilities using a computer.
	CO3	To build the necessary skill set and analytical abilities for developing computer-based solutions for real life problems.
	CO4	To imbibe quality software development practices. To create awareness about process and product standards.
	CO5	Students will train in professional skills related to Software Industry. To prepare necessary knowledge which is related to operating system and base for research and development in Computer Science.

Core paper-V CS	SEMESTER-III	
After completion of this course student will be able		
Operating Systems	CO1	Describe various system programs and differentiate system programming and application programming.
	CO2	Write assembly programs and explain the process of translation, execution.
		Explain various system services, systems calls and its types.
	CO3	Apply the knowledge pf process concept and Linux system calls to implement a command interface (Shell).
	CO4	Compare various computer environments, computer system architectures.
	CO5	Transform the algorithms into code to implement various system programs.

Core paper-VI CS	SEMESTER-III	
After successfully completing this course, students will be able to:		
Database Management Systems	CO1	Will understand the fundamental concepts of database.
		Will understand user requirements and frame it in data model.
	CO2	Will understand creations, manipulation and querying of data in databases.
	CO3	Solve real world problems using appropriate set, function and relational models.
	CO4	Design E-R Model for given requirements and convert the same into database tables.
	CO5	Use SQL.

Core paper-VII CS	SEMESTER-III	
After completion of this course student will be able		
Discrete Mathematics Structure	CO1	Develop the logical thinking of students.
	CO2	Improve an ability to apply mathematical foundations to design computer-based algorithms.
	CO3	Improve an ability to develop algorithms.
	CO4	Help to understand programming languages and software development.
	CO5	Help in solving a very wide variety of practical problems.

Core paper-VIII CS	SEMESTER-IV	
After successfully completing this course, students will be able to:		
Java Programming	CO1	Students will learn about the basic concepts of Object-Oriented Programming language like Objects, Classes, Inheritance, Polymorphism etc.
	CO2	They will implement those concepts in programming using Java language.
	CO3	They will get an insight of how to handle unexpected problems and conditions in programming code and mechanisms of how to recover from them.
	CO4	They will understand the concepts of designing Graphical User Interface and client-side program execution on browser.
	CO5	They will work on how to create files and transfer data to and from files through program.

Core paper-IX CS	SEMESTER-IV	
After successfully completing this course, students will be able to:		
Computer Networks	CO1	Students will get acquainted with fundamentals of Networking like PAN, LAN, MAN, WAN, topologies and Home & Business applications of Networks.
	CO2	Students will know the design issues for the layers, layered architecture of the Network Models & functions performed at each layer.
	CO3	Students will clear their basic concepts about the standards, their need & types of standards.
	CO4	Students will come to know the role played by different addresses at different layers of the network models.
	CO5	Students will understand very basic networking hardware like transmission media types & tools description.
	CO6	Students will be able to understand the need and importance of protocols at each layer in the communicating computers.

Core paper-X CS	SEMESTER-IV	
After completion of this course student will be able		
Computer Graphics	CO1	Understand the basics of computer graphics, different graphics systems and applications of computer graphics.
	CO2	Discuss various algorithms for scan conversion and filling of basic objects and their comparative analysis.
	CO3	Use of geometric transformations on graphics objects and their application in composite form.
	CO4	Extract scene with different clipping methods and its transformation of graphics display device.
	CO5	Explore projections and visible surface detection techniques for display of 3D scene on 2D screen.
	CO6	Render projected objects to naturalize the scene in 2D view and use of illumination models for this.

Core paper-XI CS	SEMESTER-V	
After completion of this course student will be able		
Web Technology	CO1	Understand the major areas and challenges of web programming.
	CO2	Distinguish web-related technologies.
	CO3	Use advanced topics in HTML5, CSS3, JavaScript.
	CO4	Use a server-side scripting language, PHP.
	CO5	Use a relational DBMS, MySQL.
	CO6	Design and implement typical static web pages and interactive web applications and dynamic web applications.

Core paper-XII CS	SEMESTER-V	
After successfully completing this course, students will be able to:		
Software Engineering	CO1	To inculcate the Analytical and thinking ability.
	CO2	To develop structured sets of simple user-defined classes using Object-Oriented principles to achieve overall programming goals.
	CO3	To understanding the significance of Object Orientation Technique in Software engineering.
	CO4	To employ formal methods to produce effective software designs as solutions to specific tasks.
	CO5	To locate, read and summarize relevant literature, from both traditional and electronic media, to extend understanding of the topic.
	CO6	To develop error identification and testing strategies for code development by understanding techniques of Object-Oriented analysis, object-oriented design and object-oriented testing.

Core paper-XIII CS	SEMESTER-VI	
After completion of this course student will be able		
Artificial Intelligence	CO1	Describe historical perspective, agents, branches, applications of Artificial Intelligence (AI).
	CO2	Explain and evaluate search, control strategies and solve problems by applying a suitable search method.
	CO3	Apply basic principles of AI in solutions that require problem solving, interface, perception, knowledge representation and learning.
	CO4	Evaluate various heuristic, planning, constraint satisfaction problems to select efficient strategy to solve AI problems.
	CO5	Design and implement appropriate solutions for search problems and write statements to transform into propositional and first order logic.

Core paper-XIV CS	SEMESTER-VI	
After completion of this course student will be able		
Algorithm Design Techniques	CO1	Identify the restrictions of the different algorithms techniques in terms of the key characteristics of problem solving.
	CO2	Explain various advanced design and analysis techniques.
	CO3	Classify tractable and intractable problems, p and np class problems and solve them using different design techniques.
	CO4	Devise efficient algorithms and analyse their performance measures.
	CO5	Determine the strategy used to solve the problems that fits into various paradigms.
	CO6	Solve the problem using brute force techniques and integrate different solutions.

PROGRAM SPECIFIC OUTCOME
UNDER-GRADUATE, ENGLISH

This Program Outcome intends to describe the learning objectives and goals for the entire academic program of English Honours, under graduate Level. It enables a student of literature to appreciate how a piece of literary work reflects its contemporary period and to develop skills in literary analysis and critical thinking that the students are expected to have acquired during this three-year academic program.

PSO- 01	**Critical Thinking**: To make the students aware of the entire history of English literature and critically appreciate a wide variety of literary works in the English language.
PSO-02	**Identifying Patterns**: To unveil before the students the diverse literary genres and forms of writing making them competent enough to understand the literary quality of a text.
PSO-03	To develop a critical perspective on literature and its affect on life in general.
PSO-04	**Effective Communication:** To enhance the language proficiency and communication skills of the students.
PSO-05	**Academic Writing:** To inculcate formal writing and presentation skills that would eventually help them in their career.

COURSE OUTCOME

COURSE CODE	COURSE NAME	COURSE OUTCOME	
SEMESTER I			
Core Paper -I	British Poetry and Drama:14th to 17th century	CO 1	Introduce the students to British Poetry and Drama from the 14th to the 17th century and explore certain seminal texts of the various periods of these centuries along with the the historical, religious, social and literary backgrounds of the periods.
		CO 2	Critically understand allegory, irony and discuss the text in the context of Chaucer's critique of the medieval church and society.
		CO3	Appreciate the historical significance and thematic depth of " Amoretti" and its place in the development of English poetry, precisely sonnet, the Petrarchan tradition, Love and Courtship.
		CO4	Interpret the literary, historical and thematic significance of "Macbeth" its

			theatrical technique , character analysis and tragedy as a genre.
Core Paper-II	British Poetry and Drama:17th and 18th century	CO 1	Acquaint the students with the historical, religious, social and literary backgrounds of the periods and explore certain seminal texts of the various periods of these centuries
		CO 2	Analyze the depth and complexity of "Lycidas" and the role of the poet , the religious theme and its classical influence on literature.
		CO 3	Critically interpret the relevance of "Volpone" in the context of Jacobean drama and satire , its moral and ethical themes and the threatical techniques and character analysis.
		CO4	Appreciate the neo classical dramatic tradition , the character analysis , the theme of honour and duty, the tragic structure and language of "All for Love".
Semester -II			
Core Paper-III	British Prose:18th century	CO 1	Introduce the students to essay as a newly evolved form of literature and understand the shift of emphasis from reason to emotion and explore certain seminal texts of the century.
		CO 2	Provide a comprehensive understanding of the historical and intellectual significance of the text and its ongoing relevance in the study of gender, feminism and women's rights.
		CO 3	Analyse the literary and cultural contribution of Addison, as well as his influence on the development of English journalism and essay writing.
		CO4	Appreciate Samuel's contribution to English literature, his role in shaping intellectual and cultural discourse in the 18th century to understand how his writings engaged with political , cultural and philosophical debates of his era.
Core Paper -IV	Indian Writing in English	CO 1	Familiarize the students with a selection of writings from the domain of Indian Literature and have a historical overview of the evolution of Indian writing in English in the 20th century.
		CO 2	Interprete the rich cultural and linguistic diversity in Indian writings , the social issues addressed, the varied themes, the seminal texts in this regard and its significance in the

			global context.
		CO 3	Analyse the story telling style and narrative technique of R.K.Narayan , the moral and ethical dramas addressed , the thematic depth of the text and its significance context of post-colonial literature.
		CO4	Interprete the theatrical techniques and the significance of the text in the context of Indian and political drama , the use of symbolism and allegory alongwith the presentation of religious and cultural conflict.
Semester -III			
Core Paper -V	British Romantic Literature	CO 1	Acquaint the students with the Romantic period and its representative writers along with some great works, enable them to differentiate and compare the ideas of Romanticism and Classicism
		CO 2	Develop an understanding of Neo classical an Romantic poetry , analysing the works of Grey and Blake focusing on their contrasting styles.
		CO 3	Appreciate the Romantic poets and the enduring relevance of their works in the literature of their times.
		CO4	Emphasize the importance of Lyrical ballads, the role of imagination and Wordsworth's exploration of the theme of the self in Romantic literature.
Core paper- VI	British Literature 19th century	CO 1	Introduce the students to the exploits of the literature of this period, especially prose , Victorian poetry and Cultural Criticism.
		CO 2	Analyse the critical writings of Tennyson and Arnold , their significance in the history of literature and literary criticism .
		CO 3	Interprete the contribution of Austen to gender studies, discussion on the text as a classic example of the marriage plot.
		CO4	Appreciate the Hard Times as the portrayal of industrial society in the 18th century .
Core Paper-VII	British Literature :Early 20th century	CO 1	To enable the students gain exposure to the literature of the century focusing on the modern approach to poetry, novel and literary criticism.

		CO 2	To understand the social and economic conditions leading to the First World War and its result.
		CO 3	To introduce the students to Marx's concept of class struggle and Freud's theory of the unconscious.
		CO 4	To explore specific texts in the context of the World War and the theories of Sigmund Freud and Karl Marx.
Semester -IV			
Core Paper-VIII	American Literature	CO1	To understand the genesis and evolution of American Literature and to analyse the myths that have shaped American Literature like City in the hill, The frontier spirit, The American Dream, Manifest destiny and epluribusunum.
		CO2	To appreciate the works of influential American poets Walt Whitman, Robert Frost, Emily Dickinson and Maya Angelou and be able to analyze and interpret their poems, styles and themes.
		CO3	To engage in a detail study of Arthur Miller's play "The Death of a Salesman" and to understand the complex characters, themes and social commentary presented in the play.
		CO4	To analyse Ernest Hemingway's novel "A Farewell to Arms" and to gain insights into its themes, characters and narrative techniques.
Core Paper-IX	European Classical Literature	CO1	To understand the Classical Antiquity of ancient Greece and the rise and decline of Roman Empire and also to gain insight on the cultural history of Greco-Roman world.
		CO2	To critically analyse the epic poem "Odyssey" by Homer and to understand the narrative structure, themes and characters within the context of epic poetry.
		CO3	To analyse Sophocles's tragic play "Oedipus the King" and to understand the Greek tragedy, plot, character and dramatic irony.
		CO4	To understand Aristotle's seminal work "Poetics" and grasp the fundamental principles of literary criticism in relation to tragedy and epic poetry.
Core Paper-X	Women's Writing	CO1	To critically understand the key concepts presented in Virginia Woolf's "A Room of One's Own" and to

			analyse women's access to education, economic independence and expression.
		CO2	To analyse and understand the 19th century literature and to explore and appreciate Charlotte Bronte's novel "Jane Eyre", its themes of gender, social class and individual agency.
		CO3	To explore the works of Kamala Das, Sylvia Plath, Eunice D'souza and Shanta Acharya gaining insight into gender, identity and desire and analyse the contributions of women in the field of writing.
		CO4	To understand Ashapurna Devi's novel "The Distant Window" and explore the socio-cultural context and women's experiences in Indian society.
SEMESTER-V			
Core Paper-XI	Modern European Drama	CO1	To analyse and understand the evolution of European drama from realism to experimental forms like The Theatre of the Absurd.
		CO2	To understand theatrical realism, thematic elements, characters and social critiques presented in the play "Ghosts" by Henrik Ibsen
		CO3	To understand Absurdist elements, existential themes and theatrical techniques employed in the play "Chairs" by Eugene Ionesco.
		CO4	To engage in theatre style, techniques of alienation and historical materialism employed in the play "Life of Galileo" by Bertolt Brecht's.
Core Paper-XII	Indian Classical Literature	CO1	To understand the historical and cultural foundations of Indian Classical Literature and explore the origins and evolution of ancient Indian Literature.
		CO2	To engage and understand thematic elements, characters and poetic techniques employed in the renowned play "Abhijananasakuntalam" by Kalidasa ad his contribution to Sanskrit drama.
		CO3	To understand the socio-cultural context of the play "Mrcchakatika" by Sudraka and analyse the plot, setting and characters.
		CO4	To understand the Rasa theory of Bharata Muni presented in his "Natyasastra" and grasps the fundamental principles of Indian aesthetics.

SEMESTER-VI			
Core Paper-XIII	Post Colonial Literatures	CO1	To understand post colonialism as a theoretical framework and explore the key concepts, movements, theories associated with postcolonial thinkers.
		CO2	To explore and understand the novel “Kanthapura” by Raja Rao and appreciate the Indian independence movement, narrative techniques and linguistic innovations.
		CO3	To understand in detail the post colonial perspective of the novel “Wide Sargasso Sea” by Jean Rhys.
		CO4	To gain insight into racial tensions, apartheid movement and complex relationship in the play” Blood Knot” by Athol Fugard.
Core Paper-XIV	Popular Literature	CO1	To understand popular literature and debate between popular and high cultures and also analyse the impact of genre fiction on literary culture.
		CO2	To understand the children’s literature and appreciate classic work of Lewis Carroll’s “Alice in Wonderland” and explore the imaginative world, characters and themes
		CO3	To understand detective novel and explore the mystery, plot, characters and investigative techniques employed in the novel “The Hound of Baskervilles” by Conan Doyle.
		CO4	To understand Campus novel and explore the genre, education, relationships, aspirations of Indian student portrayed in the novel “Five Point Someone” by Chetan Bhagat.

PROGRAM SPECIFIC OUTCOME
UNDER-GRADUATE, SOCIOLOGY

This Program Outcome intends to describe the learning objectives and goals for the entire academic program of Sociology Honours, under graduate Level. These program outcomes are designed to equip sociology students with the knowledge and skills needed to critically engage with complex social issues and contribute to their communities and society as a whole. Specific institutions may have their own variations and additional outcomes tailored to their program's goals and mission.

PSO- 01	**Critical Thinking**: Graduates will demonstrate the ability to think critically and analytically, applying sociological theories and concepts to real-world issues.
PSO-02	**Research Skills:** Graduates will be proficient in conducting sociological research, including data collection, analysis, and interpretation.
PSO-03	**Communication:** Graduates will effectively communicate sociological ideas, both in writing and verbally, to diverse audiences.
PSO-04	**Social Awareness:** Graduates will have a deep understanding of social diversity, inequality, and social justice issues.
PSO-05	**Ethical Engagement:** Graduates will engage in sociological practices and research with a strong commitment to ethical and moral principles.
PSO-06	**Problem Solving:** Graduates will be skilled in applying sociological insights to address real-world problems and challenges.

COURSE OUTCOME

COURSE CODE	COURSE NAME	COURSE OUTCOME	
SEMESTER I			
Core Paper -I	INTRODUCTION TO SOCIOLOGY -I	CO 1	Understand the meaning and definition of sociology as a discipline. Comprehend the subject matter and scope of sociology.
		CO 2	Differentiate between sociology, anthropology, and history as distinct social sciences. Examine the intersections and overlaps between these disciplines in studying human societies.
		CO3	Define and distinguish between society, community, associations, and institutions. Identify the functions and characteristics of these social entities.
		CO4	Define social stratification and identify its key characteristics.

			Recognize the various dimensions along which social stratification occurs.
Core Paper-II	INTRODUCTION TO SOCIOLOGY-II	CO 1	Understand the concept of social structure and its significance in society.
		CO 2	Define and explain the meaning of socialization and its significance in the development of individuals within society.
		CO 3	Define social control, discuss its nature, and explain its importance in maintaining social order and cohesion.
		CO4	Define social processes and their significance in understanding human interactions and societal dynamics.
Semester -II			
Core Paper-III	INDIAN SOCIETY	CO 1	Understand the diverse religious, linguistic, and racial elements that make up the fabric of Indian society. Analyze the significance and impact of religious, linguistic, and racial diversity in India.
		CO 2	Examine the historical and social significance of the Varna Vyavastha (the caste system) in India. Discuss the relevance and role of the caste system in contemporary Indian society.
		CO 3	Define Hindu marriage as a sacrament and its religious and cultural significance. Identify the aims and various forms of Hindu marriage.
		CO4	Define the caste system in India, considering various historical and sociological perspectives. Identify the key features and characteristics of the caste system.
Core Paper -IV	SOCIOLOGY OF ENVIRONMENT	CO 1	Students will understand the concept of sociology of environment, its historical development, and its relevance in today's world.
		CO 2	Students will examine the Narmada Bachao Andolan as a case study, understanding its origins, objectives, and impact on environmental policy and social activism in India.
		CO 3	Students will grasp the concepts of global warming and climate change, their causes, consequences, and the

			social implications of climate-related issues.
		CO4	Students will explore international environmental agreements, organizations, and efforts aimed at global environmental protection.
Semester -III			
Core Paper -V	CLASSICAL SOCIOLOGICAL THINKERS	CO 1	Students will understand Auguste Comte's concept of the Law of the Three Stages, including the theological, metaphysical, and positive stages, and its significance in the development of sociology as a science.
		CO 2	Participants will gain insights into Marx's historical and dialectical materialism, understanding the role of material conditions and the dialectical process in shaping historical change.
		CO 3	Students will examine Durkheim's concept of the division of labor in society and its effects on social integration and solidarity.
		CO4	Participants will gain an understanding of Weber's concept of social action, distinguishing between different types of social action and their significance in understanding human behavior in society.
Core paper- VI	SOCIAL CHANGE AND DEVELOPMENT	CO 1	Understand the concept of social change and its significance in society. Examine the nature of social change, including its causes and consequences.
		CO 2	Understand the evolutionary theory of social change and its proponents. Analyze the idea of gradual societal development over time.
		CO 3	Identify various indicators used to measure social development. Analyze the significance of these indicators in assessing the progress of a society.
		CO4	Understand the concept of Sanskritization and its significance in the Indian context. Analyze how it contributes to social mobility and change.

Core Paper-VII	SOCIOLOGY OF GENDER	CO 1	Understanding the concept of gender as a social construct How society shapes and perpetuates gender roles and identities
		CO 2	Defining feminism and its significance in addressing gender issues The various interpretations and approaches to feminism
		CO 3	Introducing Women and Development (WAD), Women in Development (WID), and Gender and Development (GAD) approaches Comparing and contrasting these approaches in the context of development
		CO 4	Tracing the status and roles of women in ancient Indian society Highlighting influential women and their contributions
Semester -IV			
Core Paper-VIII	RURAL SOCIOLOGY	CO1	Students will be able to define rural sociology, understand its meaning, and recognize its nature as a social science discipline focused on rural life and society.
		CO2	Students will be able to define and identify different types of village communities, including their characteristics and variations.
		CO3	Students will be able to understand the concept of rural poverty, its causes, and its consequences on rural communities.
		CO4	Students will understand the role of community development programs, cooperative movements, and the Panchayati Raj System in rural development, including their objectives and functions.
Core Paper-IX	GLOBALISATION & SOCIETY	CO1	Define the concept of globalization. Identify and explain the key characteristics of globalization, such as interconnectedness, interdependence, and the flow of information, goods, and services across borders.
		CO2	Analyze the economic dimension of globalization, focusing on the integration of world economies, trade liberalization, and the impact on global markets and industries.

			Discuss the role of multinational corporations and foreign direct investment in the global economy.
		CO3	Examine the socio-economic consequences of globalization, with a focus on income inequality, both globally and within individual countries. Discuss the factors contributing to rising inequality in the context of globalization.
		CO4	Examine how globalization has influenced Indian culture, including changes in lifestyle, entertainment, and cultural norms. Discuss the challenges and opportunities faced by Indian culture in the globalized world.
Core Paper-X	MARRIAGE, FAMILY& KINSHIP	CO1	Understand the concept of marriage as a social institution and its significance in society. Analyze the historical and cultural variations in the institution of marriage.
		CO2	Define the concept of the family as a social institution and its role in society. Compare and contrast different family structures across cultures and historical periods.
		CO3	Define kinship and its various types in different cultural contexts. Examine the role of kinship in organizing social relationships and obligations.
		CO4	Analyze the impact of migration on family structures and relationships. Discuss the challenges and opportunities faced by migrant families in various contexts.
SEMESTER-V			
Core Paper-XI	RESEARCH METHODOLOGY	CO1	Understand the concept of social research and its significance in the field of social sciences. Explore various definitions and interpretations of social research. Recognize the utility and importance of social research in addressing societal issues and generating knowledge.
		CO2	Define what a hypothesis is and its role in research. Understand the characteristics of a good hypothesis. Explore the relationship between hypotheses and research questions.

		CO3	Distinguish between qualitative and quantitative research methods. Explore the strengths and weaknesses of each approach. Discuss when and how to use qualitative and quantitative methods in social research.
		CO4	Discuss the importance of measures of central tendency in summarizing data. Learn how to calculate and interpret the mean, median, and mode. Apply these measures to real-world data sets.
Core Paper-XII	SOCIAL MOVEMENTS IN INDIA	CO1	Understand the concept of a social movement and its significance in society. Analyze various definitions and interpretations of social movements.
		CO2	Explore the historical context and significance of the Champaran Satyagraha. Analyze Mahatma Gandhi's role and the impact of the movement on Indian society and politics.
		CO3	Examine the Mahar Movement in Maharashtra and its historical background. Analyze the role of Dr. B.R. Ambedkar and the empowerment of the Mahar community.
		CO4	Explore the role of women in the social reform movement in India. Analyze the efforts made by reformers to improve women's social status.
SEMESTER-VI			
Core Paper-XIII	POPULATION & SOCIETY	CO1	Understand the concept of Population Studies and its scope in the field of demography. Identify the key areas and components covered in Population Studies.
		CO2	Comprehend the Malthusian theory of population and its predictions. Evaluate the strengths and limitations of the Malthusian perspective in understanding population dynamics.
		CO3	Study the factors influencing fertility rates and patterns. Evaluate the strategies and policies aimed at influencing fertility rates.

		CO4	Analyze the sex ratio in India and its implications for gender balance. Explore the factors influencing sex composition and their societal consequences.
Core Paper-XIV	SOCIAL DISORGANIZATION & DEVIANCE	CO1	Define social disorganization and its significance in the study of sociology. Explore the characteristics and elements of social disorganization. Examine the historical context of social disorganization and its relevance in contemporary society.
		CO2	Introduce Emile Durkheim's theory of deviant behavior and his contributions to sociology. Analyze the concept of anomie and its role in understanding deviance in society. Provide examples and case studies that illustrate Durkheim's theory in real-life contexts.
		CO3	Define crime and categorize different types of criminal offenses. Explore the distinctions between white-collar crime, street crime, and cybercrime. Discuss the legal and social implications of various criminal activities.
		CO4	Define alcoholism and its prevalence in society. Examine the physical, psychological, and social consequences of alcoholism. Discuss prevention, treatment, and support options for individuals struggling with alcoholism.

GOVERNMENT WOMEN'S COLLEGE SUNDARGARH

DEPARTMENT OF SANSKRIT

PROGRAM OUTCOME, COURSE OUTCOME

Programme Outcome

The programme has enabled UG level students of Sanskrit to be introduced with Indian age-old heritage, accumulating in the last forty centuries, exercising inexpressible impact on the life and culture of the Indians with the explicit aim of inspiring as well as uplifting qualitatively each and everyone, directly or otherwise concerned with.

PO1	**Critical Thinking:**	Take informed actions after identifying the assumptions that frame our thinking and actions, checking out the degree to which these assumptions are accurate and valid, and looking at our ideas and decisions (intellectual, organizational, and personal) from different perspectives.
PO2	**Social Interaction**	Elicit views of others, mediate disagreements and help reach conclusions in group settings.
PO3	**Effective Citizenship**	Demonstrate empathetic social concern and equity-centered national development, and the ability to act with an informed awareness of issues and participate in civic life through volunteering.
PO4	**Ethics**	Recognize different value systems including their own, understand the moral dimensions of their decisions, and accept responsibility for them.
PO5	**Self-directed and Life-long Learning:**	Acquire the ability to engage in independent and life-long learning in the broadest context of socio-technological changes.

PROGRAMME SPECIFIC OUTCOMES (PSO):

Sanskrit is a very rich language of India. It is a medium to know about ancient Indian history, culture, religion, social life through its text. The academic program of Sanskrit Honours Courses are designed to enhance not only professional skill but also develop a deep understanding of rich heritage and dynamic prevalent scenario of India through various Sanskrit texts.

Statements of PSO

PSO1:	Enhance communication skills-Listening, Speaking, Reading, Writing..
PSO2	Develop a strong concept of ancient Indian history, philosophy and literature
PSO3	Practice of textual analysis of Sanskrit and Vedic Sanskrit texts endows them to develop a critical perspective to assess existing research through careful reading, analysis and discussion.
PSO4	Reasonable understanding of multi-disciplinary relevance of literature of Sanskrit like Veda, Philosophy, Grammar, Kavyashastra, Dharmshastra etc.
PSO5	Create awareness about interdisciplinary perspectives of Sanskrit language .
PSO6	critical perspective to assess existing research through careful reading, analysis and discussion
PSO7	Familiarize the logic / methods of textual analysis in Sanskrit.
PSO8	Understand the moral, ethical, aesthetic and multidimensional aspects of Sanskrit resources.

Course Out comes:

Core Course:.

Name of the Programme : BA SANSKRIT			
Course Code	Course Name	Course Outcome	
Semester I			
CC1	**Moral Teachings & Basics of Sanskrit**.	**CO1**	Knowledge on elementary course in Sanskrit Language.
		CO2	Knowledge of Sanskrit Grammar through multiple example method with emphasis onstudents constructing themselves sentences.
		CO3	Students will run to read and write Sanskrit and form Sanskrit from this course.
CC2	**Drama-1 & History of Sanskrit Literature.**	**CO1**	Knowledge on inner structure of Sanskrit drama by themselves.
		CO2	The famous drama as Abhigyanshakuntalam of Kalidasa ,Swapnavasavadattam of Bhasa, and Mudrarakshas of Vishakhdutta with a view to giving knowledge of ancient Indiandramatic system.
		CO3	These three most famous dramas of Sanskrit literature represent three stages in thegrowth of Sanskrit drama.
		CO4	Origin and development of Sanskrit Drama.
Semester II			
CC3	**Drama – II & Dramaturgy**	**CO1**	Knowledge on audio-visual, drama is considered to be the best amongst all forms of arts.
		CO2	The dramaturgy was later develop by the Bharatamuni.
		CO3	Identify the beauty of drama and to introduce classical aspects of development of Indian theatre.
		CO4	Three most famous dramas of Sanskrit literature which represent three stages in the growthof Sanskrit drama.
CC4	**An Introduction to the Technique of Paninian Grammar & Prosody.**	**CO1**	Knowledge on system of Traditional grammar.
		CO2	Sanskrit vocabulary and grammatical construction.

		CO3	Samjna Prakarana, Sandhi Prakarana and Kritya Prakarana according toLaghusiddhantkaumadi.
		CO4	Procedures of formation of Sanskrit words.
Semester III			
CC5	**Poetry & History of Sanskrit Literature – II**	**CO1**	Knowledge on development of Sanskrit Literature.
		CO2	Negotiate texts independently with grammatical analysis and poetic excellence.
		CO3	Acquainted with the work ; Meghadutam of the Great poet Kalidasa.
		CO4	Know about origin and development of different types of Khandakavya, Kathasahitya and Gadyakavya.
CC6	**Meta Rules of Paninian Grammar, Poetics & Figures of Speech.**	**CO1**	Knowledge on basic structural nuances of Panini's grammar.
		CO2	They will become familiar with rules of paribhasa.
		CO3	They will also understand some most important primary and secondary suffixes of Sanskrit.
		CO4	The practice of the application of the rules learnt from the reading of the texts will further enhance their knowledge of the structural patterns of Sanskrit language.
CC7	**Cases & Case ending in Paninian Grammar and Translation-I.**	**CO1**	Get the Students to know the basics of Sanskrit Grammar, including rules and examples ofKaraka.
		CO2	Students acquires the ability to know sentences scientifically.
		CO3	They can determine the etymology of words.
		CO4	They gain knowledge the ancient Indian educational system and also gain an idea about theorigin of words in other Indian language.
		CO5	The students will be able to translate sentence and write short paras in Sanskrit.
Semester IV			
CC8	**Upanisad, Ramayana & Bhagavadgita**.	**CO1**	The students glimpses of the Karma yoga.
		CO2	The lesson incorporated in the Bhagavad Gita.
		CO3	Needless to say it is one of the most comprehensive tests of all literature that gives mankind the knowledge of high moral lesson and helps them find out the right path Arjuna got it.

		CO4	Cognitive and Emotive Apparatus.
		CO5	Controlling the mind.
		C06	Self Management through Devotion.
CC9	**Case and Case Ending of Paninian Grammar, Translation-II and Lexicon.**	**CO1**	Knowledge on basics of Sanskrit Grammar, including rules and examples of Karaka.
		CO2	Students acquires the ability to from sentences scientifically.
		CO3	They can determine the etymology of words.
		CO4	They gain knowledge the ancient Indian educational system and also gain an idea about theorigin of words in other Indian language.
		C05	The students will be able to translate sentence and write short paras in Sanskrit.
CC10	**Ornate Prose in Classical Sanskrit**	**CO1**	Knowledge on classical Sanskrit prose literature.
		CO2	Origin and development of prose, important prose romances and fables.
		CO3	Sanskrit are also included here from students to get acquainted with the beginnings ofSanskrit prose literature.
		CO4	The course also seeks to help students negotiate texts independently
Semester V			
CC11	**Ornate Poetry in Sanskrit**	**CO1**	Knowledge on classical Sanskrit literature of poetry.
		CO2	It intends to give an understanding of Literature, through which students will be able toappreciate the development of Sanskrit literature.
		CO3	The course also seeks to help students to negotiate texts Independently.
		CO4	This course will enable the students to appreciate the conflict and peace resolution.
		CO5	The course will make the students to understand and alayzing the issues and their solutionsdepicted in and Mahabharata in the context of Indian tradition.

		CO6	It is supposed to create an awareness about self respect and freedom with the Idea of Swadharma.
CC12	**Veda, Vedic Grammar and History of Vedic Literature.**	**CO1**	Knowledge on various vedic text like Samhita, Brahmana, Aranyaka, Upanisad etc, variousvedic devatas and their classification ,vedic mantras and drastas.
		CO2	The students would know about various sutras and application of vedic grammar ,differences between classical and vedic grammar ,origin of vedic words.
		CO3	The students can take the knowledge about classification of veda, date of vedas, socio-economic life in vedic age and its philosophical importance.
Semester VI			
CC13	**Ayurveda & Vrksayurveda .**	**CO1**	Ayurveda is a traditional Indian system of healthcare that has been traced back as early as 5,000 BCE.
		CO2	Through the classroom lectures and discussions, this course will introduce students to the theory of Ayurveda.
		CO3	The theory modules sessions that make up this course offer an introduction to Ayurveda that is well rounded, comprehensive and useful for students in their own day-to-day living.
		CO4	The major objective is to understand the basic principles and concepts of preventative medicine and health maintenance, diet and nutrition, usage of commonly used spices and herbs and outline of Ayurvedic therapeutic procedures in Ayurveda.
CC14	**Technical Literature in Sanskrit.**	**CO1**	This course will enable the students to appreciate the general introduction of Jyotiṣa Shastra – thetraditional Hindu system of astrology based on the text of Jyotiṣaratnavali.
		CO2	The course will make the learner capable of analysing the different astrological concepts and itsutility in the contemporary life of a human being and to know the planetary influence.
		CO3	It is supposed to create an awareness about the preparation of a calender (Panchanga system) todetermine the date for auspicious rituals and make major decisions.
		CO4	Students acquainted with the basic principles of Indian Architecture.
		CO5	It also intends to give an elementary understanding of Vastuvidya, and to enable students tolearn the town planning and construction of residential houses in Sanskrit texts easily.

PROGRAM SPECIFIC OUTCOME: BSc Botany

Program-Specific Outcomes (PSOs) are statements that describe the expected knowledge, skills, and abilities that students should acquire upon completion of an undergraduate program.

PSO1	**Knowledge of Plant Taxonomy and Diversity:** Upon completion of the undergraduate Botany program, students should be able to: • Demonstrate a comprehensive understanding of plant taxonomy, including classification, nomenclature, and identification of various plant species. • Describe the diversity of plant life, from algae to higher plants, and explain the evolutionary relationships among different plant groups.
PSO2	**Proficiency in Plant Anatomy and Morphology**: Graduates of the Botany program should possess: • Profound knowledge of plant anatomy and morphology, enabling them to identify and differentiate between different plant structures and tissues. • The ability to correlate plant structure with function, thereby understanding how anatomical features contribute to plant growth, development, and adaptation.
PSO 3	**Competence in Plant Physiology:** Students completing the program should be able to: • Comprehend fundamental plant physiological processes, including photosynthesis, respiration, transpiration, and nutrient uptake. • Analyze how various environmental factors influence plant physiological responses and adaptations.
PSO 4	**Understanding of Plant Ecology:** Upon graduation, students should be able to: • Explain the principles of plant ecology, including interactions between plants and their biotic and abiotic environments. • Apply ecological concepts to assess plant communities, ecosystems, and their conservation.
PSO 5	**Proficiency in Plant Biotechnology:** Students should be capable of: • Understanding the basics of plant biotechnology, genetic engineering, and their applications in improving crop yield, quality, and resistance to environmental stressors. • Critically evaluating the ethical and environmental implications of plant biotechnology practices.

COURSE OUTCOMES

SEMESTER I	
Course Code	**CC 1**
Course Name	**Microbiology and Phycology**
CO1	**Understand Microbial Diversity and Function:** Differentiate between various groups of microorganisms, including bacteria, archaea, fungi, and viruses, based on their characteristics and ecological roles.
CO2	**Understand Algal Diversity and Classification:** Classify algae into major groups based on morphological, ecological, and molecular characteristics
CO3	**Explore Applied Phycology:** Describe the applications of algae in biotechnology, aquaculture, wastewater treatment, and biofuel production
CO4	**Explain Microbial Cell Structure and Function:**

	• Identify and describe the structure and function of key cellular components in bacteria, fungi, and algae. • Explain the processes of microbial growth, reproduction, and metabolism.
Course Code	**CC 2**
Course Name	**Biomolecules and Cell Biology**
CO1	**Understand Biomolecular Structure and Function:** Identify and classify biomolecules including carbohydrates, lipids, proteins, and nucleic acids based on their structures and roles.
CO2	**Describe Enzymes:** Understand the properties and mechanisms of enzymes as biological catalysts.
CO3	**Analyze Cell Structure and Organelles:** • Identify and describe the structure and function of cellular organelles, including the nucleus, mitochondria, endoplasmic reticulum, and Golgi apparatus. • Understand the organization of eukaryotic and prokaryotic cells.
CO4	**Discuss Cell Membrane Structure and Transport:** • Explain the structure of cell membranes and the roles of membrane proteins, lipids, and carbohydrates. • Understand the mechanisms of passive and active transport across cell membranes.
CO5	**Understand Cell Cycle and Cell Division:** • Describe the stages of the cell cycle, including interphase, mitosis, and cytokinesis. • Explain the regulatory mechanisms that control cell cycle progression and cell division.
SEMESTER II	
Course Code	**CC3**
Course Name	**Mycology and Phytopathology**
CO1	**Understand Fungal Diversity and Classification:** Identify major groups of fungi based on morphological, ecological, and genetic characteristics.
CO2	**Explain Fungal Morphology and Anatomy:** Identify and describe the morphological features and structures unique to different fungal groups.
CO3	**Describe Fungal Reproduction and Life Cycles:** • Explain the different modes of fungal reproduction, including asexual and sexual reproduction. • Understand the life cycles and stages of fungi, including spore formation and dispersal.
CO4	**Discuss Fungi in Biotechnology and Medicine:** • Describe the applications of fungi in biotechnology, such as in the production of enzymes, antibiotics, and biofuels. • Understand the medical importance of fungi as pathogens and sources of pharmaceuticals.
CO5	**Explore Fungal Pathology and Plant Diseases:** • Understand the principles of plant-fungus interactions and the mechanisms of pathogenesis. • Describe the symptoms, causal agents, and management strategies for fungal plant diseases.
CO6	**Explain Plant-Pathogen Interactions:** Understand the mechanisms of pathogen entry, colonization, and establishment within plant tissues. Explain Plant-Pathogen Interactions

Course Code	CC4
Course Name	**Archegoniates**
CO1	**Understand the Diversity of Archegoniates:** Identify and classify major groups of archegoniates, including mosses, liverworts, and hornworts, based on their morphological, anatomical, and reproductive characteristics.
CO2	**Explain Archegoniate Morphology and Life Cycle:** • Describe the gametophyte and sporophyte generations in archegoniates, including their structural features and functions. • Understand the alternation of generations and the roles of sexual and asexual reproduction in the life cycle.
CO3	**Explore Bryophyte Diversity and Evolution:** • Describe the diversity of bryophytes, including mosses, liverworts, and hornworts, and their unique characteristics. • Understand the evolutionary transitions and adaptations that led to the diversity of bryophytes.
CO4	**Discuss Bryophyte Importance and Applications:** Describe the ecological and economic importance of bryophytes, including their roles in nutrient cycling, carbon sequestration, and habitat creation.
SEMESTER III	
Course Code	**CC5**
Course Name	**Anatomy of Angiosperms**
CO1	**Understand Plant Tissues and Cell Types:** • Identify and classify the different types of plant tissues, including dermal, ground, and vascular tissues, based on their cell types and functions. • Describe the characteristics and roles of various cell types, such as parenchyma, collenchyma, sclerenchyma, and tracheary elements.
CO2	**Explain Primary and Secondary Growth:** • Describe the process of primary growth, including cell division in apical meristems and subsequent tissue differentiation. • Understand the process of secondary growth, including the formation of vascular cambium and cork cambium.
CO3	**Analyze Root and Stem Anatomy:** • Describe the anatomical features of roots, including root hairs, cortex, endodermis, and pericycle. • Explain the structural adaptations of stems, including vascular bundles, pith, and different types of secondary growth.
CO4	**Discuss Leaf Anatomy and Function:** Identify and describe the different types of leaf tissues, such as epidermis, mesophyll, and stomata.
CO5	**Analyze Wood Anatomy and Vascular Tissues:** Describe the structure of wood and the arrangement of secondary xylem cells in different growth rings.
CO6	**Apply Microscopic Techniques in Plant Anatomy:** Interpret anatomical features from microscope slides and prepare accurate anatomical diagrams.
Course Code	**CC6**
Course Name	**Economic Botany**
CO1	**Explain Plant Domestication and Crop Evolution:** • Understand the process of plant domestication, including the selection and breeding of desirable traits in crop plants. • Describe the evolutionary history and origins of major crop plants.

CO2	**Explore Fiber and Timber Plants:** • Explain the characteristics and uses of fiber plants for textiles, cordage, and paper production. • Understand the properties of timber species and their applications in construction, furniture, and woodworking.
CO3	**Analyze Industrial and Economic Applications:** Describe the industrial applications of plants in producing biofuels, dyes, rubber, resins, and other valuable products
Course Code	**CC7**
Course Name	**Genetics**
CO1	**Understand the Principles of Mendelian Genetics:** • Explain the basic concepts of Mendelian inheritance, including alleles, genotypes, phenotypes, dominance, recessiveness, and segregation. • Solve and predict outcomes of monohybrid and dihybrid crosses using Punnett squares and probability.
CO2	**Analyze Chromosomal Basis of Inheritance:** Explain the principles of linked genes, recombination, and chromosome mapping.
CO3	**Analyze Genetic Variation and Mutation:** • Describe the sources of genetic variation, including mutation, recombination, and gene flow. • Understand the types of mutations, their causes, and their effects on protein structure and function.
CO4	**Discuss Mendelian and Non-Mendelian Inheritance Patterns:** • Explain non-Mendelian inheritance patterns, including codominance, incomplete dominance, and sex-linked inheritance. • Understand the inheritance of traits influenced by multiple genes (polygenic inheritance).
CO5	**Explore Population Genetics and Evolution:** • Describe the principles of population genetics, including gene frequency, genetic drift, gene flow, and natural selection. • Understand how genetic variation contributes to adaptation and evolution in populations.
CO6	**Apply Critical Thinking in Genetics Studies:** Analyze genetic data, solve genetic problems, and interpret inheritance patterns using scientific reasoning and critical thinking skills.
SEMESTER IV	
Course Code	**CC8**
Course Name	**Molecular biology**
CO1	**Understand the Molecular Basis of Life:** Explain the central dogma of molecular biology, including DNA replication, transcription, and translation.
CO2	**Analyze DNA Structure and Replication:** • Describe the double helix structure of DNA and the complementary base pairing. • Understand the process of DNA replication, including the roles of DNA polymerases and other enzymes.
CO3	**Explain Transcription and RNA Processing:** • Understand the process of transcription, including initiation, elongation, and termination. • Describe RNA processing events such as splicing, capping, and polyadenylation.
CO4	**Understand Genetic Code and Translation:**

	• Explain the genetic code and how it specifies the translation of mRNA into proteins. • Describe the roles of ribosomes, tRNAs, and translation factors in protein synthesis.
Course Code	**CC9**
Course Name	**Plant Ecology & Phytogeography**
CO5	**Analyze Gene Expression Regulation:** • Describe the mechanisms of gene regulation at transcriptional and post-transcriptional levels. • Understand the roles of enhancers, silencers, transcription factors, and microRNAs in gene expression control.
CO1	**Understand Ecological Concepts and Principles:** • Define key ecological terms and concepts, such as habitat, niche, community, ecosystem, and biodiversity. • Explain the principles of energy flow, nutrient cycling, and ecological interactions in plant communities.
CO2	**Analyze Plant Adaptations and Strategies:** Describe the various physiological, morphological, and reproductive adaptations of plants to different environments.
CO3	**Explain Community Structure and Succession:** • Understand the factors that influence plant community structure, including species composition, diversity, and abundance. • Describe the process of ecological succession and the role of disturbance in shaping plant communities.
CO4	**Understand Ecosystem Functioning and Services:** Explain the roles of plants in ecosystem functioning, including carbon fixation, nutrient cycling, and oxygen production.
CO5	**Analyze Plant-Environment Interactions:** Describe the interactions between plants and their physical environment, including factors like temperature, moisture, light, and soil.
CO6	**Discuss Biogeographical Patterns and Phytogeography:** • Explain the principles of biogeography and the factors influencing the distribution of plant species across different regions. • Describe major phytogeographic regions and their characteristic plant communities.
Course Code	**CC10**
Course Name	**Plant Systematics**
CO1	**Understand the Importance of Plant Systematics:** • Explain the significance of plant systematics in understanding plant diversity, evolution, and classification. • Understand how systematic approaches aid in the identification, naming, and organization of plant species
CO2	**Analyze Taxonomic Concepts and Principles:** • Define key taxonomic terms such as species, genus, family, order, and class. • Explain the principles of nomenclature, classification, and hierarchy in plant taxonomy.
CO3	**Explain Plant Morphology and Anatomy in Systematics:** • Describe the morphological features used in plant identification and classification, including vegetative and reproductive characteristics. • Understand the importance of anatomical traits in resolving taxonomic relationships.

CO4	**Understand Molecular Techniques in Systematics:** Understand how molecular data can help reconstruct evolutionary relationships.
CO5	**Explore Plant Identification and Key Construction:** • Demonstrate proficiency in using taxonomic keys to identify plant species. • Understand the principles of constructing identification keys based on diagnostic characters.
CO6	**Apply Cladistic Analysis and Phylogenetic Trees:** • Analyze and interpret cladograms and phylogenetic trees to understand the evolutionary relationships among plant groups. • Understand the concepts of common ancestry, synapomorphies, and sister taxa.
CO7	**Apply Critical Thinking in Plant Systematics Studies:** Analyze morphological and anatomical to infer taxonomic classifications.
SEMESTER V	
Course Code	**C11**
Course Name	**Reproductive Biology of Angiosperms**
CO1	**Understand Angiosperm Reproductive Structures:** Describe the structure and development of angiosperm reproductive organs, including flowers, inflorescences, and floral parts.
CO2	**Explain Pollination Mechanisms and Agents:** • Understand the various mechanisms of pollination, including wind, water, insects, birds, and mammals. • Describe the adaptations of flowers to attract specific pollinators.
CO3	**Analyze Pollen and Pollination Biology:** • Describe the structure and function of pollen grains and their role in the transfer of male gametes. • Understand the process of pollination, pollen tube growth, and double fertilization.
CO4	**Explain Embryology and Seed Development:** Describe the stages of embryo development within angiosperm seeds.
CO5	**Discuss Seed Dispersal:** Describe the different methods of seed dispersal and their ecological significance.
CO6	**Discuss Reproductive Strategies and Evolution:** Analyze the diversity of reproductive strategies in angiosperms, including self-pollination, cross-pollination, and asexual reproduction.
Course Code	**C12**
Course Name	**Plant Physiology**
CO1	**Analyze Plant Water Relations:** • Understand the movement of water through plants, including absorption, transpiration, and transport in the xylem. • Explain the concept of water potential and its role in water movement.
CO2	**Explain Photosynthesis and Carbon Assimilation:** • Describe the process of photosynthesis, including light absorption, carbon fixation, and production of carbohydrates. • Understand the role of chloroplasts, pigments, and photosynthetic pathways.
CO3	**Understand Plant Nutrition and Mineral Uptake:** • Explain the essential nutrients required for plant growth and their functions. • Describe the mechanisms of nutrient uptake, transport, and nutrient deficiency symptoms.
CO4	**Analyze Plant Hormones and Growth Regulation:** • Describe the major plant hormones, including auxins, cytokinins, gibberellins,

	abscisic acid, and ethylene. • Understand their roles in growth, development, and response to environmental stimuli.
CO5	**Discuss Plant Responses to Environmental Stimuli:** Understand the mechanisms of photoperiodism
SEMESTER VI	
Course Code	**CC 13**
Course Name	**Plant Metabolism**
CO1	**Analyze Cellular Energy Production:** • Describe the process of cellular respiration, including glycolysis, citric acid cycle, and oxidative phosphorylation. • Understand how energy stored in ATP is utilized for various cellular processes
CO2	**Explain Photosynthetic Processes and Carbon Fixation:** • Describe the light-dependent and light-independent reactions of photosynthesis. • Understand the mechanisms of carbon fixation, the Calvin cycle, and the role of photosynthetic pigments.
CO3	**Understand Carbohydrate Metabolism:** • Explain the synthesis and breakdown of carbohydrates, including starch, sucrose, and cellulose. • Understand the regulation of carbohydrate metabolism in response to changing physiological conditions.
CO4	**Analyze Lipid and Fatty Acid Metabolism:** • Describe the biosynthesis and breakdown of lipids, including fatty acids, glycerolipids, and phospholipids. • Understand the roles of lipids in membrane structure, energy storage, and signaling.
Course Code	**CC 14**
Course Name	**Plant Biotechnology**
CO1	**Understand Plant Tissue Culture and Micropropagation:** • Describe the principles of plant tissue culture, including callus induction, organogenesis, and somatic embryogenesis. • Explain the applications of micropropagation for clonal plant production.
CO2	**Analyze Genetic Engineering Techniques:** • Describe the methods of genetic modification, including gene cloning, DNA manipulation, and gene delivery. • Understand the tools and vectors used in recombinant DNA technology
CO3	**Discuss Plant Transformation and Transgene Expression:** Explain the techniques for introducing foreign genes into plant cells, including Agrobacterium-mediated and biolistic methods.
CO4	**Discuss Environmental Biotechnology and Phytoremediation:** Explain the use of transgenic plants for environmental remediation, such as heavy metal accumulation and pollutant degradation.
CO5	**Apply Biotechnological Techniques in Plant Research:** • Demonstrate proficiency in techniques such as PCR, gene cloning, plant transformation, and molecular analysis. • Understand the importance of experimental design in plant biotechnology studies

Statement of PSO

Program Specific Outcomes are statements that describe what the graduates of a specific undergraduate program should be able to do.

Name of Progamme : B.Sc Chemistry	
PSO1	**Understanding Fundamental Concepts:** Demonstrate a comprehensive understanding of the core principles in chemistry, including atomic structure, chemical bonding, thermodynamics, kinetics, and quantum mechanics
PSO2	**Laboratory Proficiency:** Proficiently perform laboratory techniques, including titrations, spectrophotometry, chromatography, and other analytical methods, while adhering to safety protocols.
PSO3	**Chemical Knowledge Application:** Apply chemical theories and principles to practical real-world scenarios, such as environmental issues, industrial processes, and pharmaceutical applications
PSO4	**Communication Skills:** Communicate scientific information effectively through written reports, oral presentations, and graphical representations of data, demonstrating the ability to convey complex scientific concepts to diverse audiences
PSO5	**Ethical Practices:** Understand and adhere to ethical standards in conducting research, handling chemicals, and promoting safety measures within the laboratory and the broader community
PSO6	**Research Skills:** Develop basic research skills, including the ability to design experiments, collect, analyze, and interpret data, and draw valid conclusions while considering the limitations and uncertainties in experimentation.
PSO7	**Interdisciplinary Knowledge:** Recognize and appreciate the interdisciplinary nature of chemistry, connecting its principles with other scientific disciplines like biology, physics, and environmental sciences.
PSO8	**Adaptability and Innovation:** Adapt to new technologies and methodologies in the field of chemistry, while demonstrating creativity and innovation in problem-solving and research endeavors.
PSO9	**Critical Analysis:** Apply critical thinking to analyze and solve problems in chemical systems, interpret experimental data, and draw conclusions based on evidence and scientific reasoning

Course code	Course Name		Course Outcomes
Semester-I			
C-I	Inorganic chemistry-I	CO1	Students can understand the Nature of Atoms, subatomic particles, atomic model, electronic configuration, atomic spectra, atomic and molecular mass etc
		CO2	Students can gain a comprehensive understanding of the structure and behaviour of atoms, paving the way for further exploration in various scientific disciplines and applications.
		CO3	Study of periodicity of elements help students understand the organization of the periodic table and the trends in elemental properties
		CO4	Students can gain a deep understanding of the periodicity of elements, enabling them to predict and explain the ehaviour and properties of elements across the periodic table.
		CO5	Study of chemical bonding help students comprehends the fundamental principles behind how and why atoms combine to form molecules and compounds.
		CO6	Students can gain a comprehensive understanding of the principles governing chemical bonding, enabling them to comprehend and predict the ehaviour of matter at the molecular level.
C-2	Physical chemistry-I	CO1	Students gain a comprehensive understanding of the gaseous state, enabling them to predict, explain, and apply the behavior and properties of gases in various scientific, industrial, and practical contexts.
		CO2	Study focused on the liquid state typically aim to provide a comprehensive understanding of the properties, ehaviour, and characteristics of liquids.
		CO3	Understand and analyze different types of intermolecular forces, Explain and predict the properties of liquids, such as viscosity, surface tension, boiling points, and ehavi pressure, based on intermolecular forces and temperature.
		CO4	Understanding of the properties, structures, and ehaviours of solids.
		CO5	Understand the different types of crystal structures, their

			characteristics, and how they relate to the arrangement of particles in a solid.
		CO6	Comprehend lattice geometry and symmetry elements, including planes, axes, and points within crystalline solids, as well as the different types of unit cells.
		C07	Analyze various defects within solid structures, including point defects (vacancies, interstitials), line defects (dislocations), and surface defects, and their influence on the properties of solids.
		CO8	Study focused on ionic equilibria in chemistry typically aim to provide a comprehensive understanding of the behaviour of ions in solution and their equilibrium states.
		CO9	Understand the concept of ionization of acids and bases in aqueous solution and calculate pH, pOH, and equilibrium concentrations of ions.
		C10	Learn to calculate and interpret equilibrium constants for reactions involving ions, such as acid dissociation constants (Ka) and base dissociation constants (Kb). Explain the properties and preparation of buffer solutions and their role in maintaining pH in different chemical systems, and calculate buffer capacity.
		C12	Describe solubility products, Understand and analyze the common ion effect on solubility and acid-base equilibria in solution systems.
		C13	Understand and perform calculations related to acid-base titration curves and equivalence points.
Semester-II			
C-III	Organic chemistry-I	CO1	Study focused on the basics of organic chemistry, stereochemistry, aliphatic and aromatic hydrocarbons aim to provide students with a fundamental understanding of the structure, properties, and reactions of organic compounds.
		CO2	Understand the concept of isomerism (structural, geometric, and optical) and its significance in organic molecules.
		CO3	Learn the basic types of organic reactions (addition, elimination, substitution) and understand the mechanisms and conditions under which they occur.
		CO4	Introduce reaction mechanisms in organic chemistry (SN1, SN2, E1, E2) and learn the basics of stereochemistry

			(chirality, enantiomers, diastereomers).
		CO5	Understand the structure and properties of aromatic compounds, and the concept of resonance in organic molecules.
C-IV	Physical chemistry-II	CO1	Understand and apply the laws of thermodynamics, including the zeroth law, first law (conservation of energy), second law (entropy), and third law (absolute zero).
		CO2	Comprehend internal energy, heat, and work in chemical systems, and their relationship to changes in energy during chemical processes,
		CO3	Understand entropy and its relationship to the spontaneity
		CO4	Understand Gibbs free energy and its relationship to spontaneity and chemical equilibrium.
		CO5	Learn about different thermodynamic processes (isothermal, adiabatic, isobaric, and isochoric) and how they affect energy changes in a system.
		CO6	Understand colligative properties (vapor pressure lowering, boiling point elevation, freezing point depression, osmotic pressure) and the factors that influence these properties
		CO7	Introduce and apply Raoult's Law to predict the vapor pressure of solutions and how it changes with the addition of solute
		CO8	Calculate and interpret changes in boiling and freezing points due to the presence of solutes in a solvent, Understand the process of osmosis and the concept of osmotic pressure in solutions,
Semester-III			
C-V	Inorganic chemistry-II	CO1	Understanding the basic principles and concepts underlying metallurgy,
		CO2	Learning about the various metallurgical processes involved in extracting, refining, and processing metals from ores.
		CO3	Understanding the definitions of acids and bases according to various theories such as Arrhenius, Brønsted-Lowry, and Lewis theories. Learning about their properties and characteristic behaviors.
		CO4	Understanding the basic properties of elements found in the s and p blocks of the periodic table, including their atomic structure, electronic configurations, and common oxidation states.
		CO5	Learning about the periodic trends exhibited by s and p block elements, including atomic and ionic sizes, ionization energies, electron affinities, electronegativities, and chemical reactivities.

		CO6	Understanding the anomalous properties and exceptional behavior of certain elements within the s and p blocks.
		CO7	Understanding the properties, characteristics, and fundamental features of noble gases.
		CO8	comprehensive understanding of compounds of Xenon.
		CO9	Understanding the basic concepts of inorganic polymers, Exploring the methods and techniques used in the synthesis of inorganic polymers
		C10	Understanding the diversity of inorganic polymer structures and their properties based on different elements and bond types, such as silicones, phosphazenes, polysulfides, and metal-containing polymers.
C-VI	Organic chemistry-II	CO1	Exploring methods used for the synthesis of halogenated hydrocarbons,
		CO2	Understanding the chemical reactivity and behavior of halogenated hydrocarbons, including their stability, boiling points, solubility, and how halogens influence the properties and reactivity of these compounds.
		CO3	Understanding the relative reactivity of different alkyl and aryl halides towards nucleophilic substitution reactions
		CO4	Learn about organometallic compounds and their applications in organic synthesis
		CO5	exploring the various methods used for the synthesis of alcohols and ethers, including nucleophilic substitution, addition reactions to alkenes, and Williamson ether synthesis. Understanding the reaction mechanisms and conditions for synthesis.
		CO6	Exploring various methods for the synthesis of carbonyl compounds, including oxidation of alcohols, the addition of nucleophiles to carbonyl groups, and other organic reactions involving ketones, aldehydes, esters, and carboxylic acids.
		CO7	Understanding the reactivity of carbonyl compounds, including nucleophilic addition reactions, reduction reactions, oxidation reactions, and the behavior of various functional groups containing the carbonyl moiety.
		CO8	Exploring various methods for the synthesis of carboxylic acids, including oxidation of aldehydes, the hydrolysis of nitriles, and other organic reactions involving formation of

			the carboxyl group.
		CO9	Understanding the chemical reactivity and behavior of carboxylic acids, including acid-base reactions, esterification, decarboxylation, and reduction reactions.
		C10	Understanding the properties and synthesis of carboxylic acid derivatives, including esters, amides, acid halides, and anhydrides. Exploring their reactivity and applications.
		C11	Understanding the properties and synthesis of thiols and thioethers
C-VII	Physical chemistry-III		
		CO1	Exploring the basics of phase equilibria within a one-component system, such as water, Learning to interpret and construct phase diagrams
		CO2	Understanding the phase diagrams of binary systems, such as liquid-liquid, liquid-solid, and solid-solid phase equilibria. Exploring eutectic points, solid solutions, and phase transitions in binary systems.
		CO3	Learning about the Lever rule and how it's used to calculate phase fractions in a two-phase region of a binary phase diagram.
		CO4	Introducing ternary phase diagrams and understanding the representations of phase behavior in systems with three components. Studying tie lines and tie triangles to determine phase compositions.
		CO5	Understanding the basic principles of chemical kinetics, including reaction rates, rate laws, and factors affecting reaction rates, such as concentration, temperature, and catalysts.
		CO6	Learning how to derive and interpret rate laws from experimental data, Understanding the role of catalysts in altering the rate of chemical reactions. Studying enzyme kinetics
		CO7	Understanding the temperature dependence of reaction rates and the concept of activation energy. Exploring the Arrhenius equation and its application in determining activation energy.
		CO8	Understanding collision theory and transition state theory to explain the factors influencing reaction rates and the formation of activated complexes during a chemical reaction.

		CO9	Learning about different types of catalysts, Studying the mechanisms of acid-base catalysis and enzymatic catalysis and understanding the specificity, selectivity of enzyme Studying the process of adsorption and desorption at surfaces, including physical and chemical adsorption, the nature of adsorbates, and factors influencing these processes.
		C10	Learning about different adsorption isotherm such as Freundlich and Langmuir adsorption isotherm
Semester-IV			
C-VIII	Inorganic chemistry-III	CO1	Understanding the basics of coordination chemistry, including the structure, bonding, and properties of coordination compounds
		CO2	Learning about coordination numbers, geometries, and various types of isomerism in coordination compounds, including structural isomerism, stereoisomerism, and linkage isomerism in coordination compounds.
		CO3	Understanding the nature of metal-ligand bonding such as VBT and CFT. Exploring crystal field theory and ligand field theory to understand the splitting of d-orbitals in complex ions.
		CO4	Understanding the color and magnetic behavior of transition metal complexes.
		CO5	Exploring the electronic structures of transition metals, their magnetic properties, coloration, and catalytic activities. Understanding the relationship between electronic configuration and their properties.
		CO6	Understanding the Latimer and Ebsworth diagram for various oxidation states of transition metals
		CO7	Exploring the electronic configurations and atomic properties of lanthanoids and actinoids, including the variation in oxidation states, magnetic behavior, and their role as heavy metals.
		CO8	Studying the essential roles of metal ions in biological processes such as oxygen transport (e.g., hemoglobin), electron transfer (e.g., cytochromes), and enzyme catalysis (e.g., metalloenzymes).
		CO9	Understanding the significance of trace elements (such as iron, copper, zinc) in human health, metabolism, and disease.
C-IX	Organic chemistry III		
		CO1	Exploring various methods for the synthesis of nitrogen-containing compounds, such as reductive amination, nitration, amide formation, and Gabriel synthesis.

			Understanding the conditions and mechanisms involved.
		CO2	Understanding the chemical reactivity and behavior of nitrogen-containing compounds, including basicity, nucleophilic substitution, oxidation, and reduction reactions involving nitrogen functionality. Understanding the structure, properties, and characteristics of diazonium salts, which contain the functional group -N2+. Learning about their stability and reactivity.
		CO3	Exploring various methods for the synthesis of diazonium salts, particularly the diazotization reaction involving the conversion of primary aromatic amines to diazonium salts using nitrous acid.
		CO4	Understanding the chemical reactivity and behavior of diazonium salts, including their participation in Sandmeyer reactions, coupling reactions to form azo dyes, and their role in organic synthesis.
		CO5	Understanding the basic structures, physical properties, and characteristic features of naphthalene and anthracene,
		CO6	Studying various methods for the synthesis of naphthalene and anthracene, including their formation from coal tar, Friedel-Crafts alkylation, and other synthetic routes.
		CO7	Understanding the chemical reactivity and behavior of naphthalene and anthracene, including substitution reactions, hydrogenation, oxidation
		CO8	Exploring the molecular structure, bonding, and reactivity of various heterocycles. Understanding aromaticity, tautomerism, and the unique properties of heterocyclic rings.
		CO9	Understanding the definition, significance, and structural diversity of alkaloids. Learning the medicinal importance of alkaloids and terpenes
C-X	Physical chemistry-IV	CO1	Studying conductance in solutions, particularly electrolytes, and how ions contribute to the overall conductivity of the solution
		CO2	Understanding the conductivity of strong electrolytes which include Debye-Huckel Onsager equation and wein effect and walden rule
		CO3	Understanding the ionic mobility and determination of transport number using Hittorf and moving boundary method
		CO4	Learning the application of conductance measurements
		CO5	Understanding the concept of electrolysis and how conductance is used in electrochemical cells to produce chemical reactions by passing an electric current through an

			electrolyte.
		CO6	Learning the applications of electrolysis in metallurgy and industry. It explains the measurement of electromotive force, free energy, enthalpy, and entropy of cell reactions.
		CO7	Learning about the concentration cells with and without transference, liquid junction potential. Qualitative discussion of potentiometric titrations (acid-base, redox and precipitations)
Semester-V			
C-XI	Organic Chemistry (IV)	CO1	understanding the principles and applications of UV spectroscopy specifically in the context of organic molecules
		CO2	Understanding the Fundamental Concept of Beer-Lambert's Law, how the concentration of a substance, path length, and the absorbance of light in a solution are interrelated with eachother.
		CO3	Understanding the fundamental principles of NMR, including the interaction of atomic nuclei with a magnetic field, the concept of chemical shift, spin-spin coupling, relaxation processes, and the information obtained from NMR spectra.
		CO4	Understanding the principles of mass spectrometry, instrumentation, techniques, and applications of the analytical method.
		CO5	Focusing on carbohydrates typically aim to cover various aspects of these organic compounds, including their structures, functions, and significance in biological systems. Carbohydrates includes monosaccharides, oligosaccharides, and polysaccharides and their different configurations, anomeric forms, and linkages etc.
C-XII	Physical Chemistry V	CO1	Gaining knowledge on calculating and interpreting electronic structures of atoms and molecules using quantum chemical methods. This involves understanding energy levels, wave functions, and quantum numbers of electrons in atoms and molecular systems.
		CO2	Understanding the connection between quantum mechanics and spectroscopic properties. Exploring how quantum theory is used to interpret various spectroscopic techniques and to predict molecular properties.
		CO3	Understand the application of quantum mechanics in chemical bonding.
		CO4	Understanding the fundamental principles underlying

			various spectroscopic techniques, including the interaction of molecules with electromagnetic radiation and the different types of spectroscopic methods.
		CO5	Exploring different spectroscopic techniques such as infrared (IR), ultraviolet-visible (UV-Vis) and Raman spectroscopy
		CO6	Exploring the mechanisms and pathways of photochemical reactions, including the processes of excitation, relaxation, and subsequent chemical transformations triggered by light absorption. Understanding concepts such as photophysical processes, photodissociation, energy transfer, and electron transfer reactions.
		CO7	Learning about various types of photochemical reactions, such as photoisomerization, photodimerization, photodecomposition, and photorearrangement
DSE-I	Polymer Chemistry	CO1	A course in polymer chemistry aims to provide students with a comprehensive understanding of the synthesis, properties, and applications of polymers. It includes the fundamental principles of polymers, including the structure, classification, and properties of different types of polymers (e.g., addition polymers, condensation polymers).
		CO2	The kinetics of polymerization focuses on understanding the rates, mechanisms, and factors affecting the polymerization processes. It involves learning about rate laws, reaction mechanisms, and factors influencing the speed of polymerization reactions.
		CO3	It explains about different polymerization mechanisms, including step-growth (condensation) polymerization and chain-growth (addition) polymerization using the initiation, propagation, and termination steps in these mechanisms.
		CO4	This course aims to provide students with a comprehensive understanding of the physical, chemical, mechanical, and thermal properties of polymers.
DSE-II	Green Chemistry	CO1	The course on green chemistry aims to provide students with an understanding of sustainable and environmentally friendly practices in chemical research, design, and manufacturing.
		CO2	Understanding the 12 principles of green chemistry established by Anastas and Warner, which emphasize the design of chemical products and processes that reduce or eliminate the use and generation of hazardous substances.
		CO3	Understanding concepts like atom economy (maximizing the incorporation of starting materials into the final product) and E-factor (measurement of waste generated) in chemical reactions and process design.

		CO4	Familiarization with green synthetic methodologies, microwave-assisted synthesis, flow chemistry, and other innovative approaches to reduces the waste and increase the efficiency.
		CO5	Exploring real-world applications of green chemistry in various industries, such as pharmaceuticals, agrochemicals, materials science, and consumer products.
		CO6	The primary goal of a course in green chemistry is to provide students with a comprehensive understanding of the principles and practices that enable the design and implementation of chemical processes and products that are more environmentally sustainable and less harmful to human health and the planet
.		Semester-VI	
C-XIII	Inorganic Compounds	CO1	Understanding of the fundamental principles and theories that underlie organometallic chemistry, including bonding, structure, and reactivity of organometallic compounds
		CO2	To understand the 18e rule, synthesis and properties of mono, bi and poly nuclear carbonyls of 3d-transition metals
		CO3	Understanding of the fundamental principles of Ziegler-Natta catalysis.
		CO4	To explore the industrial applications of Ziegler-Natta catalysts in the production of polyethylene and polypropylene, as well as in other areas such as the synthesis of specialty polymers and copolymers.
		CO5	Understanding of the molecular structure of ferrocene, its sandwich structure, and the nature of the iron-cyclopentadienyl bonding.
		CO6	To explore the reactivity of ferrocene, including its role in organic synthesis, oxidation, and substitution reactions.
		CO7	Understanding of the principles and theories underlying catalysis by organometallic compounds, focusing on reaction mechanisms, kinetics, and catalytic cycles.
		CO8	Understanding the basic principle of common ion effect, solubility product.
		CO9	Understanding of the fundamental principles of thermodynamics of metal complexes, stability constants, equilibrium constants, and Gibbs free energy changes.
C-XIV	Organic Chemistry	CO1	To understand the concept of zwitter ion, isoelectric point and electrophoresis of amino acids
		CO2	Understanding of enzyme structure, active site and its relationship to enzyme function
		CO3	Studying the Michaelis-Menten equation, enzyme-substrate interactions using by enzymes.
		CO4	Understanding the components of nucleic acids, nucleosidies and nucleotides

		CO5	Understanding the physical properties of oils and fats
		CO6	Understanding the concept of metabolism
		CO7	Understanding the structure and therapeutic uses of pharmaceutical compounds
		CO8	Understanding the synthesis and classification of dyes
DSE-III	Industrial Chemicals and Environment	CO1	Understanding the concept of manufacture, handling of chemicals and industrial gases
		CO2	Understanding the concept of different types of pollutions
		CO3	A comprehensive understanding of different types of industrial waste and its management
		CO4	To explore various treatment methods including physical, chemical, and biological processes used for waste management and the disposal options available, such as landfilling, incineration, and recycling.
		CO5	To emphasize the importance of waste minimization strategies and pollution prevention in industries, covering methods to reduce waste generation at the source and promote recycling and reuse.
		CO6	To provide an overview of different energy sources, including fossil fuels, renewable energy, nuclear energy,
		CO7	Understanding the importance of biocatalysis in green chemistry and chemical industries

PROGRAM SPECIFIC OUTCOME: B.A.POLITICAL SCIENCE

Program-specific outcomes are the statements that describe the specific knowledge, skills, methods and techniques that a student who has taken admission in B.A. Program with Political Science as a subject is expected to achieve the following outcomes after the completion of his/her undergraduate course.

PSO NO.	Program Specific Outcomes
PSO1	**Academic Competence:** • Understand the conceptual, theoretical and applied aspects of the discipline as one of the social sciences with interdisciplinary nature. • Understand/imbibe/Develop a command over/Nurture the vocabulary of politics. • Estimate institutional mechanisms and non-institutional political events and processes and formulate one's view of the same.
PSO2	**Personal and Professional Competence:** • Systematically organise and communicate thoughts effectively in the preferred medium and language. • Defend their views and ideas confidently with adequate evidence, be receptive to the views of others and carry forward the dialogue. • Nurture/Build soft skills like motivation and curiosity for knowledge, written and oral communication, presentation skills, cooperation and team work, multicultural understanding, professionalism, scientific temper and leadership. • Equip the students to prepare themselves for the Union and State Civil Services and the non-governmental sectors.
PSO3	**Research Competence:** • Build skills for accessing information, listening and reading comprehension, analytical and critical thinking, writing skills. • Evaluate ideas and processes in terms of their given explanations, think critically, analyse evidence and arrive at their own understanding of the ideas so that they start asking critical questions to the ideas and processes to take up research/projects and surveys.
PSO4	**Enterpreneurial and Social Competence:** • Understand the role of human beings as conscious citizens and realise a constructive citizenship role for themselves inspired by a sense of social responsibility. • Explore and understand their inclination and forte in a specific area so as to take up post-graduation in the discipline, interdisciplinary areas as well as professional courses related to political science. • Realise the significance of the roles of citizens, administrators and policy makers in effectively implementing rule of law inorder to nurture Indian democracy. • Apply their learning and skills to policy evaluation and formulation in the area of their choice.

COURSE OUTCOMES

SEMESTER –I	
Course Code	**CC-I**
Course Name	**Understanding Political Theory**
CO1	**Understand Political Concepts and Ideas:** Students will gain deep understanding of major political theories, concepts and ideas.
CO2	**Critical Analysis**: Develop the ability to critically analyse and evaluate political ideas, arguments, and texts, identifying their strengths, weaknesses, and historical ccontext.
CO3	**Application of Political Theories**: Apply political theories to contemporary political issues and debates, demonstrating an ability to relate abstract concepts to real-world situations.
CO4	**Theoretical Frameworks**: Acquire knowledge of various theoretical frameworks, including liberalism, conservatism, Anarchism, Modernism, socialism, feminism, Marxism and others, and will be able to compare and contrast these frameworks.
CO5	**Research Skills**: Learn how to conduct research in political theory, including locating and evaluating primary and secondary sources, and synthesizing information to support their arguments.
C06	**Interdisciplinary Perspective**: Understand how political theory intersects with other disciplines such as philosophy, economics, sociology, and history, allowing for a multidisciplinary approach to political analysis.
CO7	**Political Engagement**: Encourage students to become informed and engaged citizens by using their understanding of political theory to participate in political discussions and civic activities.
Course Code	**CC-II**
Course Name	**Constitutional Government and Democracy in India**
CO1	**Understanding the Indian Constitution**: Develop a comprehensive understanding of the Indian Constitution, including its historical context, drafting process, and key provisions. They will be able to explain the fundamental principles and values enshrined in the Constitution.
CO2	**Constitutional Framework**: Students will be familiar with the structure of the Indian government, including the executive, legislative, and judicial branches, as well as the division of powers between the central and state governments.
CO3	**Democratic Principles**:

	Grasp the core principles of democracy, such as free and fair elections, political representation, rule of law, and protection of fundamental rights. They will understand how these principles operate within the Indian context.
CO4	**Political Institutions**: Learn about the functioning of key political institutions in India, including the Parliament, the President, the Prime Minister, the judiciary, and the Election Commission. They will also explore the role of political parties and civil society in the democratic process.
CO5	**Federalism in India**: Understand the federal structure of the Indian government and the distribution of powers between the centre and the states. They will also explore issues related to state autonomy and regional disparities.
CO6	**Understand Local Governance Structures:** Comprehend the functions and responsibilities of local governments, including municipalities, panchayats, or similar bodies, and their relationship with higher-level authorities.
SEMESTER –II	
Course Code	**CC-III**
Course Name	**Political Theory-Concepts and Debates**
CO1	**Understanding of Political Theory:** Foundational understanding of political theory as a subfield of political science. This includes familiarity with the historical development of political thought and the major figures who have contributed to it.
CO2	**Key Political Concepts:** Able to identify and define key political concepts such as justice, equality, freedom, power, authority, and legitimacy. They should understand how these concepts are used in political analysis and debate.
CO3	**Universality of Rights:** Explore the concept of natural rights as articulated by philosophers like John Locke and Thomas Hobbes, Study the moral dimensions of rights, Examine the legal framework of rights within various legal systems, including constitutional rights, human rights and international law.
CO4	**Theories of Political Obligation:** Explore different theories of political obligation, including consent-based theories, duty-based theories, consequentialist theories, and associative theories. Understand the arguments for and against each perspective.
CO5	**Cultutral Relativism and Multiculturalism:** Explore the concept of cultural relativism, which posits that moral and ethical values are relative to cultural norms and vary across societies. Understand its implications for understanding and assessing diverse cultural practices. Define multiculturalism as a political and social philosophy that emphasizes the recognition and accommodation of cultural diversity within a society. Understand the principles and goals of multiculturalism.
Course Code	**CC-IV**

Course Name	**Political Process in India**
CO1	**Election Process:** Learn about the electoral process in India, including the conduct of elections, the role of the Election Commission, and the significance of free and fair elections in a democratic system.
CO2	**Political Parties and Ideologies:** Equip students with knowledge about the various political parties in India, their ideologies, and their role in shaping the political landscape. They should be able to analyse party systems and political ideologies.
CO3	**Regionalism, Religion and Politics:** • Define regionalism and its various manifestations in India, Analyse the historical, cultural, economic and political factors contributing to regionalism. Identify and evaluate major regional political parties and movements, Assess the impact of regionalism on India's federal structure and governance. • Define Secularism and its importance in a diverse and pluralistic society,Explore the historical development of secularism in India, including the framing of the constitution. • Analyse the role of the state in maintaining a secular outlook and the separation of religion from politics. • Assess the challenges to secularism such as communalism and religious discrimination. • Define communalism and its various forms,including religious ethnic. • Examine the historical roots and causes of communalism in India. • Analyse the consequence of communalism on social harmony,politics and governance. • Study the efforts and initiatives taken by the state and civil society to combat communalism. • Critically evaluate the role of political parties and the media in perpetuating or mitigating communal tensions. • Compare the Indian experience of regionalism, secularism, and communalism with other countries or regions.
CO4	**Caste and Politics:** • Define caste as a social and cultural phenomenon in India. • Explore the historical development of the caste system. • Examine the various components of caste, including jatis, varnas, and sub-castes. • Analyse the social hierarchies and inequalities associated with the caste system. • Analyse the emergence of caste-based political parties and movements. • Assess the strategies employed by political leaders to mobilize caste communities for electoral and political gains.
CO5	**Affirmative Action:** • Define affirmative action policies and their objectives, including the promotion of social justice and equality. • Explore the specific challenges faced by women in India and the need for gender-sensitive affirmative action. • Analyse debates and controversies surrounding caste-based affirmative action. • Explore the broader category of marginalized classes, including nomadic and denotified tribes. • Evaluate the effectiveness of policies aimed at uplifting marginalized classes and tribes.

CO6	**The changing nature of the Indian State:** • Learners should acquire knowledge of various theoretical frameworks that underpin the concept of welfare states and their role in development, including social contract theory, welfare capitalism, and human development theory. • Able to critically analyse and evaluate social welfare policies and programs within different national and international contexts. This analysis may encompass topics such as healthcare, education, unemployment benefits, and poverty alleviation. • Explore the concept of global welfare and the role of international organizations in shaping welfare policies and practices worldwide, such as the United Nations, World Bank, and International Monetary Fund. • Analyse the political dynamics and decision-making processes that shape welfare policies. This may involve studying the influence of political parties, interest groups, and public opinion on welfare state development. • Understanding of the various forms of coercive power in politics, including military force, law enforcement, surveillance, and other mechanisms used by states and non-state actors to exert control and influence.
	SEMESTER-III
Course Code	**CC-V**
Course Name	**Introduction to comparative government and politics**
CO1	**Understanding Comparative Politics:** Foundational understanding of the field of comparative politics, including its history, key concepts, methods of analysis and approaches.
CO2	**Historical concepts of modern government:** • Develop a clear understanding of the concepts of capitalism and globalization, including their definitions, historical development, and key components. • Gain knowledge of the historical evolution of capitalism and globalization, from their origins to contemporary developments. Explore how these concepts have evolved over time and across different regions. • Study the economic principles that underlie capitalism, including private property, markets, competition, and profit motive. Analyse how capitalism operates in various economic systems. • Understand the processes and drivers of globalization, including trade liberalization, technological advancements, financial flows, and international migration. Examine how globalization has transformed economies and societies. • Examine how political institutions and policies influence capitalism and globalization, including government regulations, trade agreements, and international organizations like the World Trade Organization (WTO) and International Monetary Fund (IMF). • Study the effects of capitalism and globalization on labour markets, including issues related to labour rights, job outsourcing, and the gig economy. • Assess the environmental consequences of capitalism and globalization, including resource depletion, climate change, and sustainability challenges. • Analyse specific case studies, regions, or industries to illustrate the impact of capitalism and globalization on different contexts, such as the rise of China as an economic superpower or the effects of globalization on the fashion industry.

	• Develop critical thinking skills to evaluate the advantages and disadvantages of capitalism and globalization and to assess their consequences for individuals, societies, and the global community.
CO3	**Historical context of modern Government-II:** • Students should acquire a comprehensive historical overview of socialism and communism, including their origins, development, and major events in the history of socialist and communist movements. • Understand the core principles and ideological underpinnings of socialism and communism, including concepts of class struggle, workers rights, and the critique of capitalism. • Familiarize themselves with key figures in the history of socialism and communism, such as Karl Marx, Friedrich Engels, Vladimir Lenin, Joseph Stalin, Mao Zedong, and others who played pivotal roles in shaping these ideologies and movements. • Analyse the similarities and differences between various socialist and communist movements and regimes, including their goals, strategies, and outcomes in different regions of the world. • Study the factors that contributed to the decline and eventual collapse of communist regimes, including economic inefficiencies, political repression, and social discontent. • Analyse specific case studies of communist regimes, such as the Soviet Union, Eastern Europe, China, and Cuba, to illustrate key concepts and historical developments.
CO4	**Colonialism and Decolonization:** • Students should develop a deep historical understanding of colonialism, including its origins, expansion, and the impact on colonized regions and indigenous populations. • Examine the economic aspects of colonialism, including the exploitation of resources, the establishment of trade networks, and the impact on indigenous economies. • Explore the factors and events that led to the rise of independence movements and the decolonization of specific regions, such as India, Africa, and Southeast Asia. • Understand the challenges and complexities of state formation in post-colonial societies, including the establishment of new political systems, constitutions, and governments. • Adopt a global perspective by studying decolonization movements and outcomes in different regions, including Asia, Africa, the Middle East, and the Caribbean. • Explore the influence of the Cold War on the decolonization process, including superpower competition and the alignment of newly independent states. • Develop critical thinking skills to evaluate the successes and challenges of decolonization efforts and their impact on contemporary global politics.
CO5	**Themes of Comparative Politics:** • Analyse the foundational documents of both countries, such as the U.S. Constitution and the Chinese Constitution, and examine their origins, structures, and principles. • Compare and contrast the political institutions of the two countries, including the executive, legislative, and judicial branches, and explore their roles, powers, and functions.

	• Examine the electoral systems and political party structures in both countries, including the role of elections in selecting leaders and shaping policy. • Explore the differences between the federal system in the United States and the unitary system in China, and analyse how these structural differences impact governance and policy-making. • Develop critical thinking skills to analyse and evaluate the strengths and weaknesses of the political systems in both countries and their implications for citizens.
Course Code	**CC-VI**
Course Name	**Introduction to Public Administration**
CO1	**Understanding of Public Administration Concepts:** Solid understanding of the fundamental concepts, theories, and models in Public Administration, including topics like bureaucracy, public policy, public management, and governance.
CO2	**Classical Theories-Scientific Management Theory, Ideal Type Bureaucracy and Administrative Management Theory:** • Explain the fundamental principles of Scientific Management, such as time and motion studies, standardization of work processes, and the concept of "one best way" to perform tasks. • Analyse how Scientific Management principles have been applied in various organizational contexts, both historically and in contemporary settings. • Encourage critical thinking by having students assess the ethical implications of Scientific Management, including issues related to worker exploitation and dehumanization. • Identify and explain the key characteristics of an ideal type bureaucracy, including hierarchy, specialization, impersonality, and formal rules and procedures. • Analyse historical and contemporary examples of bureaucratic organizations, such as government agencies or large corporations, to understand how the bureaucratic model is applied in practice. • Encourage students to critically assess the strengths and weaknesses of the bureaucratic model and explore adaptations or variations of bureaucratic structures in different settings. • Understand and be able to explain the five functions of management (planning, organizing, commanding, coordinating, and controlling) as proposed by Fayol. • Apply Fayol's administrative principles, such as unity of command, scalar chain, and division of work, to real-world management scenarios. • Compare Fayol's administrative management theory with other management theories, such as contingency theory or systems theory, to provide students with a broader perspective on management practices.
CO3	**Neo Classical and Contemporary Theories-Human Relations Theory,Rational decision-making,Ecological approach,Innovation and entrepreneurship:**
	• Develop an understanding of human behaviour in organizational settings, including motivation, communication, group dynamics, and

	leadership. • Apply human relations concepts to analyse and improve workplace relationships, conflict resolution, and employee satisfaction. • Analyse the historical development of Human Relations Theory and its relevance in contemporary organizations, including the impact of diversity and globalization on workplace dynamics. • Understand various decision-making models, such as the rational decision-making model, bounded rationality, and satisficing, and be able to apply them to real-world scenarios. • Develop the ability to gather, analyse, and synthesize information to make well-informed decisions, including the use of data and evidence-based decision-making. • Explore how the ecological approach applies to environmental and sustainability issues, including the assessment of policy impacts on ecosystems and natural resources. • Encourage students to engage in policy advocacy and activism related to ecological and environmental issues, promoting sustainable practices and policies. • Evaluate business Plans, including market research, financial analysis and feasibility studies for entreprenuer ventures. • Encourage the development of an entrepreneurial mindset, including risk-taking, adaptability, and a willingness to learn from failure.
C04	**Public Policy and major approaches in Public Administration**: • Develop student's ability to analyse public policies, including understanding the policy cycle, identifying policy problems, and evaluating policy alternatives. • Engage in policy advocacy, including crafting persuasive arguments, mobilizing support, and navigating the policy-making process. • understanding of the principles of public service, including responsiveness to citizens' needs and ethical behaviour. • Encourage students, how to engage citizens in the decision-making process and incorporate their perspectives into public policy and administration. • Develop students' management skills, including budgeting, performance measurement, and results-based management. • Explore market-oriented reforms, such as privatization, contracting out, and public-private partnerships in the delivery of public services. • Students should grasp the core principles of good governance and their importance in fostering public trust and effective governance. • Explore strategies to combat corruption, including the role of anti-corruption agencies and transparency initiatives. • Discuss the significance of the rule of law in ensuring equitable access to justice and protecting citizens' rights. • Explore strategies for developing gender-inclusive policies and programs, including gender mainstreaming and affirmative action. • Discuss the intersectionality of gender with other factors such as race, class, and sexuality in shaping governance and policy outcomes. • Encourage students to critically examine traditional governance structures and practices from a feminist perspective, identifying areas for reform and change.
Course	**CC-VII**

Code	
Course Name	**Perspectives on International Relations**
CO1	**Understanding of International Relations Theories:** Comprehensive understanding of the major theories and approaches in the field of International Relations, such as realism, Neo-realism, liberalism, Neo-liberalism, Marxism, Feminism, Euro-Centrism and others. They will learn to analyse global events and issues through these theoretical lenses.
CO2	**Knowledge of Key Concepts and Terminology:** Students will become familiar with important concepts and terminology in International Relations, including sovereignty, international institutions, power, diplomacy, globalization, conflict resolution, and more.
CO3	**Historical Perspective:** Explore the historical development of the international system, understanding the evolution of global politics and the impact of key events such as World Wars, the Cold War, and decolonization on international relations**.**
CO4	**Analysis of Global Actors:** Learn about the various actors in international relations, including states, international organizations, non-state actors (such as NGOs and multinational corporations), and how these actors interact on the global stage.
CO5	**Regional Expertise:** Develop expertise in specific regions of the world, such as Asia, Europe, the Middle East, or Africa, gaining insights into regional conflicts, alliances, and issues.
	SEMESTER-IV
Course Code	**CC-VIII**
Course Name	**Political Processes and Institutions in Comparative Perspective**
CO1	**Understanding of Political Beliefs and Values:** Understanding of the political beliefs, values, attitudes, and ideologies that shape individuals' and societies' political behavior.
CO2	**Comparative Analysis:** Comparative perspectives on political culture will be emphasized, allowing students to analyze and contrast the political cultures of different countries or regions.
CO3	**Understanding of Institutionalism:** Learn the foundational principles of political institutionalism, including the role of formal and informal institutions in shaping political behavior and outcomes.
CO4	**Policy and Governance:** Explore how institutions influence policy-making and governance, including the role of checks and balances, federalism, and electoral systems in shaping political outcomes.

CO5	**Application of New Institutionalism:** Apply new institutionalism theories to real-world case studies and contemporary political issues, developing problem-solving and analytical skills.
CO6	**Understanding of Electoral Systems:** Demonstrate a deep understanding of various electoral systems, such as first-past-the-post, proportional representation, and mixed systems. They should be able to analyse the strengths and weaknesses of each system and evaluate their impact on representation and governance.
CO7	**Knowledge of Party Systems:** Acquire knowledge about different types of party systems, such as two-party, multi-party, and dominant-party systems. They should be able to analyse the factors that influence the development and stability of party systems in different countries.
CO8	**Theoretical Foundations:** Demonstrate a solid grasp of the foundational theories of political parties, including classical theories (e.g., Duverger's law) and contemporary approaches (e.g., rational choice theory, social identity theory). They should be able to articulate the key concepts and assumptions of these theories.
CO9	**Historical Understanding:** Demonstrate a deep understanding of the historical evolution of nation-states, tracing their origins from the Treaty of Westphalia in 1648 to their development into the predominant form of political organization in the modern world.
CO10	**Comparative Analysis:** Students should be capable of conducting comparative analyses of democratization processes across different post-colonial and post-communist countries. They should identify common patterns and variations and apply relevant theories to explain these differences.
C011	**Conceptual Understanding:** Clear understanding of the concepts of federalism and confederation, including their definitions, key characteristics, and differences. They should be able to differentiate between these two forms of governance.
Course Code	**CC-IX**
Course Name	**Public Policy and Administration in India**
CO1	**Understanding Public Policy:** Deep understanding of the concept of public policy, including its definition, objectives, and the role of government in policy formulation and implementation.
CO2	**Public Policy Process:** Grasp the stages of the public policy process, from agenda setting and policy formulation to implementation, monitoring, and evaluation. They should identify the key actors and institutions involved in each stage.
CO3	**Decentralisation:** Clear understanding of the concept of decentralization and local self-governance, including their definitions, objectives, and significance in democratic governance.
C04	**Decentralization and Democracy:**

	Analyse the relationship between decentralization and democratic governance. They should examine how local self-governance enhances citizen participation, accountability, and representation.
C05	**Understanding Budgetary Processes:** Deep understanding of the budgetary process, including budget formulation, approval, execution, and evaluation. They should be familiar with the roles of different government agencies and actors in each stage**.**
C06	**Social Welfare Programs:** Examine specific social welfare programs, such as Education(Right to Education), healthcare(National Health Mission),Food(Right to Food Security) employment(MNREGA) and poverty alleviation initiatives etc. They should analyse the goals, design, and effectiveness of these programs.
CO7	**Theoretical Frameworks:** Students should be familiar with theoretical frameworks related to public service delivery, governance, and citizen engagement. They should understand the relevance of these theories in analysing real-world policies and practices**.**
CO8	**Right to Information (RTI):** Examine the significance of the Right to Information Act and its impact on government transparency. They should understand the process of filing RTI requests and the role of information commissions.
C09	**Lokpal and Ombudsman Institutions:** Study the role and functions of Lokpal and other ombudsman institutions in addressing corruption and maladministration in government. They should assess the effectiveness of these institutions.
C010	**Citizen's Charter:** Understand the concept of Citizen's Charter and its role in improving service delivery. They should evaluate the implementation of Citizen's Charters in different government departments.
C011	**e-Governance:** Examine the significance of e-Governance in improving government services and increasing citizen engagement. They should analyze the use of technology in government operations and service delivery.
Course Code	**CC-X**
Course Name	**Global Politics**
CO1	**Understanding Globalisation:** Clear understanding of the concept of globalization, including its definition, key drivers, and consequences. They should grasp the multifaceted nature of globalization, encompassing economic, political, social, and cultural dimensions.
CO2	**Global Economic Systems:** Understand the structure and functioning of the global economic system, including the roles of international organizations like the World Trade Organization (WTO), the International Monetary Fund (IMF), and the World Bank.
CO3	**Globalisation:Perspectives** • Develop a deep understanding of the concept of sovereignty, exploring its historical evolution and contemporary debates.

	• Analyse and evaluate current territorial disputes and conflicts, considering factors such as historical context, international law, and the role of state and non-state actors. • Gain an appreciation of cultural diversity and its impact on global interactions, including the role of culture in diplomacy, trade, and conflict resolution. • Graduates should be able to analyse the impact of technology on global politics, including issues related to cyber warfare, digital diplomacy, and the influence of social media on international relations. • Understand the emergence and significance of global social movements, such as environmental activism, human rights advocacy, and gender equality movements. • Graduates should be familiar with the functions and roles of non-governmental organizations (NGOs) in addressing global issues and facilitating global cooperation. • Develop a comprehensive understanding of global ecological challenges, including climate change, biodiversity loss, and resource depletion. • Able to assess international efforts to address ecological issues, including the Paris Agreement, Convention on Biological Diversity, and global environmental treaties. • Graduates should be prepared to apply an interdisciplinary approach, drawing on scientific, economic, and political perspectives to propose solutions to ecological problems.
CO4	**Contemporary Global Issues-I** • Develop a comprehensive understanding of the concept of nuclear proliferation, including its historical context, causes, and consequences. • Graduates should be familiar with major international treaties and agreements related to nuclear arms control and non-proliferation, such as the Nuclear Non-Proliferation Treaty (NPT) and the Comprehensive Nuclear-Test-Ban Treaty (CTBT). • Able to analyse the concepts of nuclear deterrence and security, including the role of nuclear weapons in international politics and their impact on conflict resolution. • Examine specific case studies of nuclear proliferation, such as the North Korean and Iranian nuclear programs, and assess the factors contributing to or hindering proliferation. • Capable of discussing and evaluating efforts and challenges related to nuclear disarmament, including the role of nuclear-armed states in disarmament initiatives. • Gain a deep understanding of the nature of terrorism, including its definitions, typologies, and root causes. • Analyse the role and motivations of non-state actors, such as terrorist organizations and insurgent groups, in international terrorism. • Explore the concept of state terrorism, including the use of state-sponsored violence against civilian populations, and critically assess its implications for international relations and human rights. • Understand the significant impact of the 9/11 terrorist attacks on global politics, including changes in U.S. foreign policy, the global war on terror, and the reshaping of international security dynamics. • Analyse the evolution of global terrorist networks, including Al-Qaeda, ISIS, and their affiliates, and their activities in different regions. • Examine international efforts to combat terrorism, including intelligence sharing, law enforcement cooperation, and the role of international organizations like the United Nations and INTERPOL.

	• Emphasis on the ethical and legal dimensions of counterterrorism policies and practices should be integrated into the curriculum, encouraging students to consider issues related to civil liberties, human rights, and the rule of law.
CO5	**Contemporary Global Issues -II** • Develop a comprehensive understanding of international migration dynamics, including the causes and consequences of migration, types of migration (e.g., forced, voluntary), and patterns of movement. • Familiar with the concept of human security and how it relates to migration. They should understand the various dimensions of human security, including economic, political, environmental, and social aspects. • Analyse the policies and governance structures that govern migration at the national and international levels, including immigration laws, border control measures, and international conventions like the Refugee Convention. • Explore the rights of migrants, including labour rights, access to healthcare, and protection from exploitation and discrimination. They should also understand the vulnerabilities faced by migrants. • Analyse the relationship between armed conflict, displacement, and migration, including the role of conflict in driving forced migration. • Students should consider the cultural, economic, and social impacts of migration on both host countries and countries of origin, including issues of identity, integration, and remittances. • Develop a nuanced understanding of global power structures and the shifting dynamics of power among states and non-state actors. • Graduates should be capable of analysing the rise of emerging powers and their impact on regional and global governance, including the role of BRICS countries, China, and other regional players. • Assess the effectiveness and limitations of international organizations and institutions (e.g., UN, IMF, WTO) in addressing global challenges, including issues related to trade, development, and peacekeeping. • Explore the role of transnational actors, such as multinational corporations, non-governmental organizations, and civil society groups,in shaping global governance and policy-making. • Critically analyse contemporary global governance challenges, such as climate change, global health crises, and cybersecurity, and propose innovative solutions. • Graduates should possess strong diplomatic and negotiation skills, as they are essential for engaging in international diplomacy and resolving global conflicts.
	SEMESTER-V
Course Code	**CCXI**
Course Name	**Western Political Philosophy**
CO1	**Plato and Aristotle** • **Mastery of Key Works:** Demonstrate a deep understanding of the major works of Plato and Aristotle, such as Plato's "The Republic" and Aristotle's "Politics." This includes familiarity with the central themes, arguments, and ideas presented in these texts. • **Philosophical Foundations:** Grasp the philosophical foundations of both Plato and Aristotle, including their metaphysical,

	epistemological, and ethical views, and how these underpin their political thought. • **Political Theories:** Elucidate the political theories of Plato and Aristotle, including Plato's ideas about the ideal state, philosopher-kings, and the nature of justice, as well as Aristotle's notions of citizenship, democracy, and constitutional government. • **Comparative Analysis:** Comparative analysis between the political philosophies of Plato and Aristotle, highlighting their similarities, differences, and evolving perspectives on governance and the state. • **Influence on Modern Political Thought:** Able to trace the lasting influence of Plato and Aristotle on modern political thought, including their impact on concepts like democracy, justice, and governance. • **Application to Contemporary Issues:** Apply the insights and principles of Plato and Aristotle to contemporary political issues, demonstrating how these ancient philosophers' ideas can still inform and enrich discussions on topics like democracy, justice, and the role of government. • **Ethical Considerations:** Explore the ethical dimensions of the political philosophies of Plato and Aristotle, including their views on virtue, the common good, and the ethical responsibilities of political leaders.
C02	**Machiavelli and Hobbes** • **Mastery of Key Works:** Demonstrate a deep understanding of the major works of Machiavelli and Hobbes, such as Machiavelli's "The Prince" and Hobbes's "Leviathan." This includes familiarity with the central themes, arguments, and ideas presented in these texts. • **Political Philosophical Foundations:** Grasp the foundational ideas in the political thought of Machiavelli and Hobbes, including their views on human nature, power, authority, and the state. • **Analysis of Political Realism:** Explain and analyse the realist perspective presented by Machiavelli and Hobbes, which emphasizes the importance of power, self-interest, and the role of force in politics. • **Comparative Analysis:** Capable of conducting comparative analyses between the political philosophies of Machiavelli and Hobbes, highlighting the similarities and differences in their views on governance, sovereignty, and the social contract. • **Influence on Modern Political Thought:** Identify and explain how the ideas of Machiavelli and Hobbes have had a lasting impact on modern political thought and contemporary discussions on topics like statecraft, authority, and power politics. • **Application to Contemporary Issues:** Apply the insights and principles of Machiavelli and Hobbes to contemporary political issues, demonstrating how these thinkers' ideas can still inform discussions on topics like state sovereignty, conflict resolution, and political leadership. • **Ethical Considerations:** Explore the ethical dimensions of Machiavelli's and Hobbes's political philosophies, including their views on morality, justice, and the ethics of statecraft.
C03	**Locke and Rousseau** • **Understanding of Key Concepts:** Articulate the fundamental concepts associated with Locke and Rousseau's political thought, such as the state of nature, social contract, natural rights, sovereignty, and the role of government**.** • **Comparative Analysis:** Compare and contrast the political philosophies of Locke and Rousseau, highlighting their similarities and differences in areas like human nature, the purpose of government, and the rights of individuals. • **Critical Thinking:** Develop critical thinking skills by critically evaluating the strengths and weaknesses of Locke and Rousseau's arguments, as well as their relevance to contemporary political issues.

	• **Application of Ideas:** Apply the principles and ideas of Locke and Rousseau to analyze and discuss real-world political scenarios and contemporary policy debates. • **Ethical Considerations:** Encourage ethical reflection by exploring the ethical implications of Locke and Rousseau's theories, such as questions related to individual rights, justice, and the common good. • **Historical Impact:** Understand the historical impact of Locke and Rousseau's ideas on the development of modern political thought and their influence on political institutions and movements. • **Synthesis of Ideas:** Encourage students to synthesize the ideas of Locke and Rousseau with other political philosophers and theories encountered throughout their program.
CO4	**J.S.Mill and Karl Marx** • **Comprehensive Understanding:** Deep understanding of the key concepts and ideas associated with the political thought of John Stuart Mill and Karl Marx, including concepts like utilitarianism, individual liberty, capitalism, socialism, and class struggle. • **Comparative Analysis:** Compare and contrast the political philosophies of Mill and Marx, highlighting their similarities and differences in areas such as the role of government, the nature of liberty, and their views on social justice. • **Historical Context:** Grasp the historical and intellectual context in which Mill and Marx developed their ideas, including the social and political conditions of the 19th century and the impact of the Industrial Revolution. • **Critical Evaluation:** Develop critical thinking skills by critically evaluating the strengths and weaknesses of Mill and Marx's arguments, as well as their relevance to contemporary political issues. • **Application of Ideas:** Apply the principles and ideas of Mill and Marx to analyse and discuss real-world political situations, policy debates, and social justice issues. • **Ethical Considerations:** Encourage ethical reflection by exploring the ethical implications of Mill and Marx's theories, including issues related to individual rights, economic justice and the role of the state. • **Historical Impact:** Understand the historical impact of Mill and Marx's ideas on the development of political thought, political movements, and the shaping of political institutions. • **Practical Applications:** Explore how the ideas of Mill and Marx have been applied in various political and social contexts, including their influence on policy-making and social movements. • **Global Perspective:** Encourage students to consider the global relevance of Mill and Marx's ideas by examining their impact on different societies and political systems.
Course Code	**CC-XII**
Course Name	**Indian Political Thought(Ancient and Medieval)**
CO1	**Traditions of pre-colonial Indian Political Thought(Brahmanic and Shramanic)** • Deep historical and philosophical understanding of the Brahmanic and Shramanic traditions in ancient India, including their origins, key

	beliefs, and philosophical underpinnings. • Compare and contrast the central tenets of Brahmanic and Shramanic traditions, including their views on the self, ethics, and the nature of reality. • Understand how these traditions have influenced and continue to influence Indian society, culture, and politics, including their role in shaping caste systems and social hierarchies. • Explore the relationship between religion and politics in ancient and modern India, including the ways in which these traditions have influenced political structures and governance. • Examine the ethical values and moral principles advocated by these traditions and their implications for governance, justice, and social order. • Appreciate the religious diversity within India and the coexistence of multiple religious traditions, including syncretic practices that blend elements of Brahmanic and Shramanic traditions.
C02	**Traditions of pre-colonial Indian Political Thought(Islamic and Syncretic)** • Comprehensive understanding of Islamic and syncretic religious traditions, including their historical development, theological beliefs, and practices. • Compare and contrast the key principles and beliefs of Islamic and syncretic traditions, including their approaches to spirituality, ethics, and religious diversity. • Examine the influence of Islamic and syncretic traditions on political thought, governance, and legal systems in regions where these traditions are prominent. • Explore the dynamics of interfaith relations, tolerance, and coexistence in areas where syncretic traditions have emerged through the blending of multiple religious influences. • Analyse the contemporary relevance of Islamic and syncretic traditions in addressing issues related to religious pluralism, multiculturalism, and political stability. • Develop critical thinking skills by critically evaluating the role of these traditions in both fostering inclusivity and potentially contributing to religious tensions and conflicts. • Consider the global impact of Islamic and syncretic traditions, including their influence on international relations, cultural exchange, and diplomacy.
CO3	**Vedvyasa(Shantiprava) and Manu** • Deep historical and philosophical understanding of Vedavyasa's "Shantiparva," including its origins, cultural context, and key philosophical concepts. • Explore the ethical and moral values advocated in the text, including principles of dharma (duty), justice, and governance, and their implications for political leadership and societal harmony. • Compare and contrast the ideas presented in "Shantiparva" with other political and ethical traditions, both within and outside of India. • Examine the text's perspective on the role of the state in upholding dharma and maintaining social order, as well as the relationship between rulers and subjects. • Analyse the text's treatment of gender roles, family structure, and social hierarchies and consider its impact on the historical development of Indian society and politics.

	• Understand how "Shantiparva" is situated within the broader religious and cultural context of Hinduism and its interactions with other religious traditions. • Comprehensive understanding of Manu's "Laws of Manu," including its historical significance, legal codes, and socio-cultural context. • Explore the legal and social norms presented in the text, including rules governing property, marriage, caste, and governance, and their implications for society and politics. • Compare and contrast the legal and ethical principles outlined in "Laws of Manu" with other legal traditions and codes, both ancient and modern. • Analyse the text's treatment of gender roles, the status of women, and social hierarchies, and consider how these norms have influenced historical and contemporary Indian society. • Examine the text's perspective on the authority of rulers and the duties of kings, as well as its influence on the development of political thought and governance in ancient India. • Develop critical thinking skills by critically evaluating the ethical and legal principles in "Laws of Manu" and their implications for issues related to justice, equality, and social order. • Understand the historical impact of "Laws of Manu" on legal systems, social structures, and political institutions in India, as well as its continued relevance and controversy.
CO4	**Kautilya,Barani and Aggannasutta** • Deep historical and philosophical understanding of Kautilya's "Arthashastra," including its origins, context, and key principles of statecraft and governance. • Explore the principles of statecraft, diplomacy, military strategy, and economic management outlined in the text, and understand their relevance to political leadership and governance. • Examine the text's perspective on the role of the state in maintaining order, collecting revenue, and promoting the welfare of the people, and consider its implications for modern governance. • Analyse the ethical considerations presented in the "Arthashastra," including discussions on ethics in statecraft, justice, and the limitations of power. • Comprehensive understanding of Barani's political writings, including their historical context, literary style, and thematic content. • Explore the medieval Indian political thought presented in Barani's writings, including discussions on statecraft, governance, and the relationship between rulers and subjects. • Examine the influence of religion and culture on Barani's political thought, including his views on the Islamic state and its interactions with non-Muslim subjects. • Develop a deep understanding of the "AggannaSutta" from the Buddhist scriptures, its religious and philosophical context, and its teachings. • Explore the text's unique perspective on the origin of society and its critique of social hierarchies and caste divisions. • Compare and contrast the teachings of the "AggannaSutta" with other creation myths and religious texts, as well as their implications for social and political structures. • Consider the potential for interfaith dialogue and the synthesis of Buddhist teachings with other religious and cultural traditions.

CO5	**Kabir and Abul Faza** • Develop a deep historical and cultural understanding of Kabir's life and times, including his socio-religious context and the Bhakti movement. • Explore Kabir's teachings of religious syncretism and his efforts to bridge the gap between different religious communities through his poetry and philosophy. • Analyse Kabir's social critique, including his views on caste-based discrimination, social inequality, and the role of religion in society. • Understand the historical and cultural impact of Kabir's teachings on Indian society, including his influence on later Bhakti and Sufi movements. • Comprehensive understanding of Abul Fazl's life and his role as a historian, scholar, and statesman in the Mughal court. • Explore Abul Fazl's writings on the Mughal Empire, its governance structures, policies, and the principles of Akbar's administration. • Analyse Abul Fazl's contributions to interfaith dialogue and his attempts to understand and appreciate the religious diversity of India during the Mughal era. • Understand the influence of Abul Fazl's historical works on the field of historiography in the Indian subcontinent and their contributions to the understanding of Indian history.
	SEMESTER-VI
Course Code	**CC-XIII**
Course Name	**Contemporary Political Philosophy**
CO1	**Lenin** • **Understanding Lenin's Ideological Contributions:** Develop a comprehensive understanding of Lenin's political and ideological contributions, including his role in shaping Marxist theory and adapting it to the conditions of Russia. • **Historical Context:** Gain insight into the historical context in which Lenin lived and worked, including the late 19th and early 20th century Russia, the Russian Revolution of 1917, and its aftermath. • **Impact on Political Movements:** Explore how Lenin's ideas and leadership influenced the course of history, including the spread of communism, the establishment of the Soviet Union, and the global impact of the October Revolution. • **Comparative Analysis:** Compare Lenin's ideas and strategies with other political thinkers and leaders, both within the socialist tradition and in the broader context of political philosophy. • **Political Theory and Practice:** Understand the relationship between Lenin's theoretical writings (such as "Imperialism, the Highest Stage of Capitalism" and "State and Revolution") and his practical actions as a revolutionary and statesman. • **Role in the Bolshevik Party:** Examine Lenin's role within the Bolshevik Party, his leadership style, and his contributions to the party's strategy and tactics. • **Legacy and Controversies:** Discuss the legacy of Lenin, including debates and controversies surrounding his leadership, the Red Terror, and his impact on subsequent political developments in Russia and globally.

CO2	**Mao Zedong(Mao Tse Tung)** • **Understanding Mao's Ideological Contributions:** Develop a comprehensive understanding of Mao Zedong's political and ideological contributions, including his interpretation and application of Marxism-Leninism to the Chinese context. • **Historical Context:** Gain insight into the historical context in which Mao lived and worked, including the early 20th-century China, the Chinese Civil War, and the founding of the People's Republic of China in 1949. • **Critical Analysis:** Develop critical thinking skills to evaluate Mao's ideas, policies, and actions. Students should be able to analyse and assess the impact of Mao's leadership on China and the world. • **Impact on Chinese Society and Politics:** Explore how Mao's ideas and policies transformed Chinese society, politics, and the economy, including the Great Leap Forward and the Cultural Revolution. • **Comparative Analysis:** Compare Mao Zedong's ideas and strategies with other political thinkers and leaders, both within the socialist tradition and in the broader context of political philosophy. • **Political Theory and Practice:** Understand the relationship between Mao's theoretical writings (such as "On Guerrilla Warfare" and the "Little Red Book") and his practical actions as a revolutionary leader and statesman. • **Role in the Chinese Communist Party:** Examine Mao's role within the Chinese Communist Party, his leadership style, and his contributions to the party's strategy and tactics. • **Legacy and Controversies:** Discuss the legacy of Mao Zedong, including debates and controversies surrounding his leadership, the human rights abuses during his rule, and his impact on contemporary Chinese politics. • **International Influence:** Explore Mao's influence on other revolutionary movements and political leaders worldwide and assess the global implications of his ideas.
CO3	**Antonio Gramsci** • **Understanding Gramsci's Theoretical Framework:** Develop a deep understanding of Gramsci's key concepts, including hegemony, civil society, the state, cultural Marxism, and the concept of the organic intellectual**.** • **Historical Context:** Gain insight into the historical context in which Gramsci lived and worked, including early 20th-century Italy, fascism, and the development of the Communist Party in Italy. • **Critical Analysis:** Develop critical thinking skills to analyse and evaluate Gramsci's ideas, writings, and contributions to political theory. • **Hegemony and Cultural Analysis:** Explore the concept of hegemony and its application in understanding power dynamics, cultural production, and ideological control within societies. • **Political Strategy and Tactics:** Understand Gramsci's views on political strategy and tactics, particularly his emphasis on the importance of winning cultural and ideological struggles as a prelude to political revolution. • **Comparative Analysis:** Compare Gramsci's ideas and theories with those of other political thinkers and leaders, both within the Marxist tradition and in the broader field of political philosophy. • **Applications in Contemporary Politics:** Analyse how Gramsci's ideas can be applied to contemporary political issues and movements, including debates about cultural politics, identity politics, and social movements. • **Legacy and Influence:** Discuss Gramsci's legacy and his impact on various academic disciplines, including political science, sociology, cultural studies, and critical theory.

	• **Historiography:** Explore how different scholars and researchers have interpreted Gramsci's work over time and gain an understanding of the evolving historiography surrounding him. • **Practical Applications:** Encourage students to consider how Gramsci's ideas can be practically applied in political activism, policy analysis, and social change efforts. • **Ethical Considerations:** Prompt discussions on the ethical dimensions of Gramsci's theories, including questions of power, resistance, and social justice.
CO4	**John Rawls** • **Understanding Rawls's Theory of Justice:** Develop a deep understanding of Rawls's core ideas, including the principles of justice as fairness, the original position, the veil of ignorance, and the difference principle. • **Historical Context:** Gain insight into the historical and intellectual context in which Rawls's work emerged, including the mid-20th century political philosophy landscape and the debates surrounding liberalism. • **Critical Analysis:** Develop critical thinking skills to analyse, evaluate, and critique Rawls's theories, as well as competing theories and criticisms of Rawlsian liberalism. • **Political Philosophy and Ethics:** Explore Rawls's contributions to political philosophy and ethics, including his ideas on distributive justice, the role of government, and the nature of a just society. • **Applications of Rawlsian Principles:** Examine how Rawls's principles of justice can be applied to contemporary political and social issues, such as wealth inequality, healthcare access, and global justice. • **Comparative Analysis:** Compare Rawls's theories with those of other political philosophers and thinkers, both within the liberal tradition and in the broader field of political thought. • **Rawls's Influence:** Explore the impact of Rawls's work on political theory, policy-making, and legal philosophy, both in the United States and internationally. • **Practical Ethics:** Consider how Rawls's principles can be practically applied in policy formulation, ethical decision-making, and political practice. • **Rawls and Multiculturalism:** Discuss Rawls's ideas in the context of multiculturalism and the challenges of justice in diverse societies. • **Rawls and Global Justice:** Explore Rawls's views on global justice, including issues related to international relations, human rights, and global economic inequality.
Course Code	**CC-XIV**
Course Name	**Modern Indian Political Thought**
CO1	**Rammohan Roy,Pandita Ramabai and Vivekananda** • **Understanding of Historical Context:** Deep understanding of the historical and social contexts in which Raja Ram Mohan Roy, Pandita Ramabai, and Swami Vivekananda lived and made significant contributions. • **Analysis of Ideologies:** Analyse the political and social ideologies advocated by these figures, such as religious reform, women's empowerment, and social justice.

	• **Impact on Indian Society and Politics:** Assess the impact of Raja Ram Mohan Roy, Pandita Ramabai, and Swami Vivekananda on Indian society and politics, including their influence on policy changes and public opinion. • **Critical Thinking and Analysis:** Critically evaluate the contributions and limitations of these historical figures in addressing the social and political challenges of their time. • **Gender and Social Justice:** Explore the contributions of Pandita Ramabai to the advancement of women's rights and education, as well as her advocacy for social justice. • **Religious and Cultural Context:** Delve into Swami Vivekananda's efforts to promote Hinduism and Indian spirituality on the global stage and its implications for India's cultural identity. • **Relevance to Contemporary Issues:** Examine the relevance of the ideas and principles advocated by these figures to contemporary political and social issues in India and beyond. • **Ethical and Moral Values:** Emphasize the ethical and moral values upheld by these figures, and how they can serve as inspirations for individuals engaged in politics and social reform.
CO2	**Gandhi and Ambedkar** • **Historical Context:** Deep understanding of the historical context in which Mahatma Gandhi and Dr. B.R. Ambedkar lived and worked. This includes the social, political, and economic conditions of British India during the 20th century. • **Ideological Frameworks:** Analyse and compare the ideological frameworks of Gandhi and Ambedkar, including their views on social justice, equality, human rights, and their visions for a just and equitable society. • **Role in Indian Freedom Movement:** Examine the significant roles played by Gandhi and Ambedkar in the Indian freedom movement, including Gandhi's leadership in the nonviolent struggle for independence and Ambedkar's advocacy for the rights of marginalized communities. • **Political Strategies:** Study the political strategies employed by Gandhi and Ambedkar, such as Gandhi's philosophy of Satyagraha (nonviolent resistance) and Ambedkar's focus on legal and constitutional reforms to address social inequalities. • **Leadership and Influence:** Assess the leadership styles and the extent of influence Gandhi and Ambedkar had on their respective followers and the broader political landscape of their time. • **Impact on Indian Society:** Analyse how the ideas and actions of Gandhi and Ambedkar influenced Indian society, politics, and culture, particularly in relation to issues of caste, untouchability, and social reform. • **Comparative Analysis:** Encourage students to conduct a comparative analysis of Gandhi and Ambedkar, examining their differing approaches to social justice, equality, and their impact on the post-independence Indian state. • **Ethics and Values:** Explore the ethical and moral values advocated by Gandhi, such as truth, non-violence, and self-reliance, as well as Ambedkar's emphasis on social justice, equality, and empowerment of marginalized groups.
CO3	**Tagore and Savarkar** • **Historical and Cultural Context:** Gain a deep understanding of the historical, cultural, and social contexts in which Rabindranath Tagore and Vinayak Damodar Savarkar lived and worked. This includes the late 19th and early 20th-century India under British colonial rule. • **Nationalism and Patriotism:** Examine Tagore's perspective on nationalism and patriotism, as expressed in his writings and his criticism of narrow or aggressive forms of nationalism.

	• **Role in the Indian Independence Movement:** Learn about Tagore's role in the Indian independence movement, his involvement in the Swadeshi Movement, and his interactions with political leaders of his time. • **Humanism and Universalism:** Explore Tagore's philosophical and ethical ideas, emphasizing humanism, universalism, and his belief in the unity of humanity. • **Political Ideology of Savarkar:** Study Vinayak Damodar Savarkar's political ideology, including his advocacy for Hindutva (Hindu nationalism) and his vision for India's cultural and political identity. • **Revolutionary Ideas and Actions:** Assess Savarkar's involvement in revolutionary activities against British colonial rule and analyze his role in the promotion of revolutionary nationalism. • **Comparative Analysis:** Encourage students to conduct a comparative analysis of Tagore and Savarkar, examining their differing perspectives on nationalism, cultural identity, and their influence on India's political discourse. • **Ethics and Values:** Explore the ethical and moral values advocated by Tagore, emphasizing the importance of human dignity, cultural diversity, and the arts as a means of social transformation. • **Cultural Identity and Nationalism:** Delve into how Tagore's emphasis on cultural pluralism and universalism contrasts with Savarkar's vision of a culturally homogenous India. • **Contemporary Relevance:** Consider the contemporary relevance of Tagore's humanistic and artistic ideals and Savarkar's ideas on cultural identity and nationalism in modern India.
CO4	**Nehru,Lohia and J.P.Narayan** • **Historical Context:** Gain a deep understanding of the historical context in which Jawaharlal Nehru, Ram Manohar Lohia, and Jayaprakash Narayan lived and worked. This includes the post-independence period in India. • **Political Thought and Ideologies:** Analyse and compare the political thought and ideologies of Nehru, Lohia, and JP Narayan. This includes Nehru's democratic socialism, Lohia's socialism and emphasis on social justice, and JP Narayan's advocacy for grassroots democracy. • **Leadership and Statesmanship:** Assess the leadership qualities and statesmanship of these three figures, considering their roles in shaping the political landscape of post-independence India. • **Role in Indian Politics:** Learn about the significant roles played by Nehru, Lohia, and JP Narayan in Indian politics, including Nehru's tenure as India's first Prime Minister, Lohia's contributions to socialist politics, and JP Narayan's leadership during the 1970s opposition movement. • **Economic Policies and Development:** Explore Nehru's economic policies, Lohia's ideas on economic decentralization, and JP Narayan's advocacy for rural development, and assess their impact on India's economic development. • **Social Justice and Inclusivity:** Examine Lohia's emphasis on social justice and his advocacy for marginalized communities, and JP Narayan's commitment to social inclusivity and political decentralization. • **Democracy and Political Activism:** Analyse the contributions of JP Narayan to democracy and political activism in India, particularly his role in the "Total Revolution" movement. • **Comparative Analysis:** Encourage students to conduct a comparative analysis of Nehru, Lohia, and JP Narayan, examining their differing approaches to governance, economic policies, and social justice. • **Legacy and Contemporary Relevance:** Consider the legacies of these leaders and assess their contemporary relevance in the context of

		modern Indian politics, governance, and social issues.

Program specific outcome (PSO) , B.A.- Hindi

कार्यक्रम विशिष्ट परिणाम , (स्नातक - हिंदी)

इस कार्यक्रम के परिणाम का उद्देश्य स्नातक स्तर के तहत हिंदी ऑनर्स के संपूर्ण शैक्षणिक कार्यक्रम के लिए सीखने के उद्देश्यों और लक्ष्यों का वर्णन करना है।
स्नातक के दौरान विद्यार्थी निम्नलिखित विषयों के बारे में जान सकेंगे।

PSO-01	**हिंदी भाषा और हिंदी साहित्य की उत्पत्ति के बारे में जानना।**
PSO-02	**हिंदी साहित्य के विभिन्न विधाओं और लेखन को उजागर करना।**
PSO-03	**साहित्य और सामान्य रूप से जीवन पर इसके प्रभाव पर आलोचनात्मक दृष्टिकोण विकसित करना।**
PSO-04	**समृद्ध हिंदी शब्दावलियों की जानकारी।**
PSO-05	**औपचारिक लेखन और प्रस्तुति कौशल विकसित करना।**

COURSE OUTCOME (पाठ्यक्रम परिणाम)

SEMESTER – I

Core – I : हिंदी साहित्य का इतिहास (भाग - 1)

1. हिंदी साहित्य का प्रारंभिक स्तर का ज्ञान, प्रमुख इतिहास ग्रंथों की जानकारी तथा समाज के विषम परिस्थितियों का ज्ञान मिलता है।
2. सामाजिक समस्याओं को समझा जा सकता है।
3. जाति, धर्म से ऊपर उठकर मानवीयता पर बल देने का ज्ञान मिलता है।
4. देश प्रेम की भावना के साथ साथ एकता का भाव भी जागृत होता है।
5. भाषा, संस्कृति, कला की जानकारी होने के साथ साथ इसके महत्व को समझा जा सकता है।

Core-2: भक्तिकालीन हिंदी कविता [निर्गुण एवं राम भक्तिधारा]

1. जातिगत एवं धर्मगत भेद भाव को मिटाते हुए अनेकता में एकता का ज्ञान मिलता है।
2. भारतीय समाज में फैली अंध विश्वास को मिटाने का तथा तर्क संगत समाजिक समाज की स्थापना का ज्ञान मिलता है।
3. लौकिक प्रेम को अलौकिक रूप देना. अर्थात निःस्वार्थ प्रेम ही ईश्वर प्राप्ती का साधन बताया गया है।
4. तुलसीदास के भरत महिमा के माध्यम से भातृ प्रेम का उत्कृष्ट उदाहरण प्रस्तुत किया गया है।
5. राम के चरित्र के माध्यम से आदर्श व्यक्तित्व के निर्माण का ज्ञान मिलता है।

SEMESTER-2

Core-3 : [हिंदी साहित्य का इतिहास भाग-2]

1. आधुनिक काल के परिस्थितियों का परिचय मिलने के साथ साथ महापुरुषों द्वारा किए गये समाज सुधार कार्यों से प्रेरणा मिलती है ।
2. हिंदी गद्य के विकास का ज्ञान मिलता है।
3. राष्ट्र प्रेम की भावना तथा ईश्वर प्रेम की अपेक्षा मानवीय प्रेम पर बल दिया जाता है।
4. कुप्रथाओं का विरोध तथा नारी के सम्मान पर बल दिया जाता है।
5. प्रेम की पवित्रता, प्रकृति से प्रेरीत होना तथा बदलते हुए सामाजिक परिस्थितियों में मानवीय सम्बंधों को समझने का ज्ञान मिलता है ।

Core 4: [कृष्ण भक्ति एवं रीतिकालीन कविता]

1. इसमें यह बताया गया है कि आडम्बर विहिन निःस्वार्थ प्रेम ही मानव को ईश्वर के साथ जोड़ता है।
2. सुरदास के भ्रमरगीत में ज्ञान की अपेक्षा प्रेम पर अधिक बल दिया गया है । इसमें प्रेम भावना की मनोविज्ञान को समझने का ज्ञान मिलता है ।
3. रीतिकाल के स्वरूप का परिचय मिलता है।
4. बिहारी के भक्ति परक पदों में भक्ति एवं शास्त्रियता का परिचय मिलता है ।
5. घनानंद के पदों में प्रेम के महत्व के बारे में समझने को मिलता है ।

Semester-3

Core-5: [अनुवाद सिद्धांत]

1. अनुवाद का अर्थ एवं अनुवाद के बारे में समझना ।

2. अनुवाद करने की विधि को समझना ।
3. अनुवाद के विभिन्न प्रकार को समझना ।
4. अनुवाद के विभिन्न सिद्धांतों की जानकारी प्राप्त करना ।
5. अनुवाद की उपयोगिता एवं उसकी व्यापकता के बारे में जानकारी प्राप्त करना ।

Core – 6 : हिंदी कथा साहित्य (उपन्यास)

1. उपन्यास के उद्भव के साथ साथ उसके विकसित रूप को भी जान सकते हैं।
2. उपन्यास क्या है और उसका समाज में क्या महत्व है, यह जान सकेंगे।
3. समाज के विभिन्न समस्याओं उपन्यास के माध्यम से जाना जा सकता है।
4. साहित्यिक रचनाओं के माध्यम से स्त्री समस्या के बारे में जागरूक होना।
5. पारिवारिक समस्या एवं बालमनोविज्ञान को समझना।

Core-7: [हिंदी कथा साहित्य [कहानी]

1. कहानी के उद्भव और विकास की जानकारी प्राप्त की जा सकती है।
2. कहानी हिंदी साहित्य की एक विधा है । यहां छोटे छोटे विषयों में समाज के विभिन्न अंगों का परिचय प्राप्त होता है ।
3. ऐतिहासिक एवं सामाजिक विषयों से प्रेम, विश्वास एवं दारिद्रय की समस्या को समझना।
4. मानव जीवन की विविधता से परिचित होना ।
5. ऐतिहासिक एवं सांस्कृतिक विषयों का ज्ञान प्रप्त करना ।

Semester-4

Core-8: [कथा ईतर गद्य साहित्य]

1. रेखाचित्र, संस्मरण एवं जीवनी साहित्य के विकास को समझना ।
2. आत्मकथा हिंदी साहित्य की एक विधा है। यहां व्यक्ति अपने जीवन की कथा स्वयं लिखता है। इस विधा के विकाश क्रम को समझना ।
3. संस्मरण यानी किसी घटणा, विषय या व्यक्ति विशेष को याद करते हुए रचना प्रस्तुत करना एवं रेखाचित्र यानी किसी घटना, विषय या व्यक्ति विशेष के जीवन का रेखांकित करते हुए रचना प्रस्तुत करना आदि विषय को उदाहरण सहित समझना ।
4. समाज एवं जीवन के किसी विषय को विस्तार से जानना ।
5. चरित्र निर्माण एवं कर्मठता का ज्ञान मिलता है ।

Core-9: [आधुनिक हिंदी कविता भाग-1]

1. ऐतिहासिक विषयों को आधुनिक विचारधाराओं के साथ प्रस्तुत किया गया है ।

2. मनुष्य की भाव संवेदना को समझने की कला विकसित होती है।

3. निराला की कविताओं से प्रकृति के सौंदर्य तथा दरिद्रता से उत्पन्न समस्याओं की जानकारी मिलती है ।

4. पंत की कविताओं में प्रकृति का अदभुत सौंदर्य का दर्शन समझने को मिलता है।

5. महादेवी वर्मा की कविताओं में दुःख, वेदना तथा प्रेम और स्नेह भाव का परिचय मिलता है । इसे पढ़कर पाठक अधिक संवेदनशील होता है ।

Core-10: [भाषा विज्ञान एवं हिंदी भाषा]

1. भाषा के विभिन्न अव्ययों से परिचित होना ।

2. सभ्यता के विकास में भाषा के महत्वपूर्ण भूमिका के बारे में जानना ।

3. भाषा परिवर्तन के कारणो के बारे में समझ विकसित होना ।

4. हिंदी भाषा के आधुनिक रूप, उसके मानकीकरण एवं भारतीय समाज में हिंदी भाषा के महत्व के बारे में जानना ।

5. यह समस्त जानकारी भाषा के विकास में महत्वपूर्ण भूमिका निभाती है तथा हिंदी भाषा के सतत विकास में सहायक होती है ।

Semester-5

Core-11 : [हिंदी नाटक और रंगमंच]

1. हिंदी नाटक के इतिहास, उद्भयव तथा उसके विकास की जानकारी मिलती है ।

2. भारतीय रंगमंच की जानकारी मिलती है।

3. पाश्चात्य रंगमंच की जानकारी मिलती है ।

4. मोहन राकेश द्वरा प्रस्तुत आषाढ़ का एक दिन नाटक में प्रेम, सामाजिक सम्बंध एवं व्यक्तियों की मानसिक स्थितियों के बारे में बताया गया है ।

5. पाठक इन समस्त विषयों से सामाजिक जीवन की कला एवं समाज के सूक्ष्म विषयों से परिचित होता है ।

Core-12: [भारतीय काव्यशास्त्र]

1. काव्य का शास्त्रीय ज्ञान मिलता है । यहां पाठक काव्य के विभिन्न सिद्धांतों से परिचित होता है ।

2. कविता का अर्थ, काव्य की आवश्यकता एवं शब्दों के माध्यम से भाषा शैली का ज्ञान प्रप्त करते हैं ।

3. रस सिद्धांत में विभिन्न काव्य रसों की जानकारी मिलती है.

4. रीति सिद्धांत एवं अलंकार सिद्धांत की जानकारी मिलती है ।

5. छंदों की जानकारी मिलती है, जो कविता को गति एवं लय प्रदान करने का काम करता है ।

DSE-1: [तुलसीदास]

1. तुलसीदास के समय के सामाजिक, राजनैतिक, धार्मिक एवं आर्थिक परिस्थितियों की जानकारी मिलती है।

2. तुलसी साहित्य में तथा तत्कालीन समाज में नारी सम्बंधि मनोभावों की जानकारी होती है।

3. तुलसी दास की भक्ति भावों की जानकारी के साथ साथ भक्ति के विभिन्न सोपानो का पता चलता है ।

4. तुलसी के साहित्य में समन्वय भाव का ज्ञान मिलता है ।

5. विनय पत्रिका एवं रामचरितमानस में निहीत भक्ति, शील, सौंदर्य एवं मर्यादा के महत्व का पता चलता है ।

DSE-2: [प्रेमचंद]

1. प्रेमचंद के व्यक्तित्व एवं कृतित्व का परिचय देखने को मिलता है ।

2. प्रेमचंद के साहित्य से तत्कालीन सामाजिक, राजनैतिक एवं आर्थिक परिस्थितियों का ज्ञान प्राप्त होता है ।

3. प्रेमचंद उपन्यास में निहीत भारतीय किसानो की दयनीअ स्थिती की जानकारी मिलती है ।

4. प्रेमचंद के उपन्यास में देश प्रेम की भावना तथा स्वतंत्रता आंदोलन की जानकारी मिलती है ।

5. प्रेमचंद के कथा साहित्य में आदर्शोन्मुखि यथार्थवाद का परिचय मिलता है ।

Semester-6

Core-13 : [आधुनिक हिंदी कविता भाग-2]

1. काव्य और समाज के सम्बन्ध को जानना और काव्य के महत्व को समझ पाना । **2.** कविताओं में राष्ट्रप्रेम की भावना की झलक देखने को मिलती है ।

3. आधुनिक हिंदी कविता के माध्यम से एक मानवतावादी दृष्टिकोण बन सकती है । **4.** जन्म भूमि के प्रति आकर्षण को बढ़ाने में कविताओ के योगदान को देख सकते हैं।

5. समस्त कविताओं के पठन-पाठन से मानवतावादी विचारों का बोध होता है।

Core-14 : [पाश्चात्य काव्यशास्त्र]

1. कविता साहित्य के क्षेत्र में पाश्चात्य दर्शन का महत्व उल्लेखनीय है। प्लेटो के अनुकरण सिद्धांत से पाठक कविता के आदर्श रूप से परिचित होते हैं ।

2. अरस्तु के काव्य सिद्धांत से पाठक मनुष्य के दुःख एवं मनोविकारों के शमन के लिए कविता की उपयोगिता को समझते हैं।
3. कविता साहित्य का सम्बंध भाषण कला से भी है । पाठक यहां उत्कृष्ट विचारों को व्यक्त करने की कला जानते हैं ।
4. पाश्चात्य काव्य शास्त्र में पाठक कला, उसके पीछे का दर्शन और उसके मूल्य को समझते हैं ।
5. पाश्चात्य काव्यशास्त्र के सिद्धांतों से सामाजिक, आर्थिक एवं वैचारिक सुधार का ज्ञान मिलता है ।

DSE-3 : [कार्यालयी हिंदी]

1. राजभाषा हिंदी के सांविधानिक अधिनीयमों की जानकारी मिलती है ।
2. सरकारी पत्र व्यवहार एवं सरकारी पत्राचार की जानकारी मिलती है।
3. हिंदी भाषा में कम्प्युटर के प्रयोग की जानकारी मिलती है।
4. प्रशासनिक शब्दावली की जानकारी मिलती है ।
5. यह पाठ्यक्रम राजभाषा हिंदी के विकाश एवं उसके प्रयोग में सहायक होती है।

DSE-4 : [परियोजना कार्य]

1. लघु शोध प्रवंध की तैयारि की जानकारी मिलती है ।
2. शोध हेतु अनेक पुस्तकों के पठन-पाठन से ज्ञान का विस्तार होता है ।
3. शोध प्रक्रिया की जानकारी मिलती है।
4. शोध कार्यो से छात्रों की रचनात्मक क्षमता बढ़ती है ।
5. शोध कार्यों से साहित्य का विकास एवं विस्तार होता है

PROGRAM SPECIFIC OUTCOME: B.A Home Science

Program outcome describe what students are expected to know and would be able to do by the time of graduation. These relate to the skills, knowledge and behaviours that students acquire as they progress through the program.

PSO1	**Knowledge of Home science:** After completion of the B.A Home Science Degree Program, the students be able to: • Comprehend the different nomenclature including the classification and composition, functions and deficiency diseases and RDA of various nutrients. • Understand the science and technology that enhance the quality of life in day to day life and provide guidelines for the therapeutic nutrition. • Profound the knowledge about the symptoms, cause, treatment and dietary modification of different diseases (CVD, Renal diseases, gastro-diseases and infectious diseases)
PSO2	**Understanding the entrepreneurial skills:** The students would be able to: • Acquire professional and entrepreneurial skills for economic empowerment of self in particular and of community in general. • Understand the basic knowledge about the space management, principles of design and elements of designs enhance the quality of life. • Demonstrate the concepts of work simplification, fatigue and drudgery.
PSO3	**Competence in Professional skills:** The students should be able to: • Develop professional skills in food, nutrition, textiles, housing, product making etc. Take science from the laboratory to the people. • Demonstrate and understand the need and demand of human being as per their needs such as therapeutic condition, space management, interior decoration and development of communication and innovative skills.
PSO4	**Proficiency in Communication:** Students should be able to: • Competence in public speaking, writing and inter personal skills. Development of critical sensitivity towards community issues and process. • Apply the communication concepts to motivate people and take leadership towards community issues and challenges.
PSO5	**Proficiency in Managerial and financial skills:** The students should be capable to: • Acquire basic management skills for organising events, resource mobilization, leading community- based projects etc. • Understand the basic concepts of saving, income, expenditure, budget making and record keeping.

Name of the Programme: B.A Home Science			
Course Code	**Course Name**	**Course Outcome**	
SEMESTER I			
CC1	**Human Development I**	**CO1**	Define human development. Elaborate the scientific studies of child development
		CO2	Describe the birth process and care of new born.
		CO3	Illustrate the motor development of an infant.
		CO4	Explain the emotional development in infancy and pre-school development.
		CO5	Enumerate the cognitive development during middle childhood years.
		CO6	Discuss how language development take place during middle childhood years.
		CO7	Define conception and pregnancy and its complications.
		Practical	Prepare a poster to show different emotions of pre-school children (pleasant and unpleasant)
			Prepare a questionnaire to check different cognitive development of pre-school children.
CC2	**Food and Nutrition**	**CO1**	Define protein, its classification and functions.
		CO2	Understand the classification and functions and sources of carbohydrates.
		CO3	Distinguish fat soluble vitamins and water-soluble vitamins.
		CO4	Describe the classification and functions of fat.
		CO5	Describe the function, sources and deficiency of vitamin A.
		CO6	State the functions, sources and deficiency of calcium.
		CO7	Illustrate the functions, sources and deficiency of vitamin D.
		CO8	state the functions, sources and deficiency of vitamin C.
		practical	Conduct an experiment on weights and measure of different cereals products (raw and cooked)
			Prepare on bakery product to understand the principles of cooking and nutritional quality of food.
SEMESTER II			
CC3	**Extension Education**	**CO1**	State extension education. Describe the programmes of extension education in home science.
		CO2	Enumerate the role of an extension worker and need for home science extension.
		CO3	Distinguish the types of audio-visual aids.

		CO4	Describe the contribution of audio-visual aids, use and preparation of aids.
		CO5	Discuss the major elements involved in extension process.
		CO6	Understand the scope and limitations of community development, the problems of community work.
		CO7	Define individual teaching method and selection of appropriate methods.
		Practical	Prepare a poster on women empowerment.
			Prepare a project report within one thousand words on child and maternal health issues.
CC4	**Family Resource Management**	**CO1**	Define management process and its steps of management process.
		CO2	Enumerate the decision making and its steps to make decision.
		CO3	State decision making and types of decision making.
		CO4	Define resource and the types of resources.
		CO5	Illustrate the factors affecting utilization of resources.
		CO6	Define income and types of income.
		CO7	Define budget and factors affecting budgeting.
		CO8	Discuss work simplification.
		Practical	Prepare a case study of an entrepreneur showing the SWOT analysis
			Prepare a case study of an women entrepreneur showing SWOT analysis.
SEMESTER III			
CC5	**Textile**	**CO1**	Discuss the classification of textile fibres.
		CO2	Illustrate the properties of cotton fibres.
		CO3	Describe the properties of silk fibres.
		CO4	Discuss the properties of wool fibres.
		CO5	Define the properties of man-made fibres.
		CO6	Enumerate the steps of yarn formation.
		CO7	Understand the different parts of loom.
		CO8	Define dyeing and types of dyes.
		Practical	Conduct an experiment on fibre identification test (visual, burning and microscopic)
			Conduct an experiment on thread count of cotton fibre.
CC6	**Dynamics of Communication**	**CO1**	Define communication and nature of communication.
		CO2	Discuss the different functions of communication.
		CO3	Enumerate the elements and its characteristics of communication.

		CO4	Understand the Berlo's model of communication.
		CO5	State Shannon and Weaver model of communication.
		CO6	Define the concept and elements of diffusion process.
		Practical	Group discussion among small group students
			Write a short story related to health and nutrition conveying a message to the society.
CC7	**Personal Finance and Consumer Studies**	**CO1**	Define income. Illustrate the types of income.
		CO2	Discuss the factors affecting income of a family and importance and need for supplementing family income.
		CO3	State expenditure and factors affecting expenditures.
		CO4	Define budget, types and characteristics of budget.
		CO5	Illustrate the significance and steps of budget making.
		CO6	Write about record keeping and importance of record keeping.
		CO7	Describe the classifications of records.
		CO8	Define saving. Illustrate the need and importance of saving.
		CO9	Enumerate the types of saving and its advantages.
		CO10	Define consumer and role of consumer.
		Practical	Evaluate the advertisements in print media.
			Evaluate the labels on different types of food products (any three)
SEMESTER IV			
CC8	**Human Development II**	**CO1**	Define puberty, puberty growth spurt and changes at puberty.
		CO2	Discuss the characteristics of early adulthood.
		CO3	Define adolescent and the physical changes during adolescent.
		CO4	State adolescent and the emotional changes during adolescent.
		Practical	Prepare a questionnaire to study the responsibilities of an adult as father.
			Prepare a questionnaire to study the responsibilities of an adult as single parent.
CC9	**Nutrition: Alife Cycle Approach**	**CO1**	Define food exchange list and elaborate the food groups.
		CO2	Discuss the factors affecting meal planning.
		CO3	Define RDA, nutritional guidelines and food choices for infants.
		CO4	Enumerate RDA, nutritional guidelines and food choices for pregnant women.

		CO5	Write about RDA, nutritional guidelines and food choices for lactating women.
		CO6	Definenutritional guidelines and food choices and RDA of adolescent.
		Practical	Plan and prepare a diet for pregnant woman.
			Plan and prepare a diet for lactating woman.
CC10	**Fashion Design**	**CO1**	Understand the factors affecting selection of clothing.
		CO2	Elaborate the elements and principles of design.
		CO3	Explain the origin and functions of clothing.
		CO4	Write about any two of each from sleeves, neckline, collars and pockets.
		Practical	Prepare any two flat sketching from sleeves and neckline.
			Prepare any two flat sketching from collars and pockets.
SEMESTER V			
CC11	**Therapeutic Nutrition**	**CO1**	Define the cause, symptoms, treatment and dietary modification of eating disorder (anorexia nervosa and bulimia).
		CO2	Write about the cause, symptoms, treatment and dietary modification of type-2 Diabetes Mellitus.
		CO3	Distinguish between clear fluid, full fluid, soft and regular diet.
		CO4	Differentiate between overweight, obesity and underweight.
		CO5	Discuss the cause, symptoms, treatment and dietary modification of infective Hepatitis.
		CO6	Define the incubation period, mode of infection, cause and symptoms of HIV.
		CO7	Elaborate the cause, symptoms, treatment and dietary modification of Tuberculosis.
		Practical	Plan and prepare a clear fluid diet.
			Plan and prepare a diet for vtype-2 Diabetes Mellitus.
CC12	**Physiology and Promotive Health**	**CO1**	Describe the structure and functions of heart.
		CO2	Describe the structure and functions of lungs.
		CO3	Define the structure and functions of kidney.
		CO4	illustrate the structure and functions of male reproductive system.
		CO5	Enumerate the structure and functions of female reproductive system.
		CO6	Elaborate family planning and different methods of contraception.
		CO7	Describe the actions and disorders and structure of pituitary gland.

		CO8	Discuss the physiology of menstrual cycle and menopause.
		CO9	Elaborate the risk factors and prevention of anaemia.
		Practical	Prepare a case study on anaemia patient.
			Conduct a basic First Aid procedure for Burns.
SEMESTER VI			
CC13	**Research Methodology in Home Science**	**CO1**	Define research methodology and discuss descriptive and analytical type of research methodology.
		CO2	Distinguish between Quantitative and Qualitative research methodology.
		CO3	Describe the different types of sampling procedures.
		CO4	Analyse the different tools and techniques of data collections.
		CO5	Briefly discuss the different process of research.
		Practical	Prepare a questionnaire on a topic.
			Prepare a pilot study by applying exploratory research method.
CC14	**Socio Economic Environment**	**CO1**	Define utility and laws of utility.
		CO2	Discuss the scope of economics.
		CO3	Enumerate the Engel's law of consumption.
		CO4	Discuss the issues related to gender discrimination= IMR, MMR, Sex ratio and literacy.
		CO5	Elaborate the classification and characteristics of wants.
		CO6	Describes the objectives and achievements of development programmes of Government of India.
		Practical	Prepare a project on gender discrimination.
			Prepare a project on current economic issues

PROGRAM SPECIFIC OUTCOME: BSc Zoology

The department of Zoology is determined to nurture its student and other followers in concerned subjects and create qualified entrepreneurs and employable graduates who would be able to excel in career with aptitude and skill and also to encourage individuals having innovative ideas and necessary trainings to initiate unique start-ups. The programme will help to create young and enthusiastic leaders with win-win attitude to serve the society and nation with their hard work keeping humanity into a major concern.

Program-Specific Outcomes (PSOs) are statements that describe the expected knowledge, skills, and abilities that students should acquire upon completion of an undergraduate program

- To enable students to better understand life and need of every single life for sustainable existence of human beings and the whole earth.
- To enable students with individual attentions and repetitions (as per need by students) of every experiments in laboratory.
- To encourage students for creating employments for others using various branches of zoology
- To care about environment and its components as and when human involvement is required.
- To strengthen students for effective communication skills and problem solving nature through their project.
- Encouraging students to be the part of solution and not problem.

COURSE OUTCOMES

SEMESTER I	
DSC(Discipline specific course)	**DSC I**
Course Name	**Non chordates 1-protista to pseudocoelomates**
CO1	**Understanding Diversity:** Upon completion of this course, students will be able to describe and classify the major non-chordate animal groups from Protista to Pseudocoelomates, including characteristics.
CO2	**Anatomy and Physiology:** Students will gain a comprehensive understanding of the anatomical structures and physiological processes unique to each non-chordate group, enabling them to identify key adaptations for survival and reproduction.
CO3	**Life Cycles and Reproduction:** By the end of this course, students will be able to compare and contrast the reproductive strategies and life cycles of various non-chordate organisms, including asexual and sexual reproduction, metamorphosis, and developmental stages.
CO4	**Feeding Strategies and Nutrition:** Students will be able to analyse the diverse feeding strategies used by non-chordates, including filter-feeding, predation, herbivory, and parasitism, and understand how these strategies relate to their ecological roles.
DSC(Discipline specific course)	**DSC-II**
Course Name	**Principles of Ecology**
CO1	**Introduction to Ecology:** Upon completing this course, students will be able to define and explain the fundamental principles, scope, and importance of ecology in understanding the interactions between organisms and their environments.
CO2	**Ecosystem Structure and Function:** Students will be able to analyse and describe the

	components of ecosystems, their roles, and the flow of energy and matter within ecosystems.
CO3	**Population Ecology:** By the end of the course, students will understand the dynamics of populations, including growth, regulation, and the factors that influence population size and structure.
CO4	**Community Ecology:** Students will be able to analyse the composition and diversity of ecological communities, and understand the mechanisms that drive species interactions, including competition, predation, mutualism, and succession.
CO5	**Research and Data Analysis:** This course will enable students to design ecological experiments, collect and analyse ecological data, and effectively communicate their findings.
SEMESTER II	
DSC(Discipline specific course)	**DSC-III**
Course Name	**Non-Chordates II: Coelomates**
CO1	**Classification and Diversity:** Upon completing this course, students will be able to classify and describe the diversity of coelomate invertebrates, including their major phyla, evolutionary relationships, and key characteristics.
CO2	**Anatomy and Morphology:** Students will gain a comprehensive understanding of the anatomical structures and morphological features of coelomate invertebrates, enabling them to identify and differentiate between various taxa.
CO3	**Physiological Adaptations:** By the end of the course, students will be able to explain the physiological adaptations of coelomate organisms to their specific environments, including respiration, circulation, excretion, and nervous systems.
CO4	**Behaviour and Sensory Systems:** This course will equip students with the ability to describe the behavioural patterns, sensory adaptations, and communication methods used by coelomate invertebrates for navigation, foraging, and reproduction.
CO5	**Reproduction and Development:** Students will be able to compare and contrast the reproductive strategies, life cycles, and embryological development of coelomate invertebrates, including the role of larval stages and metamorphosis.
CO6	**Evolutionary History:**By the end of the course, students will be able to interpret the evolutionary history of coelomate invertebrates, understand their phylogenetic relationships, and recognize key events in their evolutionary development.
DSC(Discipline specific course)	**DSC-IV**
Course Name	**Cell Biology**
CO1	**Fundamental Cell Concepts:** Upon completing this course, students will be able to define and explain the fundamental concepts in cell biology, including the cell theory, cell structure, and the role of cells in living organisms.
CO2	**Cell Structure:** Students will gain a comprehensive understanding of the structures and organelles within a eukaryotic cell, including the plasma membrane, nucleus, endoplasmic reticulum, Golgi apparatus, mitochondria, and other cellular components
CO3	**Cellular Membranes and Transport:** Students will understand the structure and functions of cellular membranes, including the processes of passive and active transport, and how these mechanisms maintain cellular homeostasis.
CO4	**Cell Division and the Cell Cycle:** This course will equip students with the ability to

	describe the stages of the cell cycle, mitosis, and meiosis, and understand the importance of cell division in growth and repair.
SEMESTER III	
DSC(Discipline specific course)	**DSC-V**
Course Name	**Diversity and distribution of Chordates**
CO1	**introduction to Chordates:** Upon completing this course, students will be able to define chordates and understand their distinctive characteristics, evolutionary history, and their place within the animal kingdom.
CO2	**Major Chordate Groups:** Students will gain a comprehensive understanding of the major groups of chordates, including vertebrates and invertebrate chordates, and be able to describe their unique features and evolutionary relationships.
CO3	**Chordate Anatomy and Morphology:** By the end of the course, students will be able to analyse the anatomical structures and morphological features of different chordate organisms, from notochords to vertebral columns, and understand their functional significance
CO4	**Chordate Physiology:** Upon completion of the course, students will be able to explain the physiological adaptations of chordates to their specific environments, including circulatory, respiratory, and nervous systems.
CO5	**Reproduction and Development:** Students will be able to compare and contrast the reproductive strategies, life cycles, and embryological development of various chordate groups, including viviparity, oviparity, and metamorphosis.
CO6	**Chordate Evolutionary History:** Students will be able to interpret the evolutionary history of chordates, from their early ancestors to the diversification of vertebrates, and recognize key milestones in their evolutionary development.
DSC(Discipline specific course)	**DSC-VI**
Course Name	**Physiology: Control and coordination system**
CO1	**Introduction to Control and Coordination:** Upon completing this course, students will be able to define control and coordination systems, understand their significance in physiology, and describe their key components, control of muscle contraction, motor neurons, and the coordination of voluntary and involuntary movements.
CO2	**Endocrine System Fundamentals:** By the end of the course, students will be able to describe the endocrine system, including the major endocrine glands, hormones, and their mechanisms of action
CO3	**Reproductive Physiology:** Upon completing this course, students will be able to explain the fundamental concepts and importance of reproductive physiology and its role in the perpetuation of species,anatomy and development of male and female reproductive organs, including their structures and functions.
DSC(Discipline specific course)	**DSC-VII**
Course Name	**Fundamentals of Biochemistry**
CO1	**Introduction to Biochemistry:** Upon completing this course, students will be able to explain the significance of biochemistry in understanding the molecular basis of life, its interdisciplinary nature, and its applications in various scientific fields.
CO2	**Chemical Structures of Carbohydrates:** Students will gain a comprehensive understanding of the chemical structures of carbohydrates, including monosaccharides, disaccharides, and polysaccharides, and be able to identify their functions in living organisms.
CO3	**Lipid Structure and Classification:** Students will be able to describe the structure and

	classification of lipids, including triglycerides, phospholipids, and sterols, and understand their roles in cell membranes, energy storage, and hormone production.
CO4	**Protein Structure:** Students will gain a comprehensive understanding of protein structure, including primary, secondary, tertiary, and quaternary structures, and be able to identify key features of each level of protein organization. Students will be able to explain the forces and factors that drive protein folding, stability, and denaturation, and understand the importance of proper folding for protein function.
CO5	**Structure of Nucleic Acids:** Students will gain a comprehensive understanding of the molecular structure of nucleic acids, including the sugar-phosphate backbone, nitrogenous bases, and the formation of nucleotides.
CO6	**Introduction to Enzymes:** Upon completing this course, students will be able to define what enzymes are, explain their significance in biological systems, and understand their role in catalyzing biochemical reactions**.**
SEMESTER IV	
DSC(Discipline specific course)	**DSC-VIII**
Course Name	**Comparative Anatomy of Vertebrates**
CO1	**Introduction to Comparative Anatomy:** Upon completing this course, students will be able to define and explain the significance of comparative anatomy in understanding the diversity, adaptation, and evolutionary relationships among vertebrates.
CO2	**Evolutionary History of Vertebrates:** Students will gain a comprehensive understanding of the evolutionary history and phylogenetic relationships among vertebrate groups, from jawless fish to mammals.
CO3	**Skeletal System:** Students will be able to analyze the skeletal structures of vertebrates, including the differences and adaptations in bone and cartilage composition, axial and appendicular skeletons, and vertebral columns.
CO4	**Respiratory and Circulatory Systems:** By the end of the course, students will be able to compare and contrast the respiratory and circulatory systems of vertebrates, including adaptations for air-breathing, gill respiration, and variations in heart structure.
CO5	**Digestive and Excretory Systems:** Students will be able to understand the diversity in digestive and excretory systems among vertebrates, including adaptations for herbivory, carnivory, and nitrogenous waste removal.
DSC(Discipline specific course)	**DSC-IX**
Course Name	**Physiology: Life Sustaining Systems**
CO1	**Introduction to Life Sustaining Systems:** Upon completing this course, students will be able to define the concept of life-sustaining systems in physiology and understand their critical roles in supporting life.This course will enable students to explain the role of the nervous system in sensing and responding to changes in the internal and external environment to maintain homeostasis
CO2	**Digestive Physiology:** This course will equip students with the ability to explain the functions of the digestive system, including digestion and absorption of nutrients, regulation of gastrointestinal motility, and metabolic regulation.
CO3	**Respiratory Physiology:** By the end of the course, students will be able to explain the functions of the respiratory system, including gas exchange, lung mechanics, and the transport of oxygen and carbon dioxide in the body.
CO4	**Renal Physiology:** Upon completion of the course, students will be able to understand the role of the kidneys in maintaining fluid and electrolyte balance, regulating blood pressure, and eliminating metabolic waste products.
CO5	**Cardiovascular Physiology:** Students will be able to describe the functions of the cardiovascular system, including heart structure and function, blood circulation, blood

	pressure regulation, and the transport of nutrients and waste products.
DSC(Discipline specific course)	**DSC-X**
Course Name	**Biochemistry of Metabolic Processes**
CO1	**Introduction to Metabolism:** Upon completing this course, students will be able to define metabolism, explain its significance in living organisms, and understand the fundamental concepts of metabolic processes.
CO2	**Carbohydrate Metabolism:** Students will be able to explain the catabolic and anabolic pathways involved in carbohydrate metabolism, including glycolysis, gluconeogenesis, and glycogen metabolism
CO3	**Lipid Metabolism:** Upon completion of the course, students will be able to describe the metabolism of lipids, including fatty acid oxidation, lipogenesis, and the regulation of triglyceride storage and utilization
CO4	**Amino Acid Metabolism:** This course will equip students with the ability to understand the catabolism and anabolism of amino acids, including the urea cycle, transamination, and protein turnover
CO5	**Energy Metabolism and Cellular Respiration:** By the end of the course, students will be able to explain the processes of cellular respiration, including glycolysis, the citric acid cycle, and oxidative phosphorylation, and the role of energy carriers like ATP and NADH.
SEMESTER V	
DSC(Discipline specific course)	**DSC-XI**
Course Name	**Molecular Biology**
CO1	**Introduction to Molecular Biology:** Upon completing this course, students will be able to define molecular biology, explain its importance in understanding life processes, and understand the fundamental concepts of molecular biology.
CO2	**DNA Structure and Replication:** Students will gain a comprehensive understanding of the structure of DNA, its replication process, and the molecular mechanisms that ensure accurate duplication of genetic information.
CO3	**Molecular Techniques:** This course will equip students with the ability to understand and perform essential molecular techniques used in molecular biology research, such as PCR, gel electrophoresis, DNA sequencing, and gene cloning.
CO4	**Gene Expression and Regulation:** By the end of the course, students will be able to explain the processes of transcription and translation, understand the role of regulatory elements, and describe how genes are regulated at the molecular level.
CO5	**DNA Repair and Recombination:** Students will be able to explain the molecular processes involved in DNA repair, recombination, and the mechanisms that maintain genomic integrity.
DSC(Discipline specific course)	**DSC-XII**
Course Name	**Principles of Genetics**
CO1	**Introduction to Genetics:** Upon completing this course, students will be able to define genetics and understand its importance in explaining inheritance, variation, and biological diversity.
CO2	**Mendelian Inheritance:** Students will gain a comprehensive understanding of Mendel's laws of inheritance, including the principles of segregation and independent assortment, and how they apply to monohybrid and dihybrid crosses.
CO3	**Chromosomal Aberrations and Human Genetics:** Upon completion of the course, students will be able to identify and describe various chromosomal aberrations, such as aneuploidy and structural mutations, and understand their implications in human

	genetic disorders.
CO4	**DNA Structure and Replication:** This course will equip students with the ability to explain the structure of DNA, the processes of DNA replication, and the fidelity of the replication process.
CO5	**Chromosomal Sex Determination:** By the end of the course, students will be able to describe the role of sex chromosomes in determining an individual's sex, including the mechanisms of sex determination in species with XX/XY, ZZ/ZW, and other sex chromosome system
DSE (Discipline Specific Elective Paper)	**DSE-I**
Course Name	**Animal behaviour and Chronobiology**
	Understand animal behaviour and response of animals to different instincts and about various kinds of animals adaptation and circadian rhythm
DSE (Discipline Specific Elective Paper)	**DSE-II**
Course Name	**Immunology**
	Provide basic knowledge about immune system and allows the student to create insight as how to improve their immune system and good health. Types of immunity, antigens antibodies and their properties, complement system, MHC's and immune responses, types of hypersensitivity reaction and auto immune diseases
SEMESTER VI	
DSC(Discipline specific course)	**DSC-XIII**
Course Name	**Developmental Biology**
CO1	**Introduction to Developmental Biology:** Upon completing this course, students will be able to define developmental biology, explain its significance in understanding the life cycle of organisms, and recognize its interdisciplinary nature.
CO2	**Gametogenesis and Fertilization:** Students will gain a comprehensive understanding of the processes of gametogenesis, sperm-egg interaction, and fertilization, and the role of genetic and epigenetic factors in early development.
CO3	**Early Embryonic Development:** By the end of the course, students will be able to describe the stages of early embryonic development, including cleavage, gastrulation, and organogenesis, and understand the formation of germ layers.
CO4	**Morphogenesis and Tissue Development:** Upon completion of the course, students will understand the processes of tissue formation, organogenesis, and the principles of tissue patterning and morphogenesis.
CO5	**Hormonal Regulation of Post-Embryonic Development:** Upon completion of the course, students will understand how hormones, such as growth hormone and sex hormones, play a crucial role in post-embryonic growth, development, and maturation
DSC(Discipline specific course)	**DSC-XIV**
Course Name	**Evolutionary Biology**
CO1	**Introduction to Evolutionary Biology:** Upon completing this course, students will be able to define evolution, explain its significance in the biological sciences, and understand the foundational concepts of evolutionary biology
CO2	**Mechanisms of Evolution:** Students will gain a comprehensive understanding of the mechanisms that drive evolution, including natural selection, genetic drift, mutation, migration, and the role of these mechanisms in shaping biodiversity.

CO3	**Population Genetics:** Students will be able to explain the principles of population genetics, including allele frequencies, Hardy-Weinberg equilibrium, and the genetic basis of microevolutionary changes
CO4	**Speciation and Macroevolution:** Upon completion of the course, students will understand the processes of speciation, including allopatric and sympatric speciation, and their role in the formation of new species.
CO5	**Evolution and Development (Evo-Devo):** This course will enable students to understand the field of evolutionary developmental biology, including the role of genetics and embryonic development in the evolution of form and structure.
DSE (Discipline Specific Elective Paper)	**DSE-III**
Course Name	**Fish and Fisheries**
	To know about the various types of fish, fish preservation, fish culture and be an entrepreneur and generate employment for others.
DSE (Discipline Specific Elective Paper)	**DSE-IV**
Course Name	**Project Work**

Program Outcome: Bachelor of Commerce (B.Com) under CBCS

Upon successful completion of the +3 Commerce program under the Choice-Based Credit System (CBCS), students will have achieved the following program outcomes:

1. **Knowledge and Understanding:** Graduates will demonstrate a comprehensive understanding of core commerce subjects, including accounting, economics, business management, finance, and taxation.
2. **Critical Thinking:** Graduates will possess critical thinking and analytical skills, enabling them to evaluate complex business scenarios and make informed decisions.
3. **Communication Skills:** Students will be proficient in both written and oral communication, allowing them to effectively convey ideas and information in professional contexts.
4. **Ethical Awareness:** Graduates will have a strong ethical foundation, understanding the importance of ethical behavior and social responsibility in business practices.
5. **Research Proficiency:** Students will be equipped with research skills to gather, analyze, and interpret data relevant to commerce and business issues.
6. **Adaptability:** Graduates will be adaptable and able to respond to changing business environments, incorporating new technologies and trends into their work.
7. **Problem Solving:** Graduates will be adept at identifying and solving complex business problems, applying theoretical knowledge to practical situations.
8. **Entrepreneurial Mindset:** Students will have the skills and mindset to explore entrepreneurship opportunities and create innovative solutions.
9. **Global Perspective:** Graduates will have an awareness of global business dynamics, international trade, and their impact on local economies.
10. **Teamwork and Leadership:** Students will be able to work effectively in teams and demonstrate leadership qualities, fostering collaboration in professional settings.
11. **Professional Development:** Graduates will be prepared for continuous professional development, including pursuing advanced degrees or professional certifications.
12. **Community Engagement:** Students will understand the role of commerce in community development and engage in activities that contribute positively to society.

These program outcomes aim to equip graduates with the knowledge, skills, and ethical values necessary for success in diverse careers within the field of commerce and beyond.

Course Outcomes:-

1. ACC 01 Financial Accounting
2. ECON 02 Business Law
3. CA 03 Corporate Law
4. TAX 04 Income Tax
5. STAT 05 Business Statistics
6. MA 06 Management Accounting
7. ACC 07 Corporate Accounting

Course Title:- Financial Accounting

Course Code: ACC 01

Course Outcome:- Upon successful completion of the Financial Accounting course within the +3 Commerce program under CBCS, students will have achieved the following course-specific outcomes:

1. **Accounting Principles:** Students will demonstrate a sound understanding of fundamental accounting principles and concepts, including the accounting equation, accrual vs. cash accounting, and the matching principle.
2. **Financial Statement Preparation:** Graduates will be able to prepare financial statements, including income statements, balance sheets, and cash flow statements, in accordance with Generally Accepted Accounting Principles (GAAP).
3. **Recording Transactions:** Students will have the ability to accurately record various financial transactions, such as sales, purchases, expenses, and investments, using double-entry accounting methods.
4. **Trial Balance and Adjustments:** Graduates will be proficient in preparing trial balances and making necessary adjusting entries to ensure accurate financial reporting.
5. **Inventory Valuation:** Students will understand different methods of inventory valuation (e.g., FIFO, LIFO, weighted average) and apply them in practice.
6. **Depreciation and Amortization:** Graduates will be able to calculate and record depreciation and amortization expenses for tangible and intangible assets.
7. **Bank Reconciliation:** Students will reconcile bank statements with the company's records, identifying discrepancies and taking corrective actions
8. **Financial Analysis:** Graduates will be capable of analyzing financial statements to assess a company's financial performance, liquidity, and solvency.
9. **Ethical Accounting Practices:** Students will be aware of ethical considerations in accounting, including the importance of accuracy, transparency, and honesty in financial reporting.
10. **Accounting Software Proficiency:** Graduates will have hands-on experience with accounting software applications commonly used in the industry.
11. **Reporting and Compliance:** Students will understand the regulatory and compliance requirements related to financial reporting and taxation.
12. **Financial Decision-Making:** Graduates will apply accounting data to make informed financial decisions, such as budgeting, forecasting, and investment analysis.

These course outcomes aim to ensure that students who complete the Financial Accounting course have acquired the knowledge and skills necessary to perform accounting tasks, analyze financial data, and make informed financial decisions in various professional contexts.

Course Title: Microeconomics

Course Code: ECON 02

Course Outcome: Upon successful completion of the Microeconomics course, students will have achieved the following course-specific outcomes:

1. **Foundations of Microeconomics:** Students will demonstrate a comprehensive understanding of the fundamental principles and concepts of microeconomics, including supply and demand, utility, and opportunity cost.
2. **Market Structures:** Graduates will analyze various market structures, such as perfect competition, monopoly, monopolistic competition, and oligopoly, and understand their implications for pricing and resource allocation.
3. **Consumer Behavior:** Students will evaluate consumer decision-making processes, including utility maximization, budget constraints, and indifference curves.
4. **Producer Behavior:** Graduates will assess producer choices and cost minimization strategies, including production functions, cost curves, and profit maximization.
5. **Market Equilibrium:** Students will determine market equilibrium using the intersection of supply and demand curves, recognizing how changes in market conditions affect prices and quantities.
6. **Elasticity:** Graduates will calculate and interpret price elasticity of demand and supply, helping businesses and policymakers understand the responsiveness of buyers and sellers to price changes.
7. **Consumer Surplus and Producer Surplus:** Students will analyze consumer and producer surplus to evaluate the efficiency of market outcomes and the impacts of taxes and subsidies.
8. **Government Intervention:** Graduates will assess the effects of government policies, such as price controls, taxes, and subsidies, on market outcomes and social welfare.
9. **Externalities and Public Goods:** Students will understand the concepts of externalities and public goods and explore methods for addressing market failures in these contexts.
10. **Production and Cost Analysis:** Graduates will analyze short-run and long-run production decisions, cost structures, and economies of scale in various industries.
11. **Market Structures and Competition:** Students will evaluate the impact of market structures on competition, pricing strategies, and economic efficiency.
12. **Ethical and Social Implications:** Graduates will recognize the ethical and social implications of microeconomic decisions, including income distribution, resource allocation, and sustainability.

These course outcomes aim to ensure that students who complete the Microeconomics course have a solid foundation in microeconomic theory and can apply economic principles to real-world situations, whether in business, public policy, or personal decision-making.

Course Title: Cost Accounting

Course Code: CA 03

Course Outcome: Upon successful completion of the Cost Accounting course, students will have achieved the following course-specific outcomes:

1. **Cost Classification:** Students will demonstrate a comprehensive understanding of cost classifications, including direct costs, indirect costs, variable costs, and fixed costs.
2. **Cost Accumulation:** Graduates will be proficient in accumulating and recording costs for different cost objects, such as products, projects, or departments, using various methods.
3. **Cost Allocation:** Students will have the ability to allocate indirect costs to cost centers or products based on suitable allocation bases, fostering accurate cost distribution.
4. **Cost Behavior Analysis:** Graduates will analyze cost behavior patterns and distinguish between variable, fixed, and mixed costs to aid in cost control and decision-making.
5. **Cost-Volume-Profit Analysis:** Students will apply cost-volume-profit analysis to assess the relationship between costs, sales volume, and profit, aiding in pricing and break-even analysis.
6. **Standard Costing:** Graduates will understand the concept of standard costs, create standard cost budgets, and perform variance analysis to evaluate performance against standards.
7. **Job and Process Costing:** Students will differentiate between job costing and process costing systems and apply them in relevant contexts, such as manufacturing or service industries.
8. **Activity-Based Costing (ABC):** Graduates will apply ABC principles to allocate overhead costs more accurately by identifying and analyzing cost drivers.
9. **Cost-Effective Decision-Making:** Students will use cost data to make informed decisions, including product pricing, make-or-buy decisions, and discontinuation of products or services.
10. **Budgeting and Cost Control:** Graduates will prepare budgets, track actual costs against budgeted amounts, and implement cost control measures to manage expenses effectively.
11. **Cost Ethics and Compliance:** Students will be aware of ethical considerations in cost accounting practices and comply with relevant accounting standards and regulations.
12. **Advanced Cost Techniques:** Graduates will explore advanced cost techniques, such as target costing, life-cycle costing, and activity-based management, to support strategic decision-making.

These course outcomes aim to ensure that students who complete the Cost Accounting course have acquired the knowledge and skills necessary to analyze and manage costs effectively, make informed business decisions, and contribute to cost-conscious organizational practices.

Course Title: Income Tax

Course Code: TAX 04

Course Outcome: Upon successful completion of the Income Tax course, students will have achieved the following course-specific outcomes:

1. **Taxation Basics:** Students will demonstrate a comprehensive understanding of the fundamental concepts and principles of income taxation, including taxable income, deductions, exemptions, and credits.
2. **Tax Laws and Regulations:** Graduates will be familiar with the relevant tax laws and regulations governing income taxation in their jurisdiction, staying updated with any changes.
3. **Taxpayer Categories:** Students will differentiate between various taxpayer categories, such as individuals, corporations, partnerships, and trusts, understanding their unique tax obligations.
4. **Tax Planning:** Graduates will develop tax planning strategies for individuals and businesses, minimizing tax liabilities while complying with tax laws.
5. **Income Classification:** Students will classify different types of income, including earned income, passive income, and investment income, and determine their tax treatment.
6. **Deductions and Exemptions:** Graduates will identify eligible deductions and exemptions, optimizing tax returns for individuals and businesses.
7. **Tax Return Preparation:** Students will be proficient in preparing income tax returns accurately and efficiently, utilizing tax preparation software when applicable.
8. **Tax Credits:** Graduates will understand tax credits available to individuals and businesses and apply them to reduce tax liabilities.
9. **Tax Compliance:** Students will ensure tax compliance by filing tax returns on time, maintaining proper records, and adhering to ethical tax practices.
10. **Tax Audits and Appeals:** Graduates will be familiar with tax audit procedures and the appeals process, assisting taxpayers in case of disputes with tax authorities.
11. **International Taxation:** Students will explore international taxation concepts, including double taxation, transfer pricing, and tax treaties, in the context of global business operations.
12. **Ethical Tax Practices:** Graduates will recognize the importance of ethical behavior in tax matters, avoiding tax evasion and promoting tax transparency.

These course outcomes aim to equip students with the knowledge and skills necessary to navigate the complexities of income taxation, whether for individual taxpayers or businesses, and to help them make informed tax-related decisions while adhering to legal and ethical standards.

Course Title: Business Statistics

Course Code: STAT 05

Course Outcome: Upon successful completion of the Business Statistics course, students will have achieved the following course-specific outcomes:

1. **Statistical Concepts:** Students will demonstrate a comprehensive understanding of fundamental statistical concepts, including data types, measures of central tendency, and measures of dispersion.
2. **Data Collection and Sampling:** Graduates will be proficient in designing data collection methods, selecting appropriate sampling techniques, and ensuring data quality.
3. **Descriptive Statistics:** Students will use descriptive statistics to summarize and present data effectively, including frequency distributions, histograms, and summary measures
4. **Probability Theory:** Graduates will understand probability concepts, including random variables, probability distributions, and the laws of probability.
5. **Sampling Distributions:** Students will analyze sampling distributions and their importance in inferential statistics, including the central limit theorem.
6. **Statistical Inference:** Graduates will conduct hypothesis tests and construct confidence intervals to make inferences about population parameters based on sample data.
7. **Regression Analysis:** Students will perform simple and multiple regression analysis to model relationships between variables and make predictions.
8. **Analysis of Variance (ANOVA):** Graduates will use ANOVA to compare means among multiple groups and identify sources of variation.
9. **Non-Parametric Statistics:** Students will apply non-parametric statistical tests when assumptions of parametric tests are not met.
10. **Statistical Software:** Graduates will utilize statistical software packages (e.g., SPSS, Excel) to perform data analysis, generate reports, and create visualizations.
11. **Business Applications:** Students will apply statistical techniques to real-world business problems, including market research, quality control, and financial analysis.
12. **Ethical Data Analysis:** Graduates will recognize the importance of ethical considerations in data collection, analysis, and reporting, ensuring data privacy and integrity.

These course outcomes aim to equip students with the knowledge and skills necessary to collect, analyze, and interpret data effectively, enabling them to make data-driven decisions in various business contexts.

Course Title: Management Accounting

Course Code: MA 06

Course Outcome: Upon successful completion of the Management Accounting course, students will have achieved the following course-specific outcomes:

1. **Understanding Management Accounting:** Students will demonstrate a comprehensive understanding of the role and significance of management accounting in supporting managerial decision-making and planning.
2. **Cost Behavior Analysis:** Graduates will be proficient in analyzing and classifying costs, distinguishing between variable, fixed, semi-variable, and step costs.
3. **Cost-Volume-Profit (CVP) Analysis:** Students will apply CVP analysis to evaluate the relationship between costs, volume, and profits, aiding in pricing decisions and break-even analysis.
4. **Budgeting and Forecasting:** Graduates will prepare various budgets (e.g., operating budgets, capital budgets) and forecasts, assisting organizations in planning and controlling resources effectively.
5. **Variance Analysis:** Students will perform variance analysis to assess the differences between budgeted and actual performance, enabling timely corrective actions.
6. **Activity-Based Costing (ABC):** Graduates will apply ABC principles to allocate overhead costs accurately by identifying and analyzing cost drivers.
7. **Performance Measurement:** Students will design and use key performance indicators (KPIs) and balanced scorecards to assess organizational performance and align it with strategic goals.
8. **Product and Service Costing:** Graduates will differentiate between job costing and process costing systems, applying them in diverse contexts, such as manufacturing or service industries.
9. **Cost Estimation:** Students will be capable of estimating costs for decision-making purposes, including make-or-buy decisions and pricing strategies.
10. **Capital Investment Analysis:** Graduates will evaluate capital investment proposals using techniques such as net present value (NPV), internal rate of return (IRR), and payback period analysis.
11. **Cost Control Strategies:** Students will implement cost control strategies and performance improvement initiatives to enhance organizational efficiency.
12. **Ethical Management Accounting Practices:** Graduates will recognize the importance of ethical behavior in management accounting, ensuring integrity in financial reporting and decision-making.

These course outcomes aim to ensure that students who complete the Management Accounting course have acquired the knowledge and skills necessary to provide valuable financial information for managerial decision-making, contribute to cost-effective operations, and uphold ethical standards in accounting practices.

Course Title: Corporate Accounting

Course Code: ACC 07

Course Outcome: Upon successful completion of the Corporate Accounting course, students will have achieved the following course-specific outcomes:

1. **Advanced Accounting Principles:** Students will demonstrate a deep understanding of advanced accounting principles and concepts, including consolidation, partnership accounting, and international accounting standards.
2. **Consolidated Financial Statements:** Graduates will be proficient in preparing consolidated financial statements for complex corporate groups, recognizing and eliminating intercompany transactions and investments.
3. **Accounting for Business Combinations:** Students will analyze the accounting treatment of business combinations, including the purchase method and the equity method, and apply them in practice.
4. **Partnership Accounting:** Graduates will understand partnership formation, operation, and dissolution, including the allocation of profits, losses, and partner contributions.
5. **Foreign Currency Transactions and Translation:** Students will handle foreign currency transactions, assess their impact on financial statements, and perform currency translation for multinational corporations.
6. **Segment Reporting:** Graduates will prepare segment reports in compliance with accounting standards, enabling stakeholders to assess the performance of different business segments.
7. **Financial Statement Analysis for Investors:** Students will analyze financial statements from an investor's perspective, interpreting key financial ratios and assessing a company's financial health and performance.
8. **Accounting for Derivative Instruments:** Graduates will understand the accounting treatment of derivative instruments, such as futures, options, and swaps, including hedge accounting.
9. **Interpretation of Financial Disclosures:** Students will interpret financial disclosures in corporate annual reports, including footnotes, management discussions, and analysis of financial results.
10. **Corporate Tax Accounting:** Graduates will explore advanced topics in corporate tax accounting, including deferred taxes and income tax accounting for uncertain tax positions.
11. **Fair Value Accounting:** Students will apply fair value accounting principles to assess the value of assets and liabilities, particularly in the context of financial instruments and investments.
12. **Ethical Accounting Practices:** Graduates will recognize the importance of ethical behavior in corporate accounting, ensuring transparency and integrity in financial reporting.

These course outcomes aim to ensure that students who complete the Corporate Accounting course possess advanced accounting knowledge and skills necessary for handling complex accounting issues, preparing financial reports for corporations, and making informed financial decisions in a corporate context.