PO (all programmes BA/ BSc):

PSO Political Science

PSO1. To identify key questions, fundamental concepts, and theoretical frameworks necessary to an understanding of political theory

PSO2. To analyse the fundamental concepts, processes, theories and events central to comparative politics and international relations and their fallouts

PSO3. To solve complex problems by demonstrating a mastery of substantive knowledge in the discipline's main field

PSO4. To communicate effectively political knowledge to the young citizens as responsible members of the society

CBCS (Honours)	
Semester I	
POL HC 1016 Understanding Political Theory	To introduce the idea of political theory and various approaches To enable the students to assess the contemporary trends in political theory To reconcile theory and practice in relation to democracy
POL HC 1026 Constitutional Government and Democracy in India	To acquaint students with constitutional design of state structures and institutions To understand the conflicts in constitutional provisions To make them comprehend the state institutions in relation to extra constitutional environment
Semester II	
POL HC 2016 Political Theory- Concepts and Debates	Understand various concepts in political theory and appreciate how they can be helpful to analyse crucial political issues Understand the significance of debates in political theory in exploring multiple perspective to concepts, ideas and issues Appreciate how these concepts and debates enrich political life and issues surrounding it
POL HC 2026 Political Process in India	Understand the working of major political institutions in India Understand the major debates in Indian politics along the axes of caste, gender, region and religion Understand the changing nature of Indian state and the contradictory dynamics of modern state power
Semester III	
POL HC 3016 Introduction to comparative Government and Politics	To make students aware of basic concepts of comparative politics To make students classify the different political systems and historical concepts of modern government To enable students to have a comparative analysis of countries related to their political institutions and behaviour
POL HC 3026	To enable students to learn the basic concepts related to public

Perspective on Public Administration	administration and its importance To make students learn major theories of public administration To enable student to have an understanding of public policy and its formulation To familiarize students with the major approaches and recent debates related to field of public administration
POL HC 3036 Perspectives on International Relations and World History	To make students understand the key theoretical approaches in international relations To familiarize students with evolution of international state system and its importance To enable students to have an overall understanding of international relations in relation to twentieth century IR history
POL SE 3014 Parliamentary Procedures and Practices	To help students in understanding the practical approaches to legislatives practices and procedures, To make students understand the procedures and processes related to drafting a Bill and the passage of the Bill, To enable students to have an understanding of the importance of Parliamentary Committees, To make students learn about the basic functioning of Parliament.
POL SE 3024 Youth and Nation-Building	To enable students to learn the importance of youth in NSS and NCC, To make students understand the activities related to NSS and NCC and its importance, To make students learn the basics of National Disaster Management and its importance.
Semester IV	
POL HC 4016 Political Processes and Institutions in a Comparative Perspective	To understand, comprehend and analyse the complex nature and functioning of political systems, political institutions and corresponding issues in cross-country perspective To demonstrate critical thinking about key issues of political system of different forms, political process and public policy To use the contents and sub-units as yardsticks for comparing these political systems and processes
POL HC 4026 Public Policy and Administration in India	To be familiarize and gain knowledge about the processes of public policy making in India and significance in administering the state Develop the ability to assess the functioning of the government and the administration in ensuring a citizen centric welfare administration in India
POL HC 4036 Global Politics	To enable students to understand how to approach a wide range of important global political and economic policy problems and participate in public policy debates on crucial issues To have knowledge of the essential theoretical assumptions underlying globalisation's conceptual framework and their relationships to policy interventions To demonstrate knowledge of major issues surrounding globalization along with political, economic and security relations
POL SE 4014 Panchayati Raj in Practice	This paper will help students understand the importance of

	grassroots political institutions in empowering people.
	This paper will highlight the complex challenges faced by PRIs in India and mechanisms involved to make it more participatory and inclusive in nature.
POL SE 4024 Citizens and Rights	To analyse the linkages between citizenship, law, rights and equality
	To understand the measures of discrimination, justice and empowerment and the ways to protect the same.
	To evaluate the idea of justice and assess its relevance in context of contemporary India.
Semester V	
POL HC 5016 Classical Political Philosophy	To interpret ideas underlying traditions in classical political philosophy To analyse the debates and arguments of leading political philosophers belonging to different traditions of the period To apprise the relevance of classical political philosophy in understanding contemporary politics
POL HC 5026 Indian Political Thought-1	To underline themes and issues in political traditions of pre-colonial India To compare and contrast positions of different political traditions those were present in pre-colonial India To evaluate the relevance of political thought of pre-colonial India for contemporary politics
DSE POL HE 5016 Human Rights	To interpret ideas underlying traditions in classical political philosophy To analyze the debates and arguments of leading political philosophers belonging to different traditions of the period To appraise the relevance of classical political philosophy in understanding contemporary politics
DSE POL HE 5026 Public Policy in India	To be familiarised with and gain knowledge about the processes of public policy making in India
	to assess the functioning of the government and the administration in ensuring a citizen centric welfare administration in India
DSE POL HE 5036 Understanding Global Politics	To describe the key concepts underlying the idea of world order and their historical evolution. To comprehend diverse approaches to understand global political and economic problems. To demonstrate relevance of international actors in understanding world politics.
DSE POL HE 5046 Select Constitutions	Students will be able to understand the importance of constitutions; This paper is an integral part of public services examinations. Students will be introduced to the various types of constitutions and the forms of governments from different parts of the world.

Semester VI	
POL HC 6016 Modern Political Philosophy	To interpret ideas underlying traditions in modern political philosophy To analyze the debates and arguments of leading political philosophers of different philosophical traditions To appraise the relevance of modern political philosophy in understanding contemporary politics
POL HC 6026 Indian Political Thought-2	To underline themes and issues in political thought of modern India. To compare and contrast positions of leading political thinkers in India on issues those are constitutive of modern India. To assess the relevance of political thought of modern India in understanding contemporary politics.
POL HE 6016 India's Foreign Policy in a Globalizing World	To underline the issues in India's foreign policy To evaluate the impact of global development on India's foreign policy To demonstrate the change and continuity that marks India's foreign policy.
POL HE 6026 Understanding South Asia	To identify geo-political and historical construction of South Asia as a region. To analyse the politics and socio-economic issues of the South Asian Region. To assess the relevance of regionalism in South Asia and India's position in the region.
POL HE 6036 Women, Power and Politics	To explain key concepts that offers an understanding of gender inequality. To appraise the historical evolution of the Women's movement in India and issues addressed by it To underline the contemporary issues that affect women's participation in politics
POL HE 6046 Social Movements in North east India	To introduce the students with the social movements of the North-East India and nature of these. To engage them with historical development of such social movements To understand the new social movements of the region
CBCS (Honours Generic & Regular)	
Semester I	
Introduction to Political Theory POL HG 1016	To introduce the key concepts in political theory To make students understand the aspects of conceptual analysis To engage the students in application of concepts and their limitations
Politics of North East India	To introduce the students with the region and nature of its politics

POL HG 1026	To engage them with historical development of the region To understand the contemporary developments of the region
Governance: Issues and Challenges POL HG 1036	To introduce major concepts and debates of Governance To enable the students to relate governance with globalization, environment and development To make students explore good governance initiatives in India
Semester II	
Indian Government and Politics POL HG 2016	Appreciate the approaches to the study of Indian politics and the changing nature of the state Understand the basic features of the Indian constitution and its institutional functioning examine the changing role of caste, class and patriarchy and their impact on politics understand the dynamics of social movements in India.
Feminism: Theory and Practice POL HG 2026	Understand the historical evolution of local governance in India Understand the working of rural and urban governance in India Understand the workings of committees and commissions associated with local governance
Local Government (Rural and Urban) POL HG 2036	Understand the historical evolution of local governance in India Understand the working of rural and urban governance in India Understand the workings of committees and commissions associated with local governance
Semester III	
Comparative Government and Politics POL HG 3016	To make students have a basic understanding of comparative political analysis, To make students learn the classification of political systems from a comparative politics framework. To make students learn the classification of governments and the political behavior of institutions and the changes in the nature of the nation-state.
Gandhi and the Contemporary World POL HG 3026	To make students understand relevance of Gandhi and his philosophy in modern times, To familiarize students with Gandhian ideology and leadership, To make students learn Gandhi's critique on modern civilization and development, To make students understand Gandhi's political strategy and philosophy.
United Nations and Global Politics POL HG 3036	To make students learn the importance of United Nations as an organization To enable students to have a basic understanding of the political

	processes of the United Nations To make students to learn the relevance of United Nations and its intervention in global conflicts critically.
Semester IV	
Introduction to International Relations POL HG 4016	To demonstrate basic understanding of scientific methods of inquiry in international relations. To understand how international relations influence societies. To demonstrate a basic understanding of the foundational theories and concepts in international relations. To analyse the current world events and their implications on the Indian Foreign policy decision making process by applying prominent theories of international relations and generate substantial research question on the topics.
Understanding Ambedkar POL HG 4026	To analyse Ambedkar's views on caste, class, religion, nationalism, gender and constitutional democracy. To understand contribution of Ambedkar to political thought in modern India. To evaluate political ideas of Ambedkar and assess its relevance in context of contemporary politics.
Politics of Globalisation POL HG 4036	To analyse the historical evolution of globalisation. To understand social, economic, cultural and political impact of globalisation. To evaluate the idea of globalisation and assess its relevance in context of contemporary politics.
NON CBCS (Major)	
Semester I	
M 101 Political Theory-I	To understand the concept of political theory To analyse nature, scope and significance of political theory To understand various concepts and perspectives of political theory
M 102 Politics in India-I	To understand the nature and history of politics in India To evaluate the features of the Constitution of India To understand the organs of Government of India
Semester II	
M 201 Political Theory-II	To understand the contemporary trends of political theory To evaluate traditional and modern political theories
M 202 Politics in India-II	To understand the political institutions in India To evaluate the contemporary issues in Indian politics
Semester III	
M 301 International Relations-I	To understand nature, scope and important concepts of international relations To understand various theories and events of international relations
M 302 Public Administration-I	To evaluate the concepts and growth of public administration

	To understand the major ideas of public administration
Semester IV	
M 401 International Relations-II	To understand various concepts and new trends of international relations To evaluate the role of international and regional organisations
M 402 Public Administration-II	To examine comparative public administration To understand financial administration
Semester V	
M 501 Western Political Thinkers	To understand the ideas and concepts of Greek political thinkers To understand the political philosophy of western thinkers
M 502 Select Constitutions-I	To understand growth of constitutional government in UK and USA To understand the political systems of UK and USA
M 503A Politics in North East India	To understand the nature of politics of North East India To examine the changing nature of politics in NEI
M 503B General Sociology-I	To understand the transformation of social norms and values across generations To understand concepts and agencies of society
M 504A Contemporary Political Issues	To understand important international issues To have idea about significance and implications of crucial issues
M 504B Women and Politics	To generate ideas about political space of women Women empowerment and feminism
M 505A Local Rural Governance	Know about functioning of institutions of rural local governance To understand major issues of local rural governance
M 505B Political Sociology-I	Students will have an idea about evolution of political sociology To understand major concepts and social institutions
M 506A Democracy in India-I	To have idea about functioning of Indian democracy Students will be able to understand contemporary issues in Indian democratic system
M 506B Human Rights	To understand the growth, types and significance of human rights To have idea about international human rights mechanism Knowledge about issues of vulnerable groups
Semester VI	
M 601 Indian Political Thinkers	To understand the political philosophy of Indian political thinkers Students will have knowledge about the contribution of Indian political thinkers in the Indian political system
M 602 Select Constitutions-II	To understand growth of constitutional government in Switzerland and China To understand the political systems of Switzerland and China
M 603C	
M 603D General Sociology-II	To understand the significance of social institutions Have knowledge about changing pattern of social institutions
M 604C Contemporary Political Ideologies	To know major political ideologies of contemporary world Develop comparative analysis of contemporary ideologies
M 604D Women and Politics in India	Understanding of political space of women in India To study the issues and mechanism of women empowerment
M 605C Urban Local Governance	Know about functioning of institutions of urban local governance To understand major issues of urban rural governance
M 605D Political Sociology-II	Major concepts of political sociology Understanding of impact of sociological issues on politics

M 606C Democracy in India-II	To have idea about functioning of Indian democracy Students will be able to understand contemporary issues in Indian democratic system
M 606D Human Rights in India	Students will know the evolution of human rights in India Understanding of mechanism and challenges regarding human rights in India
Non-CBCS (General/Regular)	
Semester I	
E 101 Political Theory-I	To understand the concept of political theory To analyse nature, scope and significance of political theory To understand various concepts and perspectives of political theory
Semester II	
E 201 Political Theory-II	To understand the contemporary trends of political theory To evaluate traditional and modern political theories
Semester III	
E 301 International Relations-I	To understand nature, scope and important concepts of international relations To understand various theories and events of international relations
E 302 Politics in India-I	To understand the nature and history of politics in India To evaluate the features of the Constitution of India To understand the organs of Government of India
Semester IV	
E 401 International Relations-II	To understand various concepts and new trends of international relations To evaluate the role of international and regional organisations
E 402 Politics in India-II	To understand the political institutions in India To evaluate the contemporary issues in Indian politics
Semester V	
E 501 Public Administration-I	To evaluate the concepts and growth of public administration To understand the major ideas of public administration
E 502 Select Constitution-I	To understand growth of constitutional government in UK and USA To understand the political systems of UK and USA
Semester VI	
E 601 Public Administration-II	To examine comparative public administration To understand financial administration
E 602 Select Constitution-II	To understand growth of constitutional government in Switzerland and China To understand the political systems of Switzerland and China

PSO Physics:

PSO1: To open the fascinating world of physics to each student pursuing this degree

PSO2. To build a strong ground of basic understanding of materials and their properties, their dynamics and evolution

PSO3. To analyse the fundamental concepts, processes, theories and to have hands on training in the laboratories/projects

PSO4. To open the world of imagination to the students and with proper implementation so that greater discoveries can be contributed to the mankind.

CBCS (Honours)	
Semester I	
PHY HC 1016 Mathematical Physics I	To understand vector and its applications in various fields, To understand differential equations and its applications, To understand different coordinate systems To understand concept of probability and error.
PHY HC 1026 Mechanics	To understand Inertial and non inertial reference frames, Newtonian motion, Galilean transformations, projectile motion To understand work and energy, Elastic and inelastic collisions To understand motion under central force, simple harmonic oscillations, To understand special theory of relativity.
PHY HG 1016 Mechanics	To understand the role of vectors and coordinate systems in Physics, solve Ordinary Differential Equations To understand Inertial and non inertial reference frames, Newtonian motion, Galilean transformations, projectile motion To understand work and energy, Elastic and inelastic collisions To understand motion under central force, simple harmonic oscillations, To understand special theory of relativity.
Semester II	
PHY HC 2016 Electricity & Magnetism	To Understand electric and magnetic fields in matter, Dilectric properties of matter magnetic properties of matter To Understand electromagnetic induction To understand applications of Kirchhofff's law in different circuits, applications of network theorem in circuits.
PHY HC 2026 Waves & Optics	To understand superposition of harmonic oscillations To understand different types of wave motions, To understand superposition of harmonic waves, interference and interferometer, diffraction To understand holography.
PHY-HG-2016 Electricity & Magnetism	To apply Gauss's law of electrostatics to solve a variety of problems To calculate the magnetic forces that act on moving charges and

	the magnetic fields due to currents, have brief idea of magnetic materials To understand the concepts of induction, and apply them to solve variety of problems.
Semester III	
PHY HC 3016 Mathematical Physics II	To solve differential equation using power series solution method, using separation of variables method To understand some special integrals To understand different properties of matrix To understand concept and use of Fourier series.
PHY HC 3026 Thermal Physics	To have the knowledge and skills to identify and describe the statistical nature of concepts and laws in thermodynamics To understand concept of entropy, temperature, To understand thermodynamics potentials, Free energies, Maxwell's relations in thermodynamics To understand behavior of real gases.
PHY HC 3036 Digital Systems & Applications	To understand the working principle of CRO, develop a digital logic and apply it to solve real life problems, To analyze, design and implement combinational logic circuits To classify different semiconductor memories, Analyze, design and implement sequential logic circuits, To analyze digital system design using PLD, simulate and implement combinational and sequential circuits.
PHY-HG-3016 Thermal Physics & Statistical Mechanics	To understand basic concepts of thermodynamics, the concept of entropy and the associated theorems, the thermodynamic potentials and their physical interpretations, Maxwell's thermodynamic relations, fundamentals of the kinetic theory of gases, To understand Maxwell-Boltzman distribution law, equipartition of energies, mean free path of molecular collisions, viscosity, thermal conductivity, diffusion and Brownian motion, To understand black body radiations, Stefan- Boltzmann's law, Rayleigh-Jean's law and Planck's law and their significances, To understand quantum statistical distributions, viz., the Bose-Einstein statistics and the Fermi-Dirac statistics.
PHY SE 3024 Computational Physics Skills	To understand the use of computational methods to solve physical problems To understand use of computer language as a tool in solving physics problems (applications) To have hands on training on the Problem solving on Computers.
Semester IV	
PHY HC 4016 Mathematical Physics III	To solve complex integrals using residue theorem To apply Fourier and Laplace transforms in solving differential equations To understand properties of Tensor like Transformation of coordinates, contravariant and co-variant tensors, indices rules for

	combining tensors.
PHY HC 4026 Elements of Modern Physics	To understand modern development in Physics starting from Planck's law, its development The idea of probability interpretation and the formulation of Schrodinger equation. To get preliminary idea of structure of nucleus, radioactivity Fission and Fusion and Laser
PHY HC 4036 Analog Systems & Applications	To understand about the physics of semiconductor p-n junction and devices such as rectifier diodes, zener diode, photodiode etc. To understand bipolar junction transistors, transistor biasing and stabilization circuits, To understand the concept of feedback in amplifiers and the oscillator circuits, To have an understanding of operational amplifiers and their applications.
PHY-HG-4016 Waves & Optics	To understand Simple harmonic oscillation and superposition principle, To understand importance of classical wave equation in transverse and longitudinal waves and solving a range of physical systems on its basis To understand concept of normal modes in transverse and longitudinal waves: their frequencies and configurations, interference as superposition of waves from coherent sources derived from same parent source,
PHY SE 4074 Renewable Energy And Energy Harvesting	To understand alternate source of energy like Fossil fuels, Solar energy, Wind Energy harvesting, Ocean Energy, Geothermal Energy, Hydro Energy To understand Piezoelectric Energy harvesting, Electromagnetic Energy Harvesting To understand Carbon captured technologies, Environmental issues and Renewable sources of energy, sustainability
Semester V	
PHY-HC-5016 Quantum Mechanics & Applications	To understand the principles in quantum mechanics, such as the Schrödinger equation, the wave function, the uncertainty principle, stationary and non-stationary states To understand time evolution of solutions, as well as the relation between quantum mechanics and linear algebra. To solve the Schrödinger equation for hydrogen atom. To have the concepts of angular momentum and spin, as well as the rules for quantization and addition of these, spin-orbit coupling and Zeeman Effect.
PHY-HC-5026 Solid State Physics	To understand main features of crystal lattices and phonons To understand the elementary lattice dynamics and its influence on the properties of materials To understand the main features of the physics of electrons in solids To understand the dielectric ferroelectric and magnetic properties of solids and understand the basic concept in superconductivity.
PHY-HE-5036 Advanced Mathematical Physics I	To solve problems in Physics related to Linear vector space To solve problems involving Matrix algebra

	To solve problems involving Tensor.
PHY-HE-5056 Nuclear and Particle Physics	To have understanding of the sub atomic particles and their properties.
	To understand about the different nuclear techniques and their applications in different branches of Physics and societal application.
	To develop problem based skills and the acquire knowledge can be applied in the areas of nuclear, medical, archeology, geology and other interdisciplinary fields of Physics and Chemistry.
Semester VI	
PHY-HC-6016 Electromagnetic Theory	To understand the concepts of Maxwell's equations, propagation of electromagnetic (EM) waves in different homogeneous-isotropic as well as anisotropic unbounded and bounded media To understand production and detection of different types of polarized EM waves To understand general information as waveguides and fibre optics.
PHY-HC-6026 Statistical Mechanics	To understand the concepts of Classical Statistics To understand the concepts Classical Theory of Radiation and Quantum Theory of Radiation To understand the concepts of Quantum Statistics
PHY-HE-6036 Advanced Mathematical Physics II	To understand and to apply the concepts of Calculus of Variations in numerical problems in Physics To understand and to apply the concepts of Group Theory To understand and to apply the concepts of Probability Theory to solve numerical problems in Physics
PHY-HE-6046 Astronomy and Astrophysics	To understand the origin and evolution of the Universe, the measurement of basic astronomical parameters such as astronomical scales, luminosity and astronomical quantities.
	To understand key developments in observational astrophysics.
	To understand the idea of the instruments implemented for
	astronomical observation, the formation of planetary system and its evolution with time, the physical properties of Sun and the components of the solar system; and stellar and interstellar components of our Milky Way galaxy.
	To have the understanding of the origin and evolution of galaxies, presence of dark matter and large scale structures of the Universe.

DEPARTMENT OF ZOOLOGY

Programme Outcomes/ Programme Specific Outcomes

B.Sc. Zoology, Honours (CBCS)	
PS01	Developing the key concepts and deeper understanding of animal diversity and Principles of Ecology
PS02	Understanding the structure, functioning, interactions of the cell and its components.
PS03	Learning and understanding of the physiology of animals including Human beings.
PS04	Understanding Biochemistry and the chemical reactions occurring in living systems
PS05	Understanding the comparative anatomy of vertebrates and their Evolution.
PS06	Understanding the structure, functioning and metabolism of DNA, RNA, Proteins etc.
PS07	Developing the concepts of inheritance Biology: how characters are transferred from one generation to next, variation, interaction between genes, genetic disorders.
PS08	Understanding the development of vertebrates including human development & reproduction.
PS09	Conceptualization & utilization of computational Biology & Biostatistics in research works.
PS10	Developing concepts, understanding and utilizing the knowledge of Animal Biotechnology, Parasitology, Fish and fisheries, Wildlife Conservation and Management.
PS11	Enhancing skills in Ornamental fish & fisheries, Apiculture, Sericulture, Wildlife Photography and Research methodology

Course outcomes / Course specific outcomes

CBCS (Honours)	
Semester I	
ZOO-HC-1016 Non-Chordates I: Protista to Pseudo-coelomates (Theory)	1. Understanding the characteristics, Classification, life cycle, physiology, evolutionary significance of non-chordates from Protista to pseudo coelomates.
ZOO-HC-1016 (Practical)	1. Practically understanding the morphology, anatomy of non-chordates from Protista to pseudo coelomates.
ZOO-HC-1026 Principles of Ecology (Theory)	1. An overview of Ecology and environment.
	2.Understanding population attributes, Population dynamics and population interactions
	3. Developing knowledge about community characteristics, Ecological Succession.
	4. Detailed understanding of ecosystem, about energy flow, Ecological pyramids, biochemical cycles.
	5. Application of the knowledge of Ecology in conservation and management of wildlife.
ZOO-HC-1026 (Practical)	1. Practical understanding and construction of life tables, survivorship curves.
	2. Practically determining population density.
	3. Studying aquatic systems, diversity of aquatic organisms, and

	quality of water of selected aquatic bodies.
	4. Enhancing the knowledge and understanding the Ecosystem, community, flora & fauna in in-situ conserved sites like National Parks, Wildlife sanctuary.
Semester II	
ZOO-HC-2016 Non-chordates II : Coelomates (Theory)	1. Understanding the evolution of coelom and metamerism in animals.
	2. Understanding the characteristics, classification, physiology, metabolism of coelomate animals from Annelida to Echinodermata.
ZOO-HC-2016 (Practical)	1. Gaining practical knowledge about the morphology, anatomy of non-chordates.
ZOO-HC-2026 Cell Biology (Theory)	1. Developing deeper understanding of structure and functioning of cell and its components.
	2. Imparting knowledge of how cell divides and types of cell division
	3. Conceptualizing cell signalling.
ZOO-HC-2026 (Practical)	1. Students gains practical knowledge for studying various stages of cell cycle and cell division.
	2. Practical knowledge about staining DNA, Polysaccharides and proteins.
Semester III	
ZOO-HC-3016 Diversity of Chordata (Theory)	1. Understanding the characteristics, Classification, Origin, Physiology and other aspects of phylum Chordata.
	2. Developing concept about Zoo-geographical realms, distribution of vertebrates.
ZOO-HC-3016 (Practical)	1. Familiar with different groups of chordates with representative from each group.
ZOO-HC-3026 Animal Physiology: Controlling and Co-ordinating systems (Theory)	1. Developing clear concepts about tissues- their classification structure, location and functions.
	2. In depth understanding of Nervous systems and muscles.
	3. Understanding the various aspects of Endocrine and Reproductive systems.
ZOO-HC-3026 (Practical)	1. Imparting practical knowledge of different types of tissues at microscopic level.
ZOO-HC-3036 Fundamentals of Biochemistry (Theory)	1. Understanding the structure, functions & metabolism of biomolecules
	2. Familiarisation with various biochemical pathways.
	3. Deeper concept of what enzymes are, their classification, & Mechanism of action.
ZOO-HC-3036 (Practical)	1. Understanding practically the presence of functional groups in carbohydrates, proteins & lipids.
	2. Identification of amino acids using chromatography.
	3. Gaining practical knowledge on action of salivary amylase & effect of pH, temperature on its action.
ZOO-SE-3014 Ornamental fish & Fisheries (Theory)	1. Knowing ornamental fish diversity of N.E. India, aquarium plant diversity in wetlands of Assam.
	2. Enabling construction and management of Home Aquarium, breeding techniques, feed formulation of ornamental fish etc.
ZOO-SE-3014 (Practical)	1. Identifying ornamental fishes & their culture in Aquarium.
Semester IV	

ZOO-HC-4016 Comparative Anatomy of vertebrates (Theory)	1. In depth knowledge on the anatomy of various vertebrate groups
ZOO-HC-4016 (Practical)	1. Practical understanding of structural features of vertebrate tissues and organs.
ZOO-HC-4026 Animal Physiology: Life Sustaining systems (Theory)	1. Understanding various aspects of different physiological systems and the organs involved in animals.
ZOO-HC 4026 (Practical)	1. Students become able to determine blood groups, estimate haemoglobin, enumeration of RBCs and WBCs.
	2. Differentiating various organs.
ZOO-HC-4036 Biochemistry of metabolic processes (Theory)	1. Understanding the concept of metabolism of various biomolecules.
	2. Gaining concept of oxidative phosphorylation and other metabolic pathways.
ZOO-HC-4036 (Practical)	1. Students can estimate total proteins in solutions; can detect SGOT & SGPT in serum tissue.
	2. Understanding enzymatic activity of trypsin and lipase.
ZOO-SE-4014 Non-mulberry Sericulture	1. Basic conceptualisation of Sericulture.
	2. Understanding the Biology of Eri & Muga Silkworm & rearing of silkworm.
	3. Utilisation of the concept of Sericulture for Entrepreneurship
Semester V	
ZOO-HC-5016 Molecular Biology (Theory)	1. Understanding the structures, functioning, expression and regulation of Nucleic acids.
ZOO-HC-5016 (Practical)	1. Practical knowledge about polytene chromosomes, preparation of culture medium for bacteria.
	2. Conducting quantitative estimation of DNA and RNA.
ZOO-HC-5026 Principles of Genetics (Theory)	1. Enhancing concepts of Mendelian Genetics; Principles of inheritance and variation.
	2. Gaining knowledge about non-Mendelian genetics.
	3. Conceptualization of linkage, crossing-over, chromosome mapping, mutations, sex-determination, polygenic inheritance etc.
ZOO-HC-5026 (Practical)	1. Students gain knowledge about Mendelian inheritance & gene interactions.
	2. Knowing linkage mapping, karyotyping, Chi-square test & Pedigree analysis.
ZOO-HE-5016 Computational Biology and Biostatistics (Theory)	1. Knowing basics of bioinformatics, Bioinformatics, Biological databases, Data generation and retrieval, sequence alignment and application of bioinformatics.
	2. Developing basic concept & application of Biostatistics.
ZOO-HE-5016 (Practical)	1. Students come to know how to access biological databases, performing BLAST, structure prediction of proteins.
	2. Students can perform statistical analysis & interpretation
	3. Developing skills to computer application in Biostatistics.
ZOO-HE-5026 Animal Biotechnology (Theory)	1. Understanding the concept & scope of Biotechnology.
	2. Understanding facts and basic concepts of molecular techniques in

	gene manipulation.
	3. Understanding, application, analyze & evaluation of genetically modified organisms, animal cell culture techniques and applications.
ZOO-HE-5026 (Practical)	1. Application, analyze, evaluation and developing skills in Biotechnological techniques like genomic DNA, Plasmid isolation, Southern blotting, PCR etc.
ZOO-HE-5036 Endocrinology (Theory)	1. Understanding concepts of the Endocrine System.
	2. Understanding the structure, function & other aspects of Endocrine glands.
	3. Conceptualisation of regulation of hormone action.
ZOO-HE-5036 (Practical)	1. Practical understanding of endocrine glands and enhancing knowledge of castration and ovariectomy.
Semester VI	
ZOO-HC-6016 Developmental Biology (Theory)	1. Basic concepts of Developmental Biology like phases of development, cell-cell interaction etc. shall be known.
	2. Insight into early embryonic development, late and post embryonic development and implications of developmental Biology.
ZOO-HC-6016 (Practical)	1. Understanding developmental stages of chick embryo, *Drosophila*.
ZOO-HC-6026 Evolutionary Biology (Theory)	1. Understanding and analyze the origin and evolution of various kinds of organisms.
	2. Knowing sources behind evolution, population genetics, origin & evolution of men etc.
	3. Basic concepts of phylogenetic analysis shall be gained.
ZOO-HC-6026 (Practical)	1. Students will be able to analyse, evaluate and apply knowledge of evolution to understand population genetics.
	2. Construction, analyze and interpreting phylogenetic trees using appropriate softwares.
ZOO-HE-6016 Biology of Insecta (Theory)	1. Understanding the general features, distribution and evolution of insects.
	2. Gaining knowledge about taxonomy, morphology, physiology of insects.
	3. Knowing about social behaviour of insects, co-evolution of insects & their host and insects as vectors.
ZOO-HE-6016 (Practical)	1. Analysation, evaluation & application of knowledge regarding insect morphology & anatomy, economic importance of insects.
ZOO-HE-6026 Fish & Fisheries (Theory)	1. Understanding and analysation of classification, morphology and physiology of fishes.
	2. Gaining in-depth knowledge about fisheries and aquaculture.
	3. Using fish in research.
ZOO-HE-6026 (Practical)	1. Analysis & interpretation morphometric and meristic characters of fishes.
	2. Practical understanding of induced breeding in fishes & pisciculture.
Z00-HE-6036 Reproductive Biology (Theory)	1. Basic concepts in Reproductive Endocrinology, male & female reproductive system, reproductive health & techniques associated with assisted reproductive technology.
ZOO-HE-6036 (Practical)	1. Knowing how to setup and maintain animal house, breeding techniques etc.
	2. Analyse histological sections of different reproductive organs.

	3. Understanding of modern contraceptive devices.
ZOO-HE-6056 Dissertation	1. Understanding and performing basic Research on Zoology specific topics
CBCS (General)	
Semester I	
ZOO-HG-1016 Animal diversity (Theory)	1. Understanding the characteristics, Classification, life cycle, physiology, evolutionary significance of animals.
ZOO-HG-1016 (Practical)	1. Practically understanding the morphological aspects of animals.
Semester II	
ZOO-HG-2016 Comparative anatomy and Developmental Biology of Vertebrates (Theory)	1. In depth knowledge on the anatomy and development of various vertebrate groups.
ZOO-HG-2016 (Practical)	1. Practical knowledge on the osteology and developmental stages of representative vertebrates
Semester III	
ZOO-HG-3016 Physiology and Biochemistry (Theory)	1. Understanding various aspects of different physiological systems and the organs involved in animals. 2. Understanding the concept of metabolism of various biomolecules.
ZOO-HG-3016 (Practical)	1. Enabling identification, estimation etc of various molecules in biological samples.
Semester IV	
ZOO-HG-4016 Genetics and Evolutionary Biology (Theory)	1. Enhancing concepts of Mendelian Genetics; Principles of inheritance and variation. 2. Understanding and analyze the origin and evolution of various kinds of organisms.
ZOO-HG-4016 (Practical)	1. Students gain knowledge about Mendelian inheritance & gene interactions. 2. Knowing linkage mapping, karyotyping, Chi-square test, Pedigree analysis and phylogeny.

DEPARNMENT OF STATISTICS

Programme outcomes:

The students graduating with Statistics (general) should be able to

PO1: Acquire fundamental understanding of the academic field of Statistics and its different applications in various fields.

PO2: Recognize the role of approximation and mathematical approaches to analyze the real life problems.

PO3: Plan and execute statistical experiments, analyze and interpret data whice are collected using appropriate methods.

PO4: Solve different types of Statistics related problems with well defined solutions.

PO5: Gain proficiency in using Statistical software for analyzing data.

Programme Specific outcomes:

PSO1: Statistical knowledge: students should demonstrate proficiency in probability and statistical theory and methods.

PSO2: Presentation and interpretation of data: students should demonstrate the ability to manipulate and visualize data and to compute standard statistical summaries.

PSO3: Mathematical knowledge: students should demonstrate skill in applying fundamental mathematical techniques.

Course outcomes:

Semester-I (Non-CBCS)

Paper-101, Descriptive Statistics and Finite Difference

At the end of the course the students will acquire-

CO1: **(a)** Concept of statistical population and sample, qualitative and quantitative data

(b) Collection of primary, secondary data and scrutiny of data

(c) Presentation of data: diagrammatic and graphical representation of data. Frequency and cumulative frequency distributions and their graphical representations.

(d) Analysis of quantitative data: Concept of measures of central tendencies and Dispersions along with moments, skewness and kurtosis.

CO2: (a) Concept of finite difference, operators Δ and E and their relationship and properties, Difference table and missing term estimation.

   (b) Knowledge of Interpolation, Newton's forward and backward interpolation formula.

   (c) Concept of Divided Difference, Divided difference table, Newton's DD formula,

   and Lagrange's interpolation formula.

   (d) Concept of Numerical Integration, General Quadrature formula, Trapizoidal rule,

   Simpson's one-third and three-eighth rule and Newton-Raphson method.

CO3: (a) Knowledge of Index Number.

   (b) Consruction of wholesale price index number and different formulae.

   (c) Chain based index number and concept of cost of living index number.

Semester-I (CBCS)

Paper-STA-RC-1016, Statistical Methods

At the end of the course the students will acquire-

CO1: (a) Concept of Statistics and its scope, Concept of statistical population and sample.

   (b) Knowledge of data: qualitative and quantitative data. Concept of attributes and

   variables.

   (c) Knowledge of Scales of measurement: nominal, ordinal, ratio and interval scale.

   (d) Presentation of data: tabular and graphical representation of data.

CO2: (a) Concept of measures of central tendencies: mathematical and positional.

   (b) Measures of Dispersions along with moments, skewness and kurtosis.

CO3: (a) Concept of finite difference, operators Δ and E and their relationship and properties,

   Difference table and missing term estimation.

   (b) Knowledge of Interpolation, Newton's forward and backward interpolation formula.

   (c) Concept of Divided Difference, Divided difference table, Newton's DD formula,

   and Lagrange's interpolation formula.

(d) Concept of Numerical Integration, General Quadrature formula, Trapizoidal rule,

Simpson's one-third and three-eighth rule and Newton-Raphson method.

CO4: **(a)** Concept of Bivariate data, scatter diagram, simple, multiple and partial correlation, rank correlation.

(b) Concept of linear regression, principle of least squares and curve fitting.

CO5: (a) Theory of Attributes and consistency of data.

(b) Independence and association of attributes.

(c) Measures of association and contingency.

Practical Statistics

At the end of the course the students will be able to

CO1: Represent data graphically.

CO2: Solve problems based on measures of central tendencies.

CO3: Solve problems based on dispersion.

CO4: Solve problems based on combined mean and variance, coefficient of variation.

CO5: Solve problems based on moments, skewness and kurtosis.

CO6: Fit polynomial and exponential curves.

CO7: Solve Karl Pearson's coefficient of Correlation.

CO8: Solve Partial and Multiple correlations.

CO9: Solve Spearman's rank Correlation with and without ties.

CO10: Solve correlation coefficient for bivariate data.

CO11: Find lines of regression, angle between them and estimated values of variables.

CO12: To check consistency of data and finding association among attributes.

Semester-II (Non-CBCS)

Paper-201, Probability and Distributions

At the end of the course the students will acquire-

CO1: (a) Knowledge of probability, random experiment, sample point and sample space, events-

mutually exclusive and exhaustive events.

(b) Properties of probability.

(c) Knowledge of conditional probability, independent event and theorem of total and

compound probability.

(d) Bayes' theorem and its applications.

CO2: (a) Concept of univariate random variables: discrete and continuous with its probability

functions, p.m.f. and p.d.f.

(b) Knowledge of expectation, variance and related theorems.

(c) Knowledge of Moments and measures of location and dispersion of random variables.

(d) Concept of Chebyshev's inequality, WLLN.

(e) Knowledge of different distributions, viz. Bernoulli, Binomial, Poisson and Normal.

(f) Concept of central limit theorem.

Semester II (CBCS)

Paper-STA-RC-2016, Introductory Probability

At the end of the course the students will acquire-

CO1: (a) Knowledge of probability, random experiment, sample space, events.

(b) Concept of different definitions of Probability: Classical, Statistical and Axiomatic.

(c) Knowledge of conditional probability, Addition and Multiplication theorem,

independent event and theorem of total probability.

(d) Bayes' theorem and its applications.

CO2: (a) Concept of random variables: discrete and continuous with its probability functions,

p.m.f. and p.d.f.

(b) Knowledge of expectation, variance.

(c) Moments and moment generating function

CO3: (a) Idea of convergence in probability.

(b) Concept of Chebyshev's inequality, WLLN.

(c) Idea of De-Moivre Laplace and Lindeberg-Levy central limit theorem.

(d) Knowledge of different distributions, viz. Binomial, Poisson, Geometric, Negative-Binomial, Hypergeometric, Uniform, Normal, Exponential, Beta and Gamma distributions.

Practical Statistics

At the end of the course the students will be able to

CO1: Fit Binomial distribution for given n and p=q=1/2.

CO2: Fit Binomial distribution for given n and p.

CO3: Fit Binomial distribution and computing its mean and variance.

CO4: Fit Poisson distribution for given lamda.

CO5: Fit Poisson distribution by computing its mean.

CO6: Apply Binomial distribution.

CO7: Apply Poisson distribution.

CO8: Solve problems based on area property of Normal distribution.

CO9: Find the ordinate for a given area of Normal distribution.

CO10: Apply Normal distribution.

CO11: Fit Normal distribution for given value of parameters.

CO12: Fit Normal distribution when parameters are not given.

Semester-III (Non-CBCS)

Paper-301, Applied Statistics I and Correlation, Regression

At the end of the course the students will acquire-

CO1: (a) Knowledge of Vital Statistics, different death rates- CDR, Age SDR, STDR, different

fertility rates: CBR, GFR, Age SFR, TFR, GRR and NRR .

(b) Concept of life tables and its different columns.

CO2: (a) Idea of sampling distribution: concept of population and sample, parameter and

statistic.

(b) Sampling distribution and standard error.

(c) Idea of hypothesis, Type I and Type II errors, level of significance.

(d) Application of chi-square, t and F distribution.

(e) Large sample test and confidence interval of sample mean and proportion.

(f) Idea of measures of association and contingency.

CO3: (a) Scatter diagram, idea of simple correlation and its properties.

(b) Concept of linear regression, regression lines and coefficients, angle between them,

principle of least squares.

(c) Partial and multiple correlation and regression and OLS estimation.

Semester III (CBCS)

Paper-STA-RC-3016, Basics of Statistical Inference

At the end of the course the students will acquire-

CO1: (a) Knowledge of testing of hypothesis: estimation of population mean and confidence

interval for parameters of Normal distribution.

(b) Concept of null and alternative hypotheses.

(c) Knowledge of Type I and Type II errors, level of significance and concept of p value.

(d) Test of hypotheses for parameters of Normal distribution.

(e) Idea of Non-Parametric tests- sign test for median and symmetry. Wilcoxon two

sample test.

CO2: (a) Concept of random variables: discrete and continuous with its probability functions,

p.m.f. and p.d.f.

(b) Knowledge of expectation, variance.

(c) Moments and moment generating function

CO3: (a) Idea of convergence in probability.

(b) Concept of Chebyshev's inequality, WLLN.

(c) Idea of De-Moivre Laplace and Lindeberg-Levy central limit theorem.

(d) Knowledge of different distributions, viz. Binomial, Poisson, Geometric, Negative-Binomial, Hypergeometric, Uniform, Normal, Exponential, Beta and Gamma distributions.

CO4: (a) Idea of categorical data- test of proportions.

(b) Test of association and goodness-of-fit using chi-square test and Yates' correction.

CO5: (a) Concept of Analysis of Variance in one way and two way classifications.

(b) Idea of basic principles of design of experiment, treatment, plot and block.

(c) Analysis of CRD and RBD.

Practical Statistics

At the end of the course the students will be able to

CO1: Estimate the population mean.

CO2: Find confidence interval for the parameters of Normal distribution.

CO3: Test the hypotheses for the parameters of Normal distribution.

CO4: Test significance of proportions.

CO5: Test the association by using chi-square test.

CO6: Test the goodness-of-fit by using chi-square test.

CO7: Test the correlation coefficient.

CO8: Solve problems based on Sign test for median.

CO9: Solve problems based on Sign test for symmetry.

CO10: Solve problems based on Wilcoxon two sample tests.

CO11: Test ANOVA for one-way classified data.

CO12: Test ANOVA for two-way classified data.

CO13: Analyze CRD.

CO14: Analyze RBD.

Semester IV (Non-CBCS)

Paper -401, Sample Survey and Design of Experiment

At the end of the course the students will acquire-

CO1: (a) Idea of sample survey- its basic principles, biases and steps involved in large scale

survey.

(b) Concept of judgment sampling, SRS (with and without replacement), stratified

sampling, Neyman's and proportional allocation, systematic sampling.

CO2: (a) Idea of design of experiment- its assumptions and basic principles, analysis of variance

in one way and two way classifications

survey.

(b) Analysis of CRD, RBD and LSD.

(c) Concept of factorial experiment; 2^2 and 2^3 experiments.

Semester IV (CBCS)

Paper-STA-RC-4016, Applied Statistics

At the end of the course the students will acquire-

CO1: (a) Idea of Time Series- its components and decomposition- additive and multiplicative

model with merits and demerits and illustration of time series.

(b) Measures of trends by different method like free-hand, semi-average and least

squares.

(c) Measure of seasonal variation by ratio to trend method.

CO2: (a) Concept of Index number: its definition, criteria and types of index numbers.

(b) Construction of price and quantity and consumer price index numbers.

(c) Uses and limitations of index numbers.

CO3: (a) Idea of Statistical Quality Control- its importance in industrial research.

(b) Concept of chance and assignable causes of variations, process and product control.

(c) The theory of control chart- X-bar and R-charts.

(d) Knowledge of control charts for attributes: p-bar and c-charts.

CO4: **(a)** Idea of demographic methods and measurement of population.

(b) The rates and ratios of vital events.

(c) Idea of different death rates- CDR, Age and Sex SDR, STDR and IMR.

(d) Concept of life tables and its uses.

(e) Idea of different fertility rates- CBR, GFR, TFR, GRR and NRR.

CO5: **(a)** Concept of Demand Analysis, theory of consumption and demand.

(b) Idea of demand function, elasticity of demand and its determination.

(c) Concept of Lorentz curve and Gini's coefficient.

(d) Concept of Engel's law and curve.

(e) Idea of Pareto's law of income distribution.

Practical Statistics

At the end of the course the students will be able to

CO1: Measure the trend- fitting of linear, quadratic and exponential curve and plotting of trend

values and comparing with given data graphically.

CO2: Measure of seasonal indices of by ratio to trend method and plotting of trend

values and comparing with given data graphically.

CO3: Construct price and quantity index numbers by Laspeyre's, Paasche's, Marshall-

Edgworth's and Fisher's formula, its comparision and interpretation.

CO4: Construct wholesale price and fixed base index numbers and consumer price index

numbers with interpretation.

CO5: Construct and interpret X-bar and R-charts.

CO6: Construct and interpret p-bar and c-charts.

CO7: Compute measures of mortality.

CO8: Complete the different columns of Life Table.

Department of Mathematics

Programme specific outcomes: On successful completion of B.Sc. (Mathematics Honours) programmes,

- The students will be able to solve real life problems using mathematical tools.
- It will increase logical thinking capacity of the students.
- The students will be able to identify application of mathematics in different areas of science and commerce.
- The students can communicate through computational and graphics means.

Course Outcomes:

Course	Outcomes
Calculus	Student understand the concept of double and triple with its application to compute area, volume, surface area of solid object, arc length of curve etc. Students will learn the application of calculus in business, economics and life science.
Algebra	This will increase the logical thinking capacity of students in practical life. Students will also learn the application of system of linear equation in economics, chemistry etc.
Real Analysis	Students will be able to learn different properties of real line such as algebraic and ordered properties. Student will also learn the concept of sequence and series and their convergence.
Differential Equation	Students will learn the basic concept of differential equations for formulation of mathematical modeling. Student will learn to solve 1st and higher order differential equations.
Theory of Real functions	Students will be able to learn the concept of limit, continuity, differentiability of function and their properties.
Group Theory- I	Students will learn the fundamental of groups and symmetrical figures.Students will also learn langrange's theorem, Farmat's theorem and concepts of group homomorphism.
Analytic Geometry	Students will learn the basic tools of 2-D and 3-D coordinate system, general conics etc.
Combinatorics and Graph Theory	Students will learn the basic method of counting, pigeon hole principle and their applications. Students will also learn Basics of graph theory
Mechanics	Students will learn various concepts of physical quantities and related effects on different objects using mathematical tools. Students will also learn use of mathematics in physical science related problems.
Real and complex Analysis	Students will learn the concept of limit, continuity and differentiability of several variable real functions and

	complex functions. . Students will also learn concept of Riemann integration, analytic functions.
Topology	Students will learn the concepts of metric and topological space, non linear space, inner product space, Banach space.
Triginometry and Astronomy	Students will learn the concept of spherical triangles, Napier's rule of planetory motion and circular path
Rigid dynamics	Students will learn moment and product of inertia of a body, D' Alembert's principle, motion of a body in 2D and Lagrange's equations.
Probability	Students will learn basic stastical concepts and tools to study different situation with uncertainity
Optimization Theory	Students will learn basics concepts of Simplex Method, Big -M method, Two phase method, assignment and Transportation problem
Statics and Dynamics	Student will learn component of velocity along radial and transverse direction. They will also learn the law of friction, center of gravity of plane curve system of coplanar forces and conditions of equilibrium..
Hydrostatics	Students will learn compute hydrostatic pressure and force on curve and plane surface. They will also learn to solve problems of Buoyancy forces.
Numerical Analysis	Students will learn the concepts of interpolation, numerical differentiation and integration. Students will learn different methods such as bisection method, Regula-falsi method, Newton Raphson's method to solve algebraic and transcendental equation.
Computer programing in C	Students will learn the C-programming and its applications in understanding Cartesian geometry and factorization of integer. They will also learn sum of matrices, their products.
Number Theory	Students will learn the concepts of congruence, linear diophantine equation, euler's phi function, function of τ and , mobious function, basics of Boolean algebra and logic gate.

DEPARTMENT OF SANSKRIT: COURSE OUTCOME/PROGRAMME OUTCOME/ PROGRAMME SPECIFIC OUTCOME:

I. COURSE OUTCOME:

1.Tarkasamgraha, Rksamhita , Atharveda
CO 1- Introduction of Indian philosophy and its divisions – Astika , Nastika .
CO 2- Assessing the theories of Tarkasamgraha .
CO 3- Explaining the Concept of Pramana , prama and pramiti.
Analysing the concept of valid knowledge .
CO 4- Classification of Pratyaksa pramana .
CO 5- Understanding basic concepts karana karya , saptapadartha and navadavayas.
CO 6- Discussing the other sources of valid knowledge.
CO 7- Explaining the basic concept of Vedic period .
CO 8- Analysing the Agnisukta of Rkveda.
CO 9- Describing the significance of Agni devota.
CO 10- Analysing the characterics of Agni , Indra and Vayu.
CO 11- Discussing the subject matter of Atharva veda .

Contact Hours: 5.25 hrs a week
Tutorial: 9 hrs annually
2.Raghuvamsam ,Svapnavasavadattam, Laghusiddhantakaumudi
CO 1-Critically examine Vasa as a dramatist.

CO 2- Mahakavi kalidasa and his works.
CO 3- Analysing Raghuvamsam as a mahakavya.
CO 4- Discuss about the title of the drama Savpnavasavadattam.
CO 5- Discussing the Character of the hero Udayana and Yougandharayana.
CO 6- Comperative study of the character of the drama and dramatical significance of Svpnavasavadattam.
CO 7- Panini and his grammatical works
Contact Hours: 5.25 hrs a week
Tutorial: 9 hrs annually
3.Hitopadesa, Chandamanjari,
CO 1- Introducing the Indian didactic fable literature and its importance in society.

CO 2- Examining the Rights and Duties of a common people with a study of the significance and status of Directive Principles.
CO 3- Introduction of Chandrasastra and its importance in Sanskrit literature.
CO 4- Critically analyzing the important rules and duties of the student life for future purpose.

CO 5- Discuss about the chandras like-Anustup ,Drutavilambita ,Bhujangaprayata, Indravajra,Upendravajra, Sikharini etc.

CO 6- Critically evaluating the title of Hitopadesa.
CO 7- Discuss about the purpose of Hitopadesa.

CO 8- Didactic fable and popular tale in Sanskrit.

CO 9- Fable Examples and definition and literary devices.
Contact Hours: 5.25 hrs a week
Tutorial: 9 hrs annually
4 Ramayana , Mahabharata , Arthavabodha
CO 1- Explaining scope and subject matter of Ramayana.
CO 2- Discuss the title of the Ramayana.
CO 3- Source of Ramayana and its commentators and commentaries .
CO 4- Valmiki as a Adikavi and Ramayana as a Adikavya.
CO 5- Explaining the character of Rama and his kingdom .
CO 6- Describing the Mahabharata and Ramayana as a mahakavya.
CO 7- Discussing the developments of Mahabharata .
CO 8- Discuss the duties of Brahmacharya and Garhosthya Asrama.
CO 9- Impact of Mahabharata in latter literature.
CO 10- Analysing the subject matter of Mahabharata.
CO 11- Mahabharata as a source of Dharmasasta.
Contact Hours: 5.25 hrs a week
Tutorial: 9 hrs annually
5. Sahityadarpana ,Laghusiddhantakaumudi
CO 1- Characteristics of Nataka.
CO 2- Examining the Sandhi and pataka.
CO 3- Evaluating the Characterics of Natika.
CO 4- Critically examining about Abhinaya.
CO 5- Discuss about Pratyas and Stripratyas.
CO 6- Discuss about bivokti**.**
Contact Hours: 3.75 hrs. A week
Tutorial: 12 hrs. annually
6. **Sanskrit literature, Indian philosophical System , Tarkasamgraha**
CO . Discuss Kalidasa as a poet.
CO 2- Analysing the Panchamahakavyas.
CO 3- Critically analyse the lyrical literature .
CO 4- Aswaghosa and his works
CO 5- Explaining the characteristics of Indian Philosophy .
CO 6- Eightfold Path of Bauddha Darsana .
CO 7- Analysing the Astango yoga of Yoga Darsana.
CO 8- Subject matter of Jain Darsana .
CO 9- Describing the theory of liberation according to Vedanta Darsana.
CO 10- Analysing the theory of Nirbana.
CO 11- Discussing the Anumana pramana and its divisions.
CO 12- Salient features of Nyayadarsana.

Contact Hours: 3.75 hrs. a week
Tutorial: 12 hrs. annually
7. Sanskrit philology ,Mimamsa darsana , Indian art
CO 1- Studying the concepts of Sabdasakti.
CO 2- Discuss about Laksana.
CO 3- Evaluating the impact of Sabdasakti.
CO 4- Relating Abhidha and Laksana.

CO 5- Discuss about the concept of Abhidha.

CO 6- Discssing Indo-Eurupian language .
CO 7- Difference between Vedic and classical sanskrit.
CO 8- Discussing the Indian Art.
CO 9- Evaluating the concept of Sindhu Sabhayata.
CO 10- Discussing Rajput painting.
CO 11- Dravir sabhayata.
CO 12- Old indo Aryan language
CO 13- Difference between Cantom Satam
Contact time: 3.75 hrs. A week
Tutorial: 12 hrs. Annually
8.Sarvadarsanasamgraha, Samkhyakarika
CO 1- Explaining the salient features of Carvaka Darsana.
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CO 2- Discussing making four catagories of Carvaka Darsana.
CO 3- Analysing the major Concepts of Valid knowege.
CO 4- Discussing the reasons for not accepting Anumana as a source of valid knowledge.
CO 5- Discussing the Panini Darsana.
CO 6- Analysing the theory of Sphotavada.
CO 7- Discussing the importance of studying grammar.
CO 8- Studying the purpose of grammar .
CO 9- Discuss about the paninis Astadhayi.
CO 10- Assessing the relationship between Trigunas and Prakriti.

CO 11- Understanding the concept of Prakriti.
CO 12- Examining Satkaryavada.
CO 13- Analysing the concept of Moksa.
CO 14- Explaining the theory of creation according to Samkhyakarika.
Contact time: 3.75 hrs. a week
Tutorial: 12 hrs. annually
9. Kavyaprakas ,Sahityadarpana ,kavyamimamsa
CO 1- Explaining the nature of Kavya.
CO 2- Analysing the concept of Hatu.
CO 3- Discuss about the necessity of Kavya.
CO 4- Discussing the origin of Kavyamimamsa.
CO 5- Discuss about Rajasekhara and his work.
CO 6- Explaining the different types of Alamkaras .
CO 7- Content of Sahitydarpana**.**
CO 8- Distinguish between Upama and Rupaka Alamkaras.
CO 9- Explaining the difference between Sabdalamkara and Arthalamkara.
Contact hours: 2.25 hrs a week
10. Kadambari , Abhijnasakuntalam ,
CO 1- Discuss about Sudraka.
CO 2- Explain the jabali asrama.
CO 3- Explain about Sandala kanya .
CO 4- Sukanasupadaso**.**
CO 5- Kalidasa and his work .
CO6-Character of Dusyanta and Sakuntala.
CO7- Anasuya and Priyamboda

CO8- Kanva munir Asrama.
CO9- Curse of Durvasa.
CO10- Place of nature in Abhijnasakuntalam .
Contact Hours: 2.25 hrs. a week
11. Kiratarjuniyam ,Kumarasambhavam , Nitisatakam
CO 1- Character of Draupadi and Draupadi speech .
CO 2- Studying Boneswar speech.
CO 3- Examining the title of Kiratarjuniyam.
CO 4- Evaluating the role of Duryudhana.
CO 5- Evaluating the Writing style of Bharabi.
CO 6- Examining the Kumarasambhavam as aMahakavya.
CO 7- Studying the concept of Akalabasanta..
CO 8- Assessing the summary of Nitisatakam.
CO 9- Studying the works of Bhattihari.
CO 10- Discuss about Kamadahana.
Contact hours: 2.25 hrs. a week
12. Kathopanisad ,Niruktam, Vedic grammar
CO 1- Introduction of Kathopanisada.
CO 2- Discuss the saryamarg prayamarg of kathopanisada.
CO 3- Analysing the story of Nasiketa and yama.
CO 4- Understanding the concept of soul according t Kathopanisada.

CO 5- Discuss about Vedic Upasargas**.s**
CO 6- Yaska and three varities of Mantra .
CO 7- Explaining the meaning of the paninion ophorism.
Contact hours: 4.5 hrs a week
PROGRAMME OUTCOME
PO1-Sanskrit and Society: understanding the inter relationship between Sanskrit language and
 society. This is achieved through a comprehensive teaching of the practice of culture ,Moral value
etc.
**PO2-Critical thinking or Research skills :Students will be able to identify topics and formulate
questions for productive enquiry**
PO3 - Effective Learning : the course curriculum
PO4 - Communication: The course develops the communicative skills of the students.
PO5- Culture and History : Students will gain a knowledge of the major traditions of literatures
written in Sanskrit language.
SANSKRIT DEPARTMENT
PROGRAMME SPECIFIC OUTCOME
PS0 1 - Advanced knowledge of ancient Indian Philosophy ,Literature and history.
PSO2 – Strong communicative skill in Sanskrit .
PSO3- Critical evaluation of different topics develops the research skills.
PSO4 –Command over devonagori script ,which provide them the poleographical knowlege for
further study.
PSO5 – Practice of textual analysis of Sanskrit and vedic Sanskrit text endowed him/ her to
developed a critical perspective to assess existing research through careful reading analysis and
discussion .
PSO6 - Developing knowledge of mahakavya and Dharmasastra studies and also help to know about
Ancient social structures and practices.
PSO7 – Students will gain a knowledge of the major traditions literatures written in Sanskrit .
PSO8 –The ability to apply relevant theoretical perspectives in Sanskrit philosophical and literary
works to contemporary topics.
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