

Department of Mathematics

Achhruram Memorial College, Jhalda
(Affiliated to Sidho-Kanho-Birsha University, Purulia, W.B.)



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Programme Outcomes: BACHELOR OF SCIENCE (B.Sc.)

PO-1: Graduates of this program excel in practical skills through hands-on activities.

PO-2: Students gain familiarity with recent trends in scientific research and developments.

PO-3: Graduates acquire practical skills that make them employable and eligible for job opportunities or further training courses.

PO-4: Students develop a deep understanding of their field, enhancing their chances of admission to top institutions in the country.

PO-5: The program stimulates an aptitude for research among students, encouraging them to undertake projects in leading laboratories upon program completion.

PO-6: A significant outcome of the program is the cultivation of higher life values among students, enabling them to navigate challenges in their future endeavors.

Programme Specific Outcomes: B.Sc. in Mathematics

PSO-1: Develop logical and analytical skills to facilitate abstract thinking necessary for advanced studies.

PSO-2: Acquire proficiency in advanced mathematical topics to prepare for further studies in mathematics.

PSO-3: Formulate and articulate mathematical arguments in a coherent and logical manner.

PSO-4: Attain a comprehensive understanding of advanced concepts in mathematics and statistics covered in the courses.

PSO-5: Develop the ability to formulate mathematical problems based on real-life scenarios, analyze them, and propose solutions.

PSO-6: Learn mathematical techniques applicable in various sectors such as education, banking, corporate, and IT industries.

BACHELOR OF SCIENCE(BSC) HONOURS IN MATHEMATICS (CBCS)

Course Outcomes:

First Semester	
<p>BMTMCCHT101 (CC-1) Calculus & Analytical Geometry (2D)</p>	<p>CO-1: Develop proficiency in Higher Order Derivatives & Leibniz's Rule for Successive Differentiation and explore its applications.</p> <p>CO-2: Attain a comprehensive understanding of Intermediate Forms and L'Hôpital's Rule.</p> <p>CO-3: Grasp the fundamental concepts of Partial Derivatives and explore the applications of Euler's Theorem.</p> <p>CO-4: Acquire familiarity with the applications of Differential Calculus.</p> <p>CO-5: Gain proficiency in Reduction Formulae in Integration and explore the applications of Integral Calculus.</p> <p>CO-6: Attain comprehension of the Transformation of Axes and its utility in transforming the General Equation of Second Degree into Canonical form.</p> <p>CO-7: Develop a grasp of the geometric properties of two-dimensional plane figures.</p> <p>CO-8: Acquire familiarity with the Polar Coordinate system and the representation of lines, circles, conics, as well as tangent and normal lines to conics in polar equations.</p>
<p>BMTMCCHT102 (CC-2) Algebra-I</p>	<p>CO-1: Attain comprehension of De Moivre's Theorem and its applications.</p> <p>CO-2: Attain comprehension of Rolle's Theorem and its applications.</p> <p>CO-3: Acquire methods for solving equations, including transformed equations, cubic equations, bi-quadratic equations, and reciprocal equations.</p> <p>CO-4: Develop familiarity with Arithmetic Mean (A.M.), Geometric Mean (G.M.), and Harmonic Mean (H.M.), along with useful inequalities.</p> <p>CO-5: Develop familiarity with Simple Continued Fractions and their convergence properties.</p> <p>CO-6: Understand the Concept of Mappings, Equivalence Relations, and Lattices.</p>

	<p>CO-7: Grasp the Concept of Mathematical Induction and the Fundamental Theorem of Arithmetic.</p> <p>CO-8: Understand Euclid's Algorithm, Greatest Common Divisor (GCD), and Least Common Multiple (LCM).</p> <p>CO-9: Understand the definitions of congruence, power of congruence, and related theorems.</p> <p>CO-10: Familiarize with Euler's Phi (ϕ)-function, Möbius Mu (μ)-function, and the Solution of Diophantine Equations.</p>
Second Semester	
<p>BMTMCCHT201 (CC-3) Real Analysis-I</p>	<p>CO-1: Demonstrate comprehension of the algebraic and order properties inherent to real numbers, as well as grasp the concept of completeness within the real number system.</p> <p>CO-2: Gain insight into the distinction between countable and uncountable sets, appreciating their respective characteristics and implications.</p> <p>CO-3: Acquire a conceptual understanding of limit points, open sets, and closed sets, discerning their significance within the context of topological spaces and real analysis.</p> <p>CO-4: Develop proficiency in the comprehension and application of sequences and series of real numbers, including the exploration of their convergence properties and behaviors.</p>
<p>BMTMCCHT202 (CC-4) Ordinary Differential Equations and Linear Algebra</p>	<p>CO-1: Acquire proficiency in the fundamentals of first-order linear ordinary differential equations, including their solution methodologies and techniques.</p> <p>CO-2: Demonstrate competency in the identification and application of solution techniques for first-order nonlinear ordinary differential equations, encompassing both analytical and numerical approaches.</p> <p>CO-3: Develop an understanding of the practical applications of first-order ordinary differential equations, particularly in relation to orthogonal trajectories, and appreciate their significance in various scientific and engineering contexts.</p> <p>CO-4: Gain familiarity with diverse solution methodologies for higher-order linear ordinary differential equations, distinguishing between those with constant coefficients and those with variable coefficients, and mastering their respective solution techniques.</p> <p>CO-5: Cultivate a comprehensive understanding of simultaneous linear ordinary differential equations and total differential equations, exploring their interrelations and solution strategies within mathematical modeling and scientific analysis.</p> <p>CO-6: Develop a conceptual understanding of vector spaces,</p>

	<p>encompassing the notions of basis and dimension within the context of finite-dimensional vector spaces.</p> <p>CO-7: Gain familiarity with the existence and solution techniques of systems of linear equations, exploring both theoretical underpinnings and practical methodologies for finding solutions.</p>
Third Semester	
BMTMCCHT301 (CC-5) Real Analysis-II	<p>CO-1: Develop a thorough understanding of the concepts of limits, continuity, and differentiability in the context of functions defined over both single and multiple variables.</p> <p>CO-2: Explore the mean value theorems and their practical applications in analyzing functions and their behaviors.</p> <p>CO-3: Acquire proficiency in determining series expansions for various functions, utilizing techniques such as Taylor series and Maclaurin series.</p> <p>CO-4: Master the methods for identifying extrema of functions, including the application of Lagrange multipliers to constrained optimization problems.</p> <p>CO-5: Gain insight into the principles of double and triple integration for the computation of areas and volumes in both two and three-dimensional space, respectively.</p>
BMTMCCHT302 (CC-6) Algebra-II	<p>CO-1: Develop a foundational understanding of abstract algebraic structures, including groups, subgroups, cyclic groups, permutation groups, centralizers, and normalizers.</p> <p>CO-2: Explore Lagrange's theorem and its corollaries, including the implications of Fermat's little theorem, within the framework of group theory, recognizing their significance in various mathematical contexts.</p> <p>CO-3: Gain insight into the conceptual framework of rings and fields, exploring their properties, structures, and relationships within algebraic systems.</p>
BMTMCCHT303 (CC-7) Geometry-3D & Vector Analysis	<p>CO-1: Develop a comprehensive understanding of three-dimensional space and its geometric properties, encompassing spatial relationships and structures within a three-dimensional Cartesian coordinate system.</p> <p>CO-2: Acquire knowledge of the geometric attributes inherent to fundamental three-dimensional shapes such as spheres, cones, cylinders, and the generation principles of quadric surfaces, including the roles of their generators.</p> <p>CO-3: Explore the conceptual framework of central conicoids, including ellipsoids and hyperboloids of one or two sheets, examining their geometric properties and significance within spatial geometry.</p>

	<p>CO-4: Gain familiarity with generating lines associated with ruled and skew surfaces, understanding their construction principles and geometric characteristics within three-dimensional space.</p> <p>CO-5: Develop an understanding of coordinate axis transformations in three dimensions, and methods for reducing second-degree equations to canonical forms, facilitating analysis and manipulation of geometric entities in a standardized manner.</p> <p>CO-6: Comprehend vector products involving three or more vectors.</p> <p>CO-7: Understand vector calculus, encompassing differentiation and integration of vector-valued functions.</p> <p>CO-8: Grasp the concepts of gradient, divergence, and curl of vectors, including their properties.</p> <p>CO-9: Explore line, surface, and volume integrals of vector functions, along with applications of Green's theorem and Stokes' theorem.</p>
<p>BMTMSEHT305 (SEC-1) Logic and Sets</p>	<p>CO-1: Understand propositions and truth tables.</p> <p>CO-2: Learn about the precedence of logical operators and propositional equivalences.</p> <p>CO-3: Grasp predicates and quantifiers.</p> <p>CO-4: Gain an elementary understanding of sets and relations, along with their applications.</p>
<p>Fourth Semester</p>	
<p>BMTMCCHT401 (CC-8) Dynamics of Particle</p>	<p>CO-1: Understand particle motion in straight lines within resisting and non-resisting mediums.</p> <p>CO-2: Gain familiarity with simple harmonic motion and its practical applications.</p> <p>CO-3: Comprehend impulsive forces and their role in elastic body collisions.</p> <p>CO-4: Understand particle motion in a two-dimensional Cartesian plane.</p> <p>CO-5: Grasp particle motion in a two-dimensional polar plane and its relevance in studying central orbits and planetary motion.</p> <p>CO-6: Conceptualize constrained motion scenarios.</p>
<p>BMTMCCHT402 (CC-9) Partial Differential Equation, Laplace</p>	<p>CO-1: Grasp the fundamental concepts of partial differential equations.</p>

<p>Transform & Tensor Analysis</p>	<p>CO-2: Gain familiarity with the formation and solution techniques for both linear and non-linear partial differential equations.</p> <p>CO-3: Understand the fundamental principles of Laplace transform, including its application to elementary functions and derivatives.</p> <p>CO-4: Grasp the Convolution Theorem, the inverse of Laplace transform, and apply Laplace transform techniques to solve ordinary differential equations.</p> <p>CO-5: Grasp the concept of tensors as a generalized notion of vectors in both three-dimensional and n-dimensional spaces.</p> <p>CO-6: Understand covariant, contravariant, and mixed tensors, including their algebraic operations such as contraction, outer and inner products, and the quotient law.</p> <p>CO-7: Become acquainted with the metric tensor of Riemannian space, Christoffel symbols, and covariant differentiation of tensors.</p>
<p>BMTMCCHT403 (CC-10) Real Analysis-III</p>	<p>CO-1: Attain comprehensive understanding of Riemann and improper integration.</p> <p>CO-2: Comprehend the convergence properties of beta and gamma functions.</p> <p>CO-3: Grasp the concept of sequences and series of functions, along with their convergence behavior.</p> <p>CO-4: Learn about Fourier series and the expansion of functions using Fourier series.</p> <p>CO-5: Understand power series and techniques for finding the radius and interval of convergence for power series.</p>
<p>BMTMSEHT405 (SEC-2) Graph Theory</p>	<p>CO-1: Grasp the concept and fundamental properties of graphs.</p> <p>CO-2: Understand Eulerian and Hamiltonian graphs.</p> <p>CO-3: Learn graph representation using matrices, including adjacency and incidence matrices.</p> <p>CO-4: Gain insight into the application of graphs in solving the Traveling Salesman Problem.</p>
<p>Fifth Semester</p>	
<p>BMTMCCHT501 (CC-11) Algebra-III</p>	<p>CO-1: Comprehend the concepts of quotient groups and quotient rings.</p> <p>CO-2: Become acquainted with the isomorphism theorems of groups and rings.</p> <p>CO-3: Familiarize with linear transformations and their matrix</p>

	<p>representations.</p> <p>CO-4: Understand eigenvalues and eigenvectors of matrices, including the diagonalization of matrices of order 2 and 3.</p> <p>CO-5: Grasp the elementary concepts of inner product spaces and norms.</p>
BMTMCCHT502 (CC-12) Metric Spaces & Complex Analysis	<p>CO-1: Understand metric spaces with standard examples.</p> <p>CO-2: Become familiar with continuity and homeomorphisms in metric spaces.</p> <p>CO-3: Study compactness, connectedness, and completeness of metric spaces in detail.</p> <p>CO-4: Grasp the stereographic projection of complex numbers and the extended complex plane.</p> <p>CO-5: Understand the concepts of limit, continuity, and differentiability of complex functions, including the Cauchy-Riemann equation.</p> <p>CO-6: Gain insight into conformal mappings and bilinear transformations.</p>
BMTMDSHT1 (DSE-1) Linear Programming	<p>CO-1: Introduce optimization problems and formulate linear programming problems.</p> <p>CO-2: Gain familiarity with the basic theorems of linear programming problems (LPP) and concepts of convex sets, convex functions, feasible solutions, and basic feasible solutions of LPP.</p> <p>CO-3: Understand the simplex algorithm as a solution technique for LPP and duality theory.</p> <p>CO-4: Understand transportation and assignment problems along with their solution techniques.</p> <p>CO-5: Introduce the concept of game theory, focusing on two-person-zero-sum games.</p> <p>CO-6: Familiarize with various solution techniques for game problems and solve game problems using linear programming.</p>
BMTMDSHT2 (DSE-2) Mechanics-I	<p>CO-1: Grasp the concepts and fundamentals of classical dynamics, including inertial frames and the Galilean transformation, with practical applications.</p> <p>CO-2: Understand the motion of systems of particles.</p> <p>CO-3: Comprehend moments, products of inertia, and moments of inertia and product of inertia of some plane laminae and rigid</p>

	<p>bodies.</p> <p>CO-4: Gain insight into projection dynamics and the two-dimensional motion of rigid bodies.</p>
Sixth Semester	
BMTMCCHT601 (CC-13) Numerical Methods & Computer Programming	<p>CO-1: Understand convergence, errors, rounding-off, and truncation in numerical methods.</p> <p>CO-2: Become familiar with interpolation for both equispaced and non-equispaced arguments.</p> <p>CO-3: Comprehend various solution methods for finding roots of algebraic and transcendental equations, along with their geometric interpretations and convergence conditions.</p> <p>CO-4: Familiarize with solution methods for systems of linear equations.</p> <p>CO-5: Grasp the concept of numerical integration, including Newton-Cotes' quadrature formulas, Trapezoidal rule, and Simpson's rule.</p> <p>CO-6: Understand numerical methods for solving first-order ordinary differential equations using Euler's method and Runge-Kutta methods of order 2 and 4.</p> <p>CO-7: Acquaint with computer systems, including hardware and software components.</p> <p>CO-8: Develop an understanding of the binary number system and computer languages, including machine language (ML), assembly language (AL), and high-level languages (HLL).</p> <p>CO-9: Introduce the C programming language, covering its structure, operators, keywords, and simple programs for solving numerical problems.</p>
BMTMCCHS602 (CC-14) Computer Aided Numerical Practical (P)	<p>CO-1: Gain hands-on experience in using computers to solve numerical problems.</p> <p>CO-2: Learn to write programs in the C language for solving interpolation problems, finding roots of equations, numerical integration, and differential equations.</p>
BMTMDSHT4 (DSE-3) Probability and Statistics	<p>CO-1: Acquire comprehensive knowledge of probability, including probability density functions, probability distribution functions, and moment generating functions for both discrete and continuous variables.</p> <p>CO-2: Understand the joint cumulative distribution function, probability density function, and expectations.</p> <p>CO-3: Develop an understanding of statistical populations and</p>

	<p>random samples, along with sampling distributions and the distributions of sample means using the chi-square and t-distributions.</p> <p>CO-4: Familiarize with hypothesis testing based on z, chi-square, and t distributions.</p>
BMTMDSHT5 (DSE-4) Mechanics-II	<p>CO-1: Gain familiarity with statics, including the reduction of forces in three dimensions and the concept of couples, along with Poinso't's central axis.</p> <p>CO-2: Understand the concept of virtual work and its applications, stable and unstable equilibrium, and the equilibrium of heavy inextensible strings.</p> <p>CO-3: Develop an understanding of continuum mechanics.</p> <p>CO-4: Develop an understanding of fluid equilibrium in a field of force, including pressure and thrust on heavy fluids.</p> <p>CO-5: Familiarize with the equation of state of a perfect gas, and comprehend isothermal and adiabatic processes in an isothermal atmosphere.</p>

BACHELOR OF SCIENCE(BSC) PROGRAM COURSE WITH MATHEMATICS

Course outcomes:

First Semester	
BMTMCCRT101 Calculus & Analytical Geometry (2D)	<p>CO-1: Develop proficiency in Higher Order Derivatives & Leibniz's Rule for Successive Differentiation and explore its applications.</p> <p>CO-2: Attain a comprehensive understanding of Intermediate Forms and L'Hôpital's Rule.</p> <p>CO-3: Grasp the fundamental concepts of Partial Derivatives and explore the applications of Euler's Theorem.</p> <p>CO-4: Acquire familiarity with the applications of Differential Calculus.</p> <p>CO-5: Gain proficiency in Reduction Formulae in Integration and explore the applications of Integral Calculus.</p> <p>CO-6: Attain comprehension of the Transformation of Axes and its</p>

	<p>utility in transforming the General Equation of Second Degree into Canonical form.</p> <p>CO-7: Develop a grasp of the geometric properties of two-dimensional plane figures.</p> <p>CO-8: Acquire familiarity with the Polar Coordinate system and the representation of lines, circles, conics, as well as tangent and normal lines to conics in polar equations.</p>
Second Semester	
<p>BMTMCCRT201 Ordinary Differential Equations and Linear Algebra</p>	<p>CO-1: Acquire proficiency in the fundamentals of first-order linear ordinary differential equations, including their solution methodologies and techniques.</p> <p>CO-2: Demonstrate competency in the identification and application of solution techniques for first-order nonlinear ordinary differential equations, encompassing both analytical and numerical approaches.</p> <p>CO-3: Develop an understanding of the practical applications of first-order ordinary differential equations, particularly in relation to orthogonal trajectories, and appreciate their significance in various scientific and engineering contexts.</p> <p>CO-4: Gain familiarity with diverse solution methodologies for higher-order linear ordinary differential equations, distinguishing between those with constant coefficients and those with variable coefficients, and mastering their respective solution techniques.</p> <p>CO-5: Cultivate a comprehensive understanding of simultaneous linear ordinary differential equations and total differential equations, exploring their interrelations and solution strategies within mathematical modeling and scientific analysis.</p> <p>CO-6: Develop a conceptual understanding of vector spaces, encompassing the notions of basis and dimension within the context of finite-dimensional vector spaces.</p> <p>CO-7: Gain familiarity with the existence and solution techniques of systems of linear equations, exploring both theoretical underpinnings and practical methodologies for finding solutions.</p>
Third Semester	
<p>BMTMCCRT301 Geometry-3D & Vector Analysis</p>	<p>CO-1: Develop a comprehensive understanding of three-dimensional space and its geometric properties, encompassing spatial relationships and structures within a three-dimensional Cartesian coordinate system.</p> <p>CO-2: Acquire knowledge of the geometric attributes inherent to</p>

	<p>fundamental three-dimensional shapes such as spheres, cones, cylinders, and the generation principles of quadric surfaces, including the roles of their generators.</p> <p>CO-3: Explore the conceptual framework of central conicoids, including ellipsoids and hyperboloids of one or two sheets, examining their geometric properties and significance within spatial geometry.</p> <p>CO-4: Gain familiarity with generating lines associated with ruled and skew surfaces, understanding their construction principles and geometric characteristics within three-dimensional space.</p> <p>CO-5: Develop an understanding of coordinate axis transformations in three dimensions, and methods for reducing second-degree equations to canonical forms, facilitating analysis and manipulation of geometric entities in a standardized manner.</p> <p>CO-6: Comprehend vector products involving three or more vectors.</p> <p>CO-7: Understand vector calculus, encompassing differentiation and integration of vector-valued functions.</p> <p>CO-8: Grasp the concepts of gradient, divergence, and curl of vectors, including their properties.</p> <p>CO-9: Explore line, surface, and volume integrals of vector functions, along with applications of Green's theorem and Stokes' theorem.</p>
<p>BMTMSERT304 Logic and Sets</p>	<p>CO-1: Understand propositions and truth tables.</p> <p>CO-2: Learn about the precedence of logical operators and propositional equivalences.</p> <p>CO-3: Grasp predicates and quantifiers.</p> <p>CO-4: Gain an elementary understanding of sets and relations, along with their applications.</p>
<p>Fourth Semester</p>	
<p>BMTMCCRT401 Partial Differential Equation, Laplace Transform & Tensor Analysis</p>	<p>CO-1: Grasp the fundamental concepts of partial differential equations.</p> <p>CO-2: Gain familiarity with the formation and solution techniques for both linear and non-linear partial differential equations.</p> <p>CO-3: Understand the fundamental principles of Laplace transform, including its application to elementary functions and derivatives.</p>

	<p>CO-4: Grasp the Convolution Theorem, the inverse of Laplace transform, and apply Laplace transform techniques to solve ordinary differential equations.</p> <p>CO-5: Grasp the concept of tensors as a generalized notion of vectors in both three-dimensional and n-dimensional spaces.</p> <p>CO-6: Understand covariant, contravariant, and mixed tensors, including their algebraic operations such as contraction, outer and inner products, and the quotient law.</p> <p>CO-7: Become acquainted with the metric tensor of Riemannian space, Christoffel symbols, and covariant differentiation of tensors.</p>
BMTMSERT404 Graph Theory	<p>CO-1: Grasp the concept and fundamental properties of graphs.</p> <p>CO-2: Understand Eulerian and Hamiltonian graphs.</p> <p>CO-3: Learn graph representation using matrices, including adjacency and incidence matrices.</p> <p>CO-4: Gain insight into the application of graphs in solving the Traveling Salesman Problem.</p>
Fifth Semester	
BMTMDSRT1 Linear Programming	<p>CO-1: Introduce optimization problems and formulate linear programming problems.</p> <p>CO-2: Gain familiarity with the basic theorems of linear programming problems (LPP) and concepts of convex sets, convex functions, feasible solutions, and basic feasible solutions of LPP.</p> <p>CO-3: Understand the simplex algorithm as a solution technique for LPP and duality theory.</p> <p>CO-4: Understand transportation and assignment problems along with their solution techniques.</p> <p>CO-5: Introduce the concept of game theory, focusing on two-person-zero-sum games.</p> <p>CO-6: Familiarize with various solution techniques for game problems and solve game problems using linear programming.</p>
BMTMSERT504 Numerical Methods	<p>CO-1: Understand convergence, errors, rounding-off, and truncation in numerical methods.</p> <p>CO-2: Familiarize with interpolation for both equispaced and non-equispaced arguments.</p>

	<p>CO-3: Understand various solution methods for finding roots of algebraic and transcendental equations, along with their geometric interpretations and convergence conditions.</p> <p>CO-4: Grasp the solution technique for systems of equations.</p>
Sixth Semester	
<p>BMTMDSRT3 Probability and Statistics</p>	<p>CO-1: Acquire comprehensive knowledge of probability, including probability density functions, probability distribution functions, and moment generating functions for both discrete and continuous variables.</p> <p>CO-2: Understand the joint cumulative distribution function, probability density function, and expectations.</p> <p>CO-3: Develop an understanding of statistical populations and random samples, along with sampling distributions and the distributions of sample means using the chi-square and t-distributions.</p> <p>CO-4: Familiarize with hypothesis testing based on z, chi-square, and t distributions.</p>
<p>BMTMSERT604 Basic C- Programming</p>	<p>CO-1: Introduce the C programming language, covering its structure, operators, and keywords.</p> <p>CO-2: Become familiar with writing simple programs in the C language to solve numerical problems.</p>



Achhruram Memorial College, Purulia

AFFILIATED TO SIDHO KANHO BIRSHA UNIVERSITY, PURULIA, DEPARTMENT OF CHEMISTRY

Program Outcomes, Program Specific Outcomes and Course Outcomes

Department of Chemistry After successful completion of three year degree program in Chemistry a student should be able to;	Department of Chemistry After successful completion of three year degree program in Chemistry
Programme Outcomes	<p>PO-1. They can demonstrate and solve the problems of major concepts in all disciplines of chemistry.</p> <p>PO-2. They can think methodically, independently and draw a logical conclusion.</p> <p>PO-3. They can employ critical thinking and the scientific knowledge to design, carry out, record and analyze the results of chemical reactions.</p> <p>PO-4. They can create an awareness of the impact of chemistry on the environment, society, and development outside the scientific community.</p> <p>PO-5. They can find out the green route for chemical reaction for sustainable development.</p> <p>PO-6. To inculcate the scientific temperament in the students and outside the scientific community.</p> <p>PO-7. They can use modern techniques, various equipments and Chemical software's.</p>

Programme Specific Outcomes	<p>PSO-1. Gain the knowledge of Chemistry through theory and practical experiments.</p> <p>PSO-2. To explain Scientific nomenclature, stereochemistry, structures, reactivity, and mechanism of the chemical reactions.</p> <p>PSO-3. Identify chemical formulae and solve numerical problems.</p> <p>PSO-4. To understand the basic principles of Organic, Inorganic, Physical and Analytical Chemistry and its applications through Various laboratory experiments.</p> <p>PSO-5. Use modern chemical tools, Models, Chem-draw, Charts and Equipments.</p> <p>PSO-6. Understand good laboratory practices and safety.</p> <p>PSO-7. Develop research oriented skills.</p> <p>PSO-8. Aware and handle the sophisticated instruments/equipments</p>
Course Outcomes B. Sc Chemistry Semester I	
Course	Outcomes After completion of these courses students should be able to know:
BCEMCCHC-101 ORGANIC CHEMISTRY	<p>CO-1. Valence Bond Theory and MO Theory.</p> <p>CO-2. Stereochemistry of organic molecules.</p> <p>CO-3. Different organic reactions and their reaction Intermediates with proposed mechanism.</p>

BCEMCCHC-102 PHYSICAL CHEMISTRY	CO-1. The basic principles of Kinetic Theory of Gases. CO-2. The Macroscopic Thermodynamics at equilibrium, Zeroth Law, 1st Law of Thermodynamics. CO-3. Adiabatic and Isothermal processes. CO-4. Work Done in isothermal and adiabatic processes. CO-5. Specific Heat and Kirchoff's Equation. CO-6. Joule-Thomson's Experiment. CO-7. Basic Principles of Kinetics of a reaction, rate of a equation, Molecularity and order of a reaction, rate determining step.
SEMESTER - III	
CEMCCHC-301 PHYSICAL CHEMISTRY	CO-1. The concepts of viscosity. CO-2. The principles of electrochemistry. CO-3. The requirement of 2nd Law of Thermodynamics. CO-4. The concepts of Free Energy (G & A). CO-5. Spontaneity and directional sense of a process from Thermodynamic point of view. CO-6. The concepts of Chemical Equilibrium. CO-7. Preliminary idea and foundations of Quantum Mechanics.
BCEMCCHC-302 INORGANIC CHEMISTRY	CO-1. Chemical Bonding with special Emphasis on Ionic, Covalent bonding. CO-2. Concepts of weak bonds like Hydrogen Bond, van der Waals bond. CO-3. The concepts of Molecular Orbital Theory. CO-4. Metallic bonding and concepts of semi-conductors. CO-5. Radioactivity
BCEMCCHC-303 ORGANIC CHEMISTRY	CO-1. The chemistry of unsaturated compounds. CO-2. Aromatic substitution reaction mechanisms. CO-3. Various reactions of the Carbonyl Group. CO-4. Elementary idea of Green Chemistry. CO-5. Organometallic chemistry.
BCEMCSEHC-304 (SEC-1) ANALYTICAL CHEMISTRY	CO-1. The Fundamentals of Analytical Chemistry. CO-2. Analysis of a soil sample. CO-3. Analysis of a water sample. CO-4. Analysis of various food products. CO-5. Chromatography.
SEMESTER - IV	
BCEMCCHC-401 PHYSICAL CHEMISTRY	CO-1. Applications of the Laws of Thermodynamics. CO-2. Concepts of Ionic Equilibrium. CO-3 EMF and Electrochemical Cell. CO-4. Surface phenomena like surface tension, Adsorption and Colloid chemistry. CO-5. Basic principles of Nano Science.
BCEMCCHC-402 INORGANIC CHEMISTRY	CO-1 The basic principles of Metallurgy. CO-2. Knowledge of s- and p- block elements. CO-3. Study of the Noble gases. CO-4. Elementary idea of Inorganic polymers. CO-5. Co-ordination Chemistry. CO-6. Isomerism of Inorganic Compounds. CO-7. IUPAC nomenclature of Inorganic compounds.
BCEMCCHC-403 ORGANIC CHEMISTRY	CO-1. Study of organic nitrogenous compounds. CO-2. Rearrangement reactions and their mechanism. CO-3. Development of Logic of Organic Synthesis. CO-4. Asymmetric synthesis. CO-5. Organic spectroscopy with special emphasis To UV-Vis, IR, NMR spectroscopy and their applications.

BCEMSEHC-404 (SEC-2) BIO-CHEMISTRY	CO-1. The concepts of Carbohydrates, amino acids. CO-2. Formation of proteins and enzymes. CO-3. Basic principle of the Watson-Creek model of DNA. CO-4. To develop a preliminary idea about Biochemistry of Disease
SEMESTER - V	
BCEMCCHC-501 INORGANIC CHEMISTRY	CO-1. Co-ordination chemistry in the light Of VBT, CFT, LFT. CO-2. Colour and spectra of co-ordination. Compounds and their magnetic properties. CO-3. Detailed study of d- and f- transition elements. CO-4. Detailed study of Lanthanides and Actinides.
BCEMCCHC-502 ORGANIC CHEMISTRY	CO-1. Detailed study of Carbocycles and Heterocycles. CO-2. The stereochemistry of cyclic compounds. CO-3. Pericyclic reactions. CO-4. Thorough study of Carbohydrates. CO-5. Study of amino acids, peptides and nucleic acids.
BCEMDSHC-503 (DSE-1) ADVANCED PHYSICAL CHEMISTRY	CO-1. Detailed study of crystal structure. CO-2. Concepts of Statistical Thermodynamics. CO-3. The 3rd Law of Thermodynamics. CO-4. Deeper insight of Quantum Mechanics.
BCEMDSHC-504 (DSE-2) INORGANIC MATERIALS OF INDUSTRIAL IMPORTANCE	CO-1. Preparation of glass, ceramics and silicates. CO-2. Elementary idea of Fertilizers. CO-3. A study of batteries. CO-4. Elementary idea of alloys. CO-5. Developing the idea and concepts of catalysis. CO-6. Developing the idea of preparation of chemical explosives.
SEMESTER - VI	
BCEMCCHC-601 INORGANIC CHEMISTRY	CO-1. Developing the idea and concepts of Bio-inorganic chemistry. CO-2. Organometallic chemistry from Inorganic Point of view. CO-3. Study of catalysis by organometallic compounds. CO-4. Inorganic reaction mechanism and kinetics.
BCEMCCHC-602 PHYSICAL CHEMISTRY	CO-1. Molecular spectroscopy using Born-Oppenheimer approximation. CO-2. Concepts of Photochemistry. CO-3. Various kinds of resonance spectroscopy like NMR, ESR. CO-4. Catalysis with a deeper insight.
BCEMDSHC-603 (DSE-3) ANALYTICAL METHODS IN CHEMISTRY	CO-1. Application of Lambert-Beer's Law. CO-2. Basic principles of UV-Vis & IR spectroscopy. CO-3. Thermal methods like TG, DSC. CO-4. Electroanalytical methods like conductometry, potentiometry. CO-5. Separation techniques like GC, HPLC, TLC.
BCEMDSHC-604 (DSE-4) GREEN CHEMISTRY	CO-1. The concepts of Green Chemistry. CO-2. The basic principles of Green Synthesis. CO-3. Requirements of Green Chemistry. CO-4. The Future Trends of Green Chemistry.

ACHHRURAM MEMORIAL COLLEGE, JHALDA

**AFFILIATED TO SIDHO KANHO BIRSHA UNIVERSITY,
PURULIA**

DEPARTMENT OF PHYSICS

**Program Outcomes, Program Specific Outcomes
and Course Outcomes**

Department of Physics

Programme Outcomes: B. Sc. Physics

Department of Physics	After successful completion of three year degree program in Physics a student should be able to:
Programme Outcomes	<p>PO-1. To acquire knowledge of physics by understanding basic concepts, fundamental principles and the scientific theories related to various physics phenomena and their relevance in the day-to-day life.</p> <p>PO-2. To enhance the student's academic abilities, personal qualities and transferable skills which will give them an opportunity to develop as responsible citizens.</p> <p>PO-3. To develop experimental skills to understand the laws and concepts of Physics.</p> <p>PO-4. To acquire analytical and computational problem solving skills and to apply the theories learnt and the skills acquired to solve real time problems leading to research and development.</p> <p>PO-5. To Perform job in various fields' viz. science, engineering, teaching, public service, etc. with scientific knowledge, precision, analytical mind, innovative thinking, clarity of thought and expression and systematic approach.</p> <p>PO-6. To produce graduates who excel in the competencies and values required for leadership to serve a rapidly evolving global community.</p> <p>PO-7. To endow the students with creative and analytical skills that will equip them to become entrepreneurs.</p>

Programme Specific Outcomes	<p>Successful completion of B.Sc. Physics Course student will be able to:</p> <p>PSO-1. Understand the depth knowledge of various topics of Physics, Demonstrate skills and competencies to conduct wide range of scientific experiments.</p> <p>PSO-2. Accumulate the facts of nature and the ability to link the facts to observe and discover the laws of nature i.e., develop an understanding and knowledge of the basic Physics.</p> <p>PSO-3. Ability to employ critical thinking and efficient problem solving skills in all the basic areas of the subject.</p> <p>PSO-4. Develop the ability to apply the knowledge acquired in the classroom and laboratories to specific problems in theoretical and experimental Physics.</p> <p>PSO-5. Motivate students to pursue PG courses in reputed institutes, Identify their area of interest in academic and Research & Development.</p> <p>PSO-6. Identify the specific job that they can pursue with the skills developed through the course of physics.</p> <p>PSO-7. Demonstrate Professional behavior with respect to attribute like objectivity, ethical values, self reading, etc.</p>
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Course outcomes: B. Sc. Honours in Physics

Semester – I	
Course	Outcomes: After completing these courses students should be able to:
BPHSCCHC101 MATHEMATICAL PHYSICS-I (CC-1)	<p>This course will acquaint the students with basic mathematical tools like vectors, matrices and calculus which are extremely essential to study theoretical and experimental physics.</p> <p>In the practical part the students will learn basics of programming in Python, a universally accepted open source programming language. They will be familiar with open source advanced operating system Linux. They will also learn graph plotting in Gnuplot, also an open source graph plotting package. This course will be extremely beneficial as it will build the foundation of application of computational techniques in any branch of theoretical and experimental physics. It will also help in interdisciplinary research in future.</p>
BPHSCCHC102 MECHANICS (CC-2)	<p>This course in Classical Mechanics serves as the foundation for further progress towards study of physics at graduate or post-graduate level. Newtonian mechanics forms the basis of this course. The study of nature through different conservation principles are introduced with detailed</p>

	<p>treatment. The Physics of rotational motion of a rigid body and fluid motion are also introduced.</p> <p>In Practical course the students will be familiar with some basic apparatus used in physics laboratory. They will learn how to make systematic experimental observation, data collection, recording of data and other basic laboratory practices in this course. They will learn how to plot graphs and determine different parameters from the graph. They will also learn how to estimate errors in experimental data. They will learn the importance of working as a group in any laboratory. They will perform some experiments to verify different laws and to determine different physical quantities related to the Theory portion of the course.</p>
<p>BPHSGEHC12</p> <p>MECHANICS (GE-1)</p>	<p>This generic course will be offered to Honours students of other subjects as per their choice. The students will learn the basic mathematical tools like vectors analysis, calculus of vectors, differential equations etc. to get an entry into Mechanics, Gravitation and the studies of General properties of Matter. These will help the students to carry on higher studies in interdisciplinary fields.</p> <p>The laboratory course, the students will learn the verification of some known parameters like acceleration due to gravity, determination of moment of inertia of rotating objects and determination of some elastic constants of matter.</p>
SEMESTER – II	
<p>BPHSCCHC201</p> <p>ELECTRICITY & MAGNETISM (CC-3)</p>	<p>The students will learn fundamental properties of charged particles and electric fields in this course. This course will also give students an understanding of the phenomena of electricity, magnetism, electromagnetic induction and electrical circuits which are extremely essential for higher studies in physics and also important for various engineering applications. This course builds the basis for studying more advanced topics in electromagnetic theory.</p> <p>The students will strengthen their skill of experimental work in this course. They will be familiar with various electrical components, power supply, multimeter and various other measuring instruments. They will be able to perform experiments on various topics of electricity and magnetism in this course. They will learn about precautions to be taken during performing an experiment and will be able to identify different sources of error. They will also learn how to analyze experimental data.</p>
<p>BPHSCCHC202</p> <p>WAVE</p>	<p>The students will gain basic knowledge about vibration, wave motion and wave theory of light. Study of classical harmonic oscillator and wave propagation in vacuum and material media, and phenomena of interference and</p>

<p style="text-align: center;">& OPTICS (CC-4)</p>	<p>diffraction of light are important for further progress to more advanced topics of Physics.</p> <p>In laboratory the students will be acquainted with spectrometer, a very important optical instrument and some other optical instruments like Fresnel's biprism and Newton's ring experiment. They will learn how to level a spectrometer and how to take readings from it. They will also be familiar with various light sources used in physics laboratory. They will be able to determine some well known physical quantities like refractive index etc. by performing laboratory work.</p>
<p style="text-align: center;">BPHSGEHC12A ELECTRICITY & MAGNETISM (GE-2)</p>	<p>The students will learn the necessary parts of vector treatments needed for electromagnetism and topics of Electrostatics, Magnetism and Electrodynamics. This course is very important for students of Chemistry, Computer Sc Honours if they opt to carry on higher studies in interdisciplinary fields.</p> <p>In laboratory the students will get familiar with basic instruments like Carey Foster Bridge, Potentiometer, Ammeter, Voltmeter, Magnetometer etc. and their uses. The student will learn how to measure some basic physical quantities like resistance, current, magnetic field components etc.</p>
<p>SEMESTER – III</p>	
<p style="text-align: center;">BPHSCCHC301 MATHEMATICAL PHYSICS-II (CC-5)</p>	<p>In this course the students will learn more advanced topics of mathematical physics like Fourier series, some special functions, special integrals, integral transforms, partial differential equations and probability. All these topics are very important for studying theoretical aspects of various branches of physics.</p> <p>In this course the students will learn more advanced computational techniques using different packages of Python like numpy, scipy, matplotlib etc. They will learn various numerical analysis techniques like use of array, numerical solution of problems of matrix algebra, numerical integration, interpolation, solution of differential equation and curve fitting. This course will immensely benefit the students for higher studies and research career in Physics.</p>
<p style="text-align: center;">BPHSCCHC302 THERMAL PHYSICS (CC-6)</p>	<p>Thermodynamics is introduced in this course and this covers fundamental laws of nature. Problems related to conversion of heat into work or the vice versa give rise to thermodynamics. Students will learn the principle of operation of engines and refrigerators in this course.</p> <p>The students learn the basic distribution laws which are obeyed by the molecules in the Thermal Physics part and the application to explain the basic laws of ideal gas. The limitation to explain different observed phenomena with</p>

	<p>ideal gas prescription leads the study of real gas and also conduction of heat in this course. This part covers other very important aspects related to academic importance and also to industrial applications.</p> <p>In laboratory the student will perform different experiments on heat and thermodynamics. This laboratory course will further enrich their experimental skill learned so far.</p>
<p>BPHSCCHC303</p> <p>ANALOG SYSTEM AND APPLICATION</p> <p>(CC-7)</p>	<p>This course forms the basis of electronics which is undoubtedly at the heart of most of the technological advances of the present era. The students will understand the basic concepts of semiconductor physics and its application. They will learn about the operation, characteristics and various applications of different type of diodes, transistors, field effect transistors, OPAMP and oscillators. They will also have an idea about working of amplifier and regulated power supply.</p> <p>The laboratory course will provide the student with adequate exposure to some essential laboratory equipments like CRO, function generator, regulated power supply etc. The students will design, fabricate and perform experiments with zener diode, transistor, OPAMP and Wein Bridge oscillator. The students will acquire basic skill required for higher studies or research in experimental Physics.</p>
<p>BPHSSEHT305</p> <p>RENEWABLE ENERGY AND ENERGY HARVESTING</p> <p>(SEC-1)</p>	<p>The students will learn the shortcomings of conventional energy source, like fossil fuel, nuclear energy etc. and they will learn about renewable or non-conventional energy, viz. Offshore Wind Energy, Tidal energy, Wave energy systems etc.</p> <p>The students Will learn about various techniques to use Solar energy, Wind energy, Ocean energy, Geothermal energy, Hydro energy and techniques of Piezoelectric Energy harvesting, Electromagnetic Energy harvesting.</p> <p>The students will do demonstration of Training modules on solar energy, wind energy, piezoelectric materials, thermoelectric modules. By this process students will be sensitive to energy consumption, being kind to mother nature and being greater human.</p>
<p>SEMESTER – IV</p>	
<p>BPHSCCHC401</p> <p>MATHEMATICAL PHYSICS III</p> <p>(CC-8)</p>	<p>The students will learn the mathematical tools required for study of some advanced topics of theoretical physics. They will learn complex analysis, variational calculus and its application which results in the famous Lagrangian and Hamiltonian formulation of classical mechanics. The students will also be acquainted with the revolutionary concept of special theory of relativity which is extremely essential for understanding the physical world beyond Newtonian</p>

	<p>mechanics. This is one of the fundamental concepts of physics which every student of physics should learn.</p> <p>The students will learn some advanced level programming with Python in this course. They will learn to handle Gaussian integration, delta function, numerical solution of first and second order differential equation, some special functions, solution of some basic partial differential equations and evaluation of Fourier coefficients. This course will prepare the students for higher studies and research in theoretical and computational physics.</p>
<p>BPHSCCHC402 ELEMETS OF MODERN PHYSICS (CC9)</p>	<p>In this course students will learn the basics of quantum physics i.e., development of quantum mechanics – like, Planck’s constant, wave-particle duality, blackbody radiation, photoelectric effect, Davisson-Germer experiment, Two slit experiment with electrons and etc.</p> <p>The students will learn basic atomic and nuclear physics and laser techniques.</p> <p>In the laboratory they will learn to determine Planck’s constant, e/m value and other like experiment which clear the idea of development of quantum mechanics. These ideas will prepare them for higher studies in the respective fields.</p>
<p>BPHSCCHC403 DIGITAL SYSTEMS AND APPLICATIONS (CC10)</p>	<p>This topic intends to make the students familiar with the digital world. Starting from the introductory ideas of ICs, fundamental Gates and different number systems, the topic in steps is extended to implementation of different logic circuits. The students will be familiar with the basics of hardware; learn Counters, Registers, Flip-Flops, Data Processing Circuits and Computer Organization.</p> <p>This course will give the students hand on training of fabrication of the basic electronic components like different Gates, Flip-Flops, Shift Registers, Multiplexers using standard Ics.</p>
<p>BPHSSSHC405 COMPUTATIONAL PHYSICS SKILLS (SEC-2)</p>	<p>In this course students will learn about basics of computer, Linux OS, scientific computation using C programming, Gnuplot and Scientific word processing using LaTeX. This course help students to solving problem of Physics using code, graph plotting from a data set and fit to specific equation, scientific script writing. These skills will help students in research level.</p>
<p>SEMESTER – V</p>	
<p>BPHSCCHC501 QUANTUM MECHANICS AND APPLICATIONS (CC-11)</p>	<p>The already introduced Quantum Mechanics finds application in this course and hence this is the appropriate course to introduce Atomic Physics so that the students get continuity in their progress. Student will also learn the behavior of atoms in magnetic and electric field.</p> <p>This course is essential for progress to higher studies and research career in physics.</p>

	<p>The student will learn some advanced computational techniques and applying them to solve various problems related to quantum mechanics using Python in this course.</p>
<p>BPHSCCHC502 SOLID STATE PHYSICS (CC-12)</p>	<p>The study of the solid state encompasses the understanding of the organizational, mechanical, magnetic and electrical properties of the substance as well as the forces that bind the units into the solid state. By far the most important subfield of solid state physics in the 20th century is the study of semiconductors and solid state electronics. The syllabus also covers Superconductivity, the ability of certain materials to conduct electric current with practically zero resistance. Superconductors have been employed in, or proposed for use in, an enormous variety of applications.</p> <p>All the Experiments of this course are related to investigation of fundamental and electrical and magnetic properties of solids. The determinations of BH loop area of ferromagnetic substance, dielectric constant of a material, study and verification of temperature dependence of resistance of semiconductor etc by experiments will boost up the interest of the students.</p>
<p>BPHSDSHC1 ADVANCED MATHEMATICAL PHYSICS (DSE-1)</p>	<p>The course contains advanced linear algebra, like, vector spaces etc. Topic like Linear Transformation, Tensor analysis, Calculus of Variations is very important in aspect of understanding higher complex studies of Physics.</p> <p>In laboratory students are learn (using Python programming) creation of vectors and vector operations, creation of matrices and matrix operations, solutions of Linear equations.</p>
<p>BPHSDSHT2 CLASSICAL DYNAMICS (DSE-2)</p>	<p>In this course students will learn classical mechanics of point particles, Lagrange's and Hamiltonian formulations, Small Amplitude Oscillations, Special Theory of Relativity and Fluid Dynamics. This course is the core of basic Physics and Without Knowledge of this course students cannot acquire further like quantum mechanics, field theory and etc.</p>
<p>BPHSDSHT3 ASTRONOMY & ASTROPHYSICS (DSE-3)</p>	<p>This course contains basic astronomy and astrophysics viz., basics of Positional Astronomy, Astronomical scale, measurement of astronomical quantities, astronomical techniques, The Sun and Solar System, Stellar spectra and classification Structure. Interested students will be benefited.</p>
<p>SEMESTER – VI</p>	
<p>BPHSCCHC601 ELECTRO-MAGNETIC THEORY (CC-13)</p>	<p>The students will go through a very important training in Electromagnetic Theory which is one of the fundamental components of classical physics. The important set of relations of Electrostatics, Magnetostatics, Electro-magnetic Induction, taught in earlier Semesters find application in this topic. The electromagnetic wave is generated naturally from</p>

	<p>the Maxwell's relations and the students will get the explanation of polarization and related optical and other aspects from this theory.</p> <p>The students will get hands on training on the topics on optical wave theory. The behavior of electromagnetic wave after refraction as established through well known laws can be verified in the laboratory. Also the theoretical predictions on polarization of electromagnetic waves find verification through the experiments referred in this course.</p>
<p>BPHSCCHC602</p> <p>STATISTICAL MECHANICS (CC-14)</p>	<p>In Statistical Mechanics, the students will get an entry into the world of mechanics comprising of a collection of particles and will understand how to study the gross behavior of a system. This approach also establishes the laws of thermodynamics which are the fundamental rules of nature. The Quantum Statistical Mechanics gives the approaches to treat identical elementary particles which are frequently involved in theoretical and experimental research.</p> <p>The students will use Python programming to study aspects of statistics like Random numbers and Time scale, application of Random numbers including Monte Carlo integration. The approach is extended also to the study of different distributions in statistical mechanics.</p>
<p>BPHSDSHT4</p> <p>NUCLEAR AND PARTICLE PHYSICS (DSE-4)</p>	<p>The students of UG level will get the first lesson of Nuclear Physics in this topic. The contents are very important from the viewpoints of both theory and applications. Since it is very difficult to set up Nuclear Physics Laboratory at the UG level, the students are taught very carefully so that they may get the necessary inputs to carry on the study in Masters and in the Research level in reputed national and International Laboratories.</p>
<p>BPHSDSHC5</p> <p>COMMUNICATION ELECTRONICS (DSE-5)</p>	<p>This course firstly gives the students a brief idea about of frequency allocation for radio communication system in India (TRAI). Electromagnetic communication spectrum, band designations and usage. Channels and base-band signals. Concept of Noise, signal-to-noise (S/N) ratio. Students learn about the Modulation radio wave and Analog Pulse Modulation and Digital Pulse Modulation.</p> <p>This course gives students Introduction to Communication and Navigation systems and Mobile Telephony System.</p>
<p>BPHSDSHT6</p> <p>PHYSICS OF EARTH (DSE-6)</p>	<p>This course Gives students a holistic understanding of earth's surrounding universe: origin of Earth, solar system, Milky Way galaxy and Energy and particle fluxes incident on the Earth. With Knowledge of Earth's Structure and Dynamic Processes, students will know our planet in a much better way.</p>

Course outcomes: B. Sc. Program course in Physics

SEMESTER – I	
BPHSCCRC101 MECHANICS (CC-1)	<p>This generic course will be offered to Honours students of other subjects as per their choice. The students will learn the basic mathematical tools like vectors analysis, calculus of vectors, differential equations etc. to get an entry into Mechanics, Gravitation and the studies of General properties of Matter. These will help the students to carry on higher studies in interdisciplinary fields.</p> <p>The laboratory course, the students will learn the verification of some known parameters like acceleration due to gravity, determination of moment of inertia of rotating objects and determination of some elastic constants of matter.</p>
SEMESTER – II	
BPHSCCRC201 ELECTRICITY AND MAGNETISM (CC-2)	<p>The students will learn the necessary parts of vector treatments needed for electromagnetism and topics of Electrostatics, Magnetism and Electrodynamics. This course is very important for students of Chemistry, Computer Sc Honours if they opt to carry on higher studies in interdisciplinary fields.</p> <p>In laboratory the students will get familiar with basic instruments like Carey Foster Bridge, Potentiometer, Ammeter, Voltmeter, Magnetometer etc. and their uses. The student will learn how to measure some basic physical quantities like resistance, current, magnetic field components etc.</p>
SEMESTER – III	
BPHSCCRC301 THERMAL PHYSICS AND STATISTICAL PHYSICS (CC-3)	<p>A very important course particularly for the students of Chemistry Honours. This will pave the way to understand the basic laws of nature which are inbuilt in the laws of Thermodynamics. The other aspects like kinetic theory of gas, the distribution of radiation energy are also covered in this course. The course is further extended to understand Statistical Mechanics which is relevant to study Thermodynamics analytically.</p> <p>The students will get hands on training of the methods of determination of different physical quantities of thermal physics like coefficients of expansion, pressure coefficients, thermal coefficients of resistance, thermal conductivity etc and also the verification of very important Stefan's law of radiation.</p>
SEMESTER – IV	
BPHSCCRC401	<p>This course will introduce another important branch of</p>

<p style="text-align: center;">WAVES AND OPTICS (CC-4)</p>	<p>Classical Physics. The students will get refreshed through the recapitulation of the basic preliminary aspects of vibration. The basic mathematical tools for analysis of vibration & wave motion will be introduced. The aspects of Interference, Diffraction and Polarization will be studied extensively using the wave concept of light.</p> <p>This laboratory course will give the students the methodologies of determination of optical parameters like focal length, radius of curvature of a lens. The students will also study other optical phenomena like the interference patterns, rotation of plane of polarization by active substance.</p>
SEMESTER – V	
<p style="text-align: center;">BPHSDSRT1 CLASSICAL DYNAMICS (DSE-1)</p>	<p>In this course students will learn classical mechanics of point particles, Lagrange's and Hamiltonian formulations, Small Amplitude Oscillations, Special Theory of Relativity and Fluid Dynamics. This course is the core of basic Physics and Without Knowledge of this course students cannot acquire further like quantum mechanics, field theory and etc.</p>
<p style="text-align: center;">BPHSDSRT2 ASRONOMY & ASTROPHYSICS (DSE-2)</p>	<p>This course contains basic astronomy and astrophysics viz., basics of Positional Astronomy, Astronomical scale, measurement of astronomical quantities, astronomical techniques, The Sun and Solar System, Stellar spectra and classification Structure. Interested students will be benefited.</p>
SEMESTER – VI	
<p style="text-align: center;">BPHSDSRT3 NUCLEAR AND PARTICLE PHYSICS (DSE-3)</p>	<p>The students of UG level will get the first lesson of Nuclear Physics in this topic. The contents are very important from the viewpoints of both theory and applications. Since it is very difficult to set up Nuclear Physics Laboratory at the UG level, the students are taught very carefully so that they may get the necessary inputs to carry on the study in Masters and in the Research level in reputed national and International Laboratories.</p>
<p style="text-align: center;">BPHSDSRT4 PHYSICS OF EARTH (DSE-4)</p>	<p>This course Gives students a holistic understanding of earth's surrounding universe: origin of Earth, solar system, Milky Way galaxy and Energy and particle fluxes incident on the Earth. With Knowledge of Earth's Structure and Dynamic Processes, students will know our planet much better way.</p>

ACHHRURAM MEMORIAL COLLEGE

DEPARTMENT OF BOTANY

Programme Outcomes (PO), Programme Specific Outcomes (PSO) and Course Outcomes (CO): B.Sc. Botany (Honours)

Department of Botany	After successful completion of three-year degree program in Botany, student should be able to-
Programme Outcomes:	<p>PO1. Knowledge and understanding: 1. Diversity of plants in terms of structure, function, reproduction and ecological roles. 2. The evaluation and assessment of plant diversity. 3. Plant systematics and classification including flora of India and major biomes of the world. 4. The role of plants in the functioning of the global ecosystem. 5. Application of Statistics in biological data. 6. Application of computer and bioinformatics- utilization of biological data in silico.</p> <p>PO2. Intellectual skills: 1. Logical interpretation of ideas and concepts into an organised form. 2. Accumulate and organise knowledge and ideas through reading and searching in internet. 3. Transformation of knowledge-based concepts from one area to another within the subject. 4. Plan hypothesis and test. 5. Propose and carry out independent survey or research in various areas of the subject.</p> <p>PO3. Practical skills: Giving opportunities to students to conduct experiments practically both in field and laboratory. Hands on practical helps the students to gain proficiency and skills in different topics of modules offered to them. 1. Study of plant morphology and anatomy. 2. Character correlation for Plant identification. 3. Study of structure and composition of vegetations. 4. Phytochemical analyses of plant materials to establish the presence of various chemicals with reference to plant physiology and biochemistry. 5. Study of plant diseases with reference to economic crops. 6. Accumulation and analysis of biological data using statistical methods. 7. Knowledge and use of computers.</p> <p>PO4. Transferable skills: 1. Use of information technology for accumulation and sharing of data. 2. Dissemination of scientific ideas in writing and orally. 3. Creation of team spirit. 4. Access of library resources. 5. Regularity, punctuality, devotion and Career planning.</p> <p>PO5. Scientific Knowledge: Use of principles of basic science and fundamental process to study and analyse the plant forms.</p> <p>PO6. Problem analysis: Recognise and solve the problems of the plant world, Extraction of research literature, formulate independent research related to Botany.</p>

	<p>PO7. Design/development of solutions: Formulate new concepts for a green world, sustainable development, betterment of human health specifically from medicinal plants, new formulation of phyto-chemical contents to meet specific need and eco-friendly environment.</p> <p>PO8. Conduct investigations of complex problems: Carry out knowledge-based research, use of research methodology including design of experiments, critical analysis of research data, and creation of logical conclusions.</p> <p>PO9. Modern tool usage: Select and application of proper techniques and modern instruments for Biochemical experiments, Molecular Biology, Biotechnology, in vitro culture techniques, cytogenetical and physiological activities of plants.</p> <p>PO10. The Botanist and society: Apply resource-based knowledge to assess and access plant diversity, its importance for society and ecology, health and hazards, legal and environmental issues and conservation of biodiversity practice with responsibility.</p> <p>PO11. Environment and sustainability: Aware and understand the role of the plants in environmental issues and propagate the knowledge for sustainable development.</p> <p>PO12. Ethics: Application of moral and ethical principles to mitigate environmental issues and biodiversity conservation.</p> <p>PO13. Individual and teamwork: Work with responsibilities as an individual, or as a member or leader in team works, or in multidisciplinary approaches.</p> <p>PO14. Communication: Communicate effectively the scientific temperaments for the betterment of the society, propagate effective reports, proper documentation, effective presentations, and deliver clear instructions.</p> <p>PO15. Project management and finance: Apply knowledge and understanding the principles of engineering and management and utilize those in various capacities either as a member or a leader in a team to carry out projects in multidisciplinary fields.</p>
<p>Programme Specific Outcomes for B.Sc. Botany (Honours):</p>	<p>After completion of the programme, Honours graduates will be capable of:</p> <p>PSO1. Acquiring scientific knowledge about the different core branches of Botany like Microbiology, Cell Biology, Molecular Biology, Mycology, Plant Pathology, Plant-biodiversity, Ecology, Plant Systematics, Reproductive Biology, Anatomy, Embryology, Physiology, Metabolism, Genetics, Biotechnology, Breeding, Economic Botany, Biostatistics, Industrial and Environmental</p>

Microbiology, Research Methodology, Techniques in Plant Sciences, Bioinformatics, Biofertilizer, Mushroom culture Technology, Medicinal Botany, etc.

PSO2. Developing scientific thinking, temper, and also ability to use skills in Botany and its related domains of technology for formulating and tackling Plant Sciences related problems.

PSO3. Students will develop an in-depth knowledge of plant biology and its application for the benefit of human beings.

PSO4. To provide knowledge about the various groups of the plant starting from the very simple and primitive to complex and advanced groups.

PSO5. To classify the different groups of plants and examine their evolving morphological and anatomical characteristics theoretically and practically.

PSO6. To become familiar with the biomolecules constituting the plant physiology and detect them in the laboratory by chemical experiments.

PSO7. To create a clear concept regarding the molecular biology of the cell.

PSO8. To become familiar with the various techniques in plant technology and develop the potential to use technology for the development of scientific temper.

PSO9. To study the different techniques in plant sciences.

PSO10. To list down the different environmental factors resulting in developing stress in plants.

PSO11. To widen up the knowledge on bioinformatics, ecological foot printing, and designing the sustainable ecological model.

PSO12. To flourish the potential of microbes by studying industrial and environmental microbiology.

PSO13. To discover the importance of the various plant parts and also their industrial and economic value.

PSO14. To develop a clear concept of the status of natural resources and their justified utilization.

PSO15. To broaden up the use of biofertilizers in different agricultural sectors and encouraging their use by the farmers.

	<p>PSO16. To follow up the traditional system of medicinal botany and developing new ways of treatment by compiling the traditional system with modern technologies.</p> <p>PSO17. To develop practical hands-on mushroom cultivation and raise its production for fulfilling the market demand and also earning a handsome amount of money.</p> <p>PSO18. To familiarize with the fundamentals of biostatistics.</p> <p>PSO19. To develop practical hands-on qualitative techniques for analyzing the density and abundance of plant communities.</p> <p>PSO20. To determine the organic and inorganic matters in the soil.</p> <p>PSO21. To familiarize with the biodiversity and climatic variance of different localities by participating in excursions.</p>
<p>Programme Specific Outcomes for B.Sc. Botany (General/DSC):</p>	<p>After completion of the programme, General graduates will be capable of:</p> <p>PSO1. Acquiring the Scientific knowledge about the different core branches of Botany like Plant -biodiversity, -Ecology, -Taxonomy, -Anatomy, -Embryology, -Physiology, -Metabolism, -Genetics, -Breeding, Economic Botany and Biotechnology, Biofertilizer, Mushroom culture Technology, Ethnobotany, Medicinal Botany etc.</p> <p>PSO2. Developing the scientific thinking, temper and also ability to use skills in Botany and its related domains of technology for formulating and tackling Plant Sciences related problems.</p> <p>PSO3. Students will develop an in-depth knowledge of plant biology and its application for the benefit of human beings.</p> <p>PSO4. To become familiar with the biomolecules constituting the plant physiology and detect them in the laboratory by chemical experiments.</p> <p>PSO5. To create a clear concept regarding the molecular biology of the Plant cell.</p> <p>PSO6. To become familiar with the various techniques in plant technology and develop the potential to use technology for the development of scientific temper.</p> <p>PSO7. To flourish the potential of microbes by studying industrial and environmental microbiology.</p> <p>PSO8. To discover the importance of the various plant parts and also their industrial and economic values.</p>

	<p>PSO9. To develop a clear concept on the status of natural resources and their justified utilization.</p> <p>PSO10. To broaden up the use of biofertilizers in different agricultural sectors and encouraging its use by the farmers.</p> <p>PSO11. To follow up the traditional system of medicinal botany and developing new ways of treatment by compiling the traditional system with the modern technologies.</p> <p>PSO12. To develop practical hands on the mushroom cultivation and raise its production for fulfilling the market demand and also earning handsome amount of money.</p> <p>PSO13. To familiarize with the biodiversity and climatic variance of different localities by participating in excursions.</p> <p>PSO14. To facilitate and encourage students to take up successful career in Botany.</p>
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COURSE OUTCOMES FOR BOTANY (HONS)

SEMESTER-I

<p>BBOTCCHC101 CC1 – Phycology & Microbiology</p>	<p>CO1: Classify bacteria, virus, and algae up to the groups and list down their characteristics.</p> <p>CO2: Compare and contrast between lysogenic and lytic cycle.</p> <p>CO3: Outline the different types of reproduction in bacteria (vegetative, asexual and recombination).</p> <p>CO4: Justify the contributions of important phycologists.</p> <p>CO5: Enumerate the range of thallus organization of different algae and also relating them to the different types of pigments, reserve food and method of reproduction.</p>
<p>BBOTCCHC102 CC2 – Biomolecules & Cell Biology</p>	<p>CO1: Study of chemical bonds, pH and chemistry of water.</p> <p>CO2: Learning about the function and properties of biomolecules.</p> <p>CO3: Relate the origin of eukaryotic cell and prokaryotic cell in due course of evolution.</p> <p>CO4: Identify the different cellular organelles and state their roles for the functioning of a cell.</p>

	<p>CO5: Explain the composition of cell membrane and its transport mechanisms from the prokaryotic to eukaryotic cell.</p> <p>CO6: Classify enzymes and point out the structure of enzymes and also describe the mechanism of enzyme action.</p> <p>CO7: Explain the cell division process and differentiate between mitosis and meiosis.</p>
SEMESTER-II	
<p>BBOTCCHC201 CC3 – Mycology and Phytopathology</p>	<p>CO1: Understanding the status of fungi in living system.</p> <p>CO2: Gain information regarding fungal diversity and their wide classification with species exposure.</p> <p>CO-3: Deals with different diseases associated with fungi and their impact in agriculture.</p> <p>CO-4: Provides with the knowledge of the concept of symbiosis along with the role of lichen and mycorrhizae in the environmental sustainability.</p> <p>CO-5: To have the pleasure of the different antibiotics and their mode of action and harmful effects due to their careless uses in human life.</p> <p>CO-6: The application of fungi in industry and agriculture with special reference to organic acid production, alcohol. Vitamins and the application of biofertilizers in the sustainable development</p>
<p>BBOTCCHC202 CC4 – Archegoniatae and Paleobotany</p>	<p>CO-1: The understanding of the cryptogams likes Bryophytes and Pteridophytes in plant world along with their diversity, classification and the contribution of different naturalists in this regard.</p> <p>CO-2: The evolution of the land plants and the development of the Vascular plants are the most thrust areas.</p> <p>CO-3: The content also explores the morphological, anatomical and reproductive beauty of these life forms.</p> <p>CO-4: The content also addresses the different fossil life forms and the evolution of the diversity of life in the context of the geological time scale,</p> <p>CO-5: The content also offers the exposure the application of these life Forms for the human welfare.</p>
SEMESTER- III	
<p>BBOTCCH301 (Plant anatomy)</p>	<p>CO-1: Introduction to plant anatomy and the contributions of anatomists from India and worldwide.</p> <p>CO-2: Application of anatomical knowledge in fields such as Plant Systematics and Pharmacognosy to address various challenges.</p> <p>CO-3: Exploration of developmental biology and the organization</p>

	<p>of plant life at different levels.</p> <p>CO-4: Examination of the diversity of plant tissues and systems, including modifications and specialization of plant metabolites.</p> <p>CO-5: Introduction to Root-Stem transition and theories regarding root and shoot apex.</p> <p>CO-6: Discussion on primary, secondary, and anomalous structures of roots and stems, with examples highlighting specialization.</p> <p>CO-7: Exploration of mechanical tissue systems and their physical properties for stress resistance.</p> <p>CO-8: Study of wood anatomy and diversity, including topics such as wood biology and climop dendrochronology.</p>
BBOTCCHC302 (Economic Botany & Pharmacognosy)	<p>CO-1: Overview of the origins and domestication of cultivated plants and their significance in human civilization.</p> <p>CO-2: Classification of economically important plants.</p> <p>CO-3: Discussion on cultivation techniques for various plants including cereals, pulses, vegetables, fruits, fibers, and beverages.</p> <p>CO-4: Study of medicinal plants, their bioactive compounds, and their uses in treating diseases.</p> <p>CO-5: Understanding the role of plants in human welfare and the contribution of agricultural industries to societal progress.</p>
BBOTCCHC303 (Genetics)	<p>CO-1: Detailed study of inheritance patterns in plants and humans.</p> <p>CO-2: Examination of the history of genetics and contributions of geneticists.</p> <p>CO-3: Introduction to Mendelian genetics and post-Mendelian principles as they relate to plants.</p> <p>CO-4: Discussion on chromosomes, genes, and inheritance patterns governing various traits.</p> <p>CO-5: Exploration of genetic concepts such as Linkage, crossing over, and gene mapping.</p> <p>CO-6: Study of mutation types and their implications, including chromosomal and gene mutations.</p> <p>CO-7: Examination of genetics' role in designing new plants through genetic modification.</p>
BBOTCSEC (Biofertilizers)	<p>CO-1: Introduction to sustainability in agriculture.</p>

	<p>CO-2: Application of organic farming and green chemistry principles.</p> <p>CO-3: Discussion on microbes and their role in soil fertility.</p> <p>CO-4: Importance of green manures development and bio-fertilizer production.</p> <p>CO-5: Practical knowledge for pursuing alternative professions post-curriculum completion and promoting organic farming to prevent soil sterility caused by excessive inorganic fertilizer use.</p>
	SEMESTER- IV
BBOTCCHC401 (Molecular Biology)	<p>CO-1: Introduction to the fundamental concepts of the helix of life and the role of nucleic acids in plant development.</p> <p>CO-2: Exploration of the historical perspective of DNA and key experiments.</p> <p>CO-3: Study of chromosome structure and organization.</p> <p>CO-4: Examination of DNA replication and various models.</p> <p>CO-5: Analysis of the genetic code and its significance.</p> <p>CO-6: Discussion on transcription, modification, translation, and processing of non-genetic RNA.</p> <p>CO-7: Introduction to hands-on and virtual experiments in molecular biology.</p>
BBOTCCHC402 (Ecology & Phytogeography)	<p>CO-1: Introduction to the organizational levels and functional attributes of ecosystems.</p> <p>CO-2: Exploration of ecosystem dynamics and homeostasis.</p> <p>CO-3: Examination of abiotic factors such as soil, water, light, wind, and temperature, and their role in environmental design.</p> <p>CO-4: Study of ecosystem, population ecology, and community ecology.</p> <p>CO-5: Analysis of biotic interactions and functional aspects of ecosystems.</p> <p>CO-6: Discussion on phytogeography, phytogeographical zones, and plant distribution across India.</p>
BBOTCCHC403 (Plant Systematics)	<p>CO-1: Introduction to plant taxonomy and systematic reasoning for exploring the angiosperm world.</p> <p>CO-2: Study of synthetic sciences through evidence from various</p>

	<p>branches of plant sciences.</p> <p>CO-3: Exploration of plant repository in herbariums and botanical gardens for plant identification and conservation.</p> <p>CO-4: Analysis of botanical nomenclature and principles such as ICBN.</p> <p>CO-5: Examination of plant classification from Linnaeus to APG IV system.</p> <p>CO-6: Discussion on numerical taxonomy, molecular taxonomy, and biosystematics, including phylogeny in Cladistics and Phenetics contexts.</p> <p>CO-7: Exploration of plant phylogeny and theories regarding the origin of angiosperms.</p> <p>CO-8: Practical and virtual approaches to understanding global plant life.</p>
BBOTSEC (Herbal Technology)	<p>CO-1: Exploration of various aspects of herbal technology.</p> <p>CO-2: Detailed study of traditional medicinal knowledge systems and ethno botanical perspectives.</p> <p>CO-3: Examination of pharmacognosy and phytochemistry, focusing on plants with bioactive potential for disease treatment.</p> <p>CO-4: Analysis of analytical aspects of pharmacognosy and the assessment of adulteration in plant drugs.</p>
	SEMESTER-V
BBOTCCHC501 (Reproductive Biology)	<p>CO-1: Introduction to Plant Reproductive biology and notable scientists and their contributions in the field.</p> <p>CO-2: Exploration of the molecular basis of flowering and external factors influencing flowering mechanisms.</p> <p>CO-3: Study of various aspects of reproduction including micro and megasporogenesis, as well as micro and Megagametogenesis, with focus on exceptional features.</p> <p>CO-4: Examination of pollen biology and the Plant & NPC systems.</p> <p>CO-5: Discussion on self-incompatibility and associated measures.</p> <p>CO-6: Analysis of embryo development in monocots and dicots, including exceptions like apomixes and adventitious embryonic development.</p>

	CO-7: Highlighting the dissemination of seeds, their structure, anatomical characteristics, and other features to enhance learner engagement.
DSEI (Industrial Microbiology)	<p>CO-1: Discussion on the role of microbes in industry and the environment.</p> <p>CO-2: Explanation of bioreactors, their types, working principles, and management practices.</p> <p>CO-3: Highlighting microbial production of various industrial products.</p> <p>CO-4: Explanation of microbial enzymes and their roles in production processes.</p> <p>CO-5: Teaching of environmental quality maintenance by microbes and their applications as course outcomes.</p> <p>CO-6: Explanation of water and air microbiology, principles, regulations, and the role of microbes in hazardous chemical treatment.</p>
DSE II (Plant Breeding)	<p>CO-1: Introduction to Plant Breeding and its objectives in crop improvement.</p> <p>CO-2: Examination of the origin and domestication of crop plants and methods for crop improvement to address societal needs.</p> <p>CO-3: Study of quantitative inheritance and heterosis as important outcomes of the course.</p> <p>CO-4: Learning about crop improvement and breeding, including different genetic mechanisms, as interesting course outcomes.</p>
SEMESTER-VI	
BBOTCCHC601 (Plant Metabolism)	<p>CO-1: Introduction to various metabolic pathways, their integration, regulation, and mechanisms crucial for plant survival.</p> <p>CO-2: In-depth exploration of carbon assimilation and photosynthesis mechanisms, highlighting their diversity.</p> <p>CO-3: Examination of carbon oxidation and cellular respiration, including pathways, factors, and regulation.</p> <p>CO-4: Study of biological energy concepts, electron transport chain (ETC), and related ideas.</p> <p>CO-5: Analysis of lipid metabolism, sucrose metabolism, and their significance in plant metabolism.</p> <p>CO-6: Exploration of nitrogen metabolism, biological nitrogen</p>

	<p>fixation, chemistry, and nitrogen-related issues in plants.</p> <p>CO-7: Discussion on the regulation of biochemical pathways and signal transduction, captivating student interest.</p>
BBOTCCHC602 (Plant Biotechnology)	<p>CO-1: Introduction to plant tissue culture, focusing on embryogenesis, organogenesis, and totipotency.</p> <p>CO-2: Introduction to recombinant DNA technology, emphasizing its large-scale applications.</p> <p>CO-3: Explanation of gene cloning mechanisms and methods of gene transfer for designing and developing novel plants like GM crops.</p> <p>CO-4: Application of biotechnology for developing herbicide-resistant, insect-resistant plants, and industrial purposes such as super bug designing.</p> <p>CO-5: Detailed knowledge of industrial enzymes and their regulatory role in biomedical industries.</p>
DSE III (Plant Analytical Techniques)	<p>CO-1: Introduction to various instruments for chemical, microscopic, genetic, and other analyses of plants.</p> <p>CO-2: Introduction to Flow Cytometry (FACS), Fluorescence In Situ Hybridization (FISH), and other cytometry techniques.</p> <p>CO-3: Introduction to radioisotope techniques for biological research, including autoradiography and experimental attributes.</p> <p>CO-4: Introduction to spectrophotometry and chromatography for qualitative and quantitative plant analysis.</p> <p>CO-5: Exploration of centrifugation techniques for cell analysis and study.</p> <p>CO-6: Characterization of proteins and nucleic acids using crystallography and electrophoresis.</p> <p>CO-7: Basic principles of biostatistics as a tool for analyzing biological parameters, including chi-square test for testing goodness of fit.</p>
DSE IV (Stress Biology)	<p>CO-1: Definition of plant stress, adaptation, and acclimatization.</p> <p>CO-2: Identification of environmental factors related to stress, stress-related proteins, and parameters like mediation of insect and disease resistance.</p> <p>CO-3: Exploration of stress sensing mechanisms in plants, including calcium modulation and phospholipid signaling.</p>

	<p>CO-4: Introduction to developmental and adaptive mechanisms employed by plants to overcome stress and ensure survival.</p> <p>CO-5: Introduction to production and scavenging mechanisms by reactive oxygen species.</p>

Department	Zoology
<p>Program Outcomes B.Sc. in Zoology (Hons.)</p>	<p>The B. Sc. Zoology (Hons.) program is one of the mother subjects of basic science studied at undergraduate level. This program will help students to develop scientific tempers and attitudes, which in turn can prove to be beneficial for the society. After studying this program, students will be more equipped to learn and know about different biological systems, their coordination and control as well as evolution, behaviour and biological roles of the animals in the ecosystem. Moreover, they will be able to analyze quantitatively and qualitatively evolutionary parameters using various bioinformatics and computational tools used in modern sciences. This will provide them ample opportunities to explore different career avenues. The program will also provide a platform for classical genetics in order to understand distribution or inheritance of different traits and diseases among populations, their ethnicity and correlate with contemporary and modern techniques like genomics, metagenomics, genome editing and molecular diagnostic tools. After the completion of this course, students have the option to go for higher studies like M. Sc. / Integrated MS Ph.D. and then conduct research works for the welfare of mankind. After higher studies, students can join as scientists Assistant Professors or Assistant Teachers and can even look for professional job oriented courses, such as Civil Services, Forest Services, Police Services etc. Science graduates can go to serve in industries or may opt for establishing their own industrial unit. Practical and theoretical skills gained in this program will be helpful in designing different public health strategies for social welfare. The program has been designed to provide in-depth knowledge of applied subjects ensuring the inculcation of employment skills so that students can make a career and become an entrepreneur in diverse fields mainly in Aquaculture, Sericulture, and Ornamental Fisheries. After the completion of the B.Sc degree there are various other options available for the science students.</p>
<p>Program Specific Outcomes</p>	<ul style="list-style-type: none"> • Students will get a broad understanding of animal kingdom, their diversity, including knowledge of the scientific classification and evolutionary relationships of major groups of animals. • They will be able to recognize the relationships between structure and functions at different levels of, biological organization (e.g., molecules, cells, organs, organisms, populations, and species) for the major groups of animals. • They will learn to characterize the biological, chemical, and physical features of environments (e.g. terrestrial, freshwater, marine, host) that animals inhabit. • Explanation regarding interaction in species, biological, chemical, physical, and environmental levels will be provided. • Basic knowledge on how organisms function at the level of

	<p>the gene, genome, cell, tissue, organ, and organ-system will be shared.</p> <ul style="list-style-type: none"> • With this knowledge, they will be able to understand physiological adaptations, development, reproduction and behavior of different forms of life. • It will be made sure that the students understand the applied biological sciences or economic Zoology such as sericulture, Apiculture, aquaculture, Industrial microbiology, rDNA technology and medicine for their future career opportunities.
Course outcomes	
Course	Outcome
NON-CHORDATES I: PROTISTA TO PSEUDOCOELOMATES	Students will have learning about the basic taxonomy and systematics and classification of Protozoa, Porifera, Cnidaria and Helminth groups. They also will acquire knowledge about the biology of these taxonomic categories as well as about some acoelomate plus pseudocoelomate parasites for their life cycles, epidemiology, pathology, diagnosis, symptoms and treatments. They will also have knowledge about the basics of parasitology such as origin and evolution of parasitism, role of vectors, parasitoids, host-parasite interactions etc.
PERSPECTIVES IN ECOLOGY	Students will be able to understand the various features and aspects of population ecology, community ecology and ecosystem ecology. They might have the knowledge about environmental biology in details. They will acquire knowledge about various tools and techniques of field ecology.
NON-CHORDATES II: COELOMATES	Students will be learning about classification of coelomate invertebrates and the structure, function plus biology of these taxonomic categories as well. They will understand about different vector born diseases and the related life cycles, epidemiology, pathology, diagnosis, symptoms and treatments. They will also know the basics of sericulture, apiculture and lac culture.
CELL BIOLOGY	Students will understand the structures, positions and functions of plasma membrane and all cellular organelles in details. They will acquire knowledge about chromosomes and cell divisions, both mitosis and meiosis. They will also know about cell signaling and cancers. They will know how to measure and stain different cell types.
DIVERSITY OF CHORDATA	Students will understand the classification, structure, function and biology of chordates of different taxonomic classes. They will also learn some special topics like zoogeography, metamorphosis, snake bites, migration of birds, parental care of amphibian, echolocation of mammals, poultry managements and different breeds of domestic animals.
ANIMAL PHYSIOLOGY: CONTROLLING AND COORDINATING	Students will learn about basics of histology and tissue staining. They will also understand the physiology of muscles, nerves, reproductive systems and bone. They will learn details of endocrinology with classification of hormones, their biosynthesis, receptors, mode of

SYSTEMS	molecular actions, physiological function, feedback controls and related disorders.
FUNDAMENTALS OF BIOCHEMISTRY	Students will understand the basic and fundamental biochemistry of carbohydrates, proteins, lipids and nucleic acids. They will also understand the nature, mechanism, and kinetics of enzyme action. Some instrumentation such as microscopy, chromatography, electrophoresis, centrifugation, spectrophotometry etc will also be learnt.
AQUARIUM FISH KEEPING	Students will learn about the status and scope of aquarium fish industry as a potential income source. They will learn about the general biology of common aquarium fishes, feed and feeding strategies, handling and transportation as well as maintenance of aquarium.
COMPARATIVE ANATOMY OF VERTEBRATES	Students will have understood the structures of different systems such as, integumentary, skeletal, digestive, respiratory, circulatory, urinogenital, nervous and sensory organs in comparative way among the vertebrate groups.
ANIMAL PHYSIOLOGY: LIFE SUSTAINING SYSTEMS	Students will know the physiology of digestion, respiration, circulation, excretion and adaptation of representative animals including human.
IMMUNOLOGY	Students will develop knowledge about structures and function of immune cells, immunoglobulins, antigens and their interactions with antibodies. They will know about MHC molecules, cytokines, hyper sensitivity reactions and cellular mode of immunity development. They will know the immune diffusion technique and ELISA.
SERICULTURE	In this course, students will be taught about the importance of sericulture and its potential as a cottage industry in India. They will be also taught as the general biology of commonly cultivated silk moths, their rearing strategies, pest and diseases and overall maintenance of a sericulture farm as a profitable industry.
MOLECULAR BIOLOGY	Students will acquire knowledge about replication, transcription, translation, post transcriptional and post translational modifications, gene regulation, DNA repair mechanisms and various molecular tools and techniques like PCR, southern, northern and western blotting, recombinant DNA technology etc. They will also know the various tools and techniques related to bacterial microbiology. Some aspects of applied microbiology and diseases related to microbiology will also be learnt by the students.
PRINCIPLES OF GENETICS	Students will learn the fundamental genetics like Mendelian and Non Mendelian inheritances, linkages, mutations, sex determination of various animals, extra-chromosomal inheritances, transposable genetic elements etc.
ANIMAL BIOTECHNOLOGY	In this course the students will learn about various molecular tools and techniques needed in gene manipulation, GMOs, cell and tissue culture techniques as well as their applications.

FISH AND FISHERIES	Students will learn details about taxonomy and biology of fishes as well as various aquaculture techniques in details.
WILDLIFE CONSERVATION AND MANAGEMENT	Students will be learning the various issues related to biodiversity loss and conservation as well as status, conditions and conservation of forests and wildlife. They will also able to use various tools used in field biology.
DEVELOPMENTAL BIOLOGY	Students will learn the different aspects of early, late and post embryonic developments. They will have the knowledge about implications of developmental biology in various fields, such as in teratogenesis, stem cell biology, in vitro fertilization, cryopreservation, cord blood transfusion etc.
EVOLUTIONARY BIOLOGY	Students will know about population genetics, human evolution, various concepts about origin of species, extinctions, phylogenetic tree making. They will also understand few basic of bioinformatics.
PARASITOLOGY	Students will get a general idea about different parasitic groups starting from Protozoa to vertebrates. The life cycles, host parasitic interaction, pathogenicity and control measures will also be taught.
ANIMAL BEHAVIOR AND CHRONOBIOLOGY	Students will know in details about patterns of behaviors, survival strategies, social and cooperative behaviors, design of signals and chronobiology. They will also know to construct ethograms.
BIostatistics AND BIO-INFORMATICS	In this course students will learn about various data analyzing tools and techniques such as central tendency, t-test, chi-square, ANOVA, correlations and regression etc. They will handle software, and also will gather knowledge on implementation of statistical tools in biological research works.

Department of Bengali

The syllabi and the curricula are developed by the BOS of the university for the overall disciplinary training and development of the analytical and expressive faculties of the students.

Course Outcome: (UG) Under CBCS system, the Course of Bengali Language & Literature has been divided into various part for the Students of Honours and Programme / Regular Course. Generic Elective (GE), 2. Skill Enhancement Course (SEC), 3. Discipline Specific Course (DSC), Discipline Specific Elective (DSE), Language Core Course (LCC), Ability Enhancement Core Course (AECC). Bengali is our Mother Language. There is a great opportunity to know the History of its Language and Literature, Rhetoric Prosody, Linguistic along with selected History of Sanskrit and English literature. This course has the potential to be successful in the workplace in the future by acquiring good Bengali writing and speaking ability.

Paper Outcome: (UG) Within 14 Core Course for Hons. Papers, there are so many Interesting and Knowledge caring topic in the syllabus, like Old and Medieval, Modern and Post-Modern Bengali Literature, along with History of English and Sanskrit Literature. Moreover, Bengali Drama, Short Story, Novel, Essays, Folk Literature and Tagore Study. Extensive knowledge on literature, society, human life etc. can be gained by the students through the course. Program Specific Outcome: (UG) Develop a strong concept of linguistics and basic Bengali grammar, history of old, medieval and modern Bengali literature. The students should possess the fundamental knowledge of Bengali Prosody, Rhetoric, Deferent literary theory, loike Tragedy, Comedy, Romanticism, Classisigm, Epic, Ode, Ballad etc. Old Indian KABBWATATTWA,

Charyapada, Baishanab Padabali, Ramayan, Mangal Kavya, Bhagbat, Mahabharata, Shakta Padaboli and Annadamangal, Chandimongal etc.. Students are enabled to transfer and apply the acquired concepts and principles to study different branches of Bengali literature that is fiction, short story, essay and poetry. Understand the principles and application of classification of Drama, Novels, and Poetry. Develop a conception of aesthetic sense and understand the interdisciplinary approach.

It is possible through this course to be successful in various competitive examination like NET, SET, and Civil Service etc.

Department of Bengali Programme Specific Outcomes knowledge and understanding of basic Bengali grammar knowledge and understanding of essential Bengali vocabulary, knowledge and understanding of the appropriateness of basic Bengali structures and expressions in a given context, knowledge and understanding of Poetry of 19th & 20th century, knowledge and understanding of History of Bengali Literature, knowledge and understanding of basic Bengali linguistics. Course Outcomes History of Bengali Literature 1801 – 1950 Studying History of Bengali Literature helps students to know their country, Religion, society, culture and the development of the literary techniques used in the prose or poetry written in the Post-Renaissance age. In brief it enlarges our vision to see our own literature, manifestation of our nationality transformation of content, form and style of writing through ages and indication of future directions in literature as well. Linguistics Linguistics is the scientific study of language. Since language is the most important means of communication undoubtedly it has a very important social purpose. Majoring in linguistics means fine the way of learning many aspect of the Bengali language-including sounds, words, sentences and meaning. Students will understand Bengali language in

an historical context and they will learn how Bengali language changed over time and how it varies from situation to situation and place to place. Study of Linguistics will also help in making the foundation of language stranger and will improve the practical and intellectual skills. Poetry of 19th & 20th century Aristotle said "Poetry is more philosophical than History. W.B. Yeats in modern age said, hear and see the world and shrink from all that is of the brain only." Apart from all these philosophical views, poetry of the poets – belonging to different centuries improves the vocabulary; it gives new ideas by opening up the mind of students. It also helps the learner to know about the relationship between language and reality. History of Bengali Literature (Old and Medieval) To make students interested in Bengali Society, culture, literature and history of the Bengali people. To create a sense of history and historical analysis amongst students. To create a sense of logic-dependent evaluation and critique of literature To make students aware about basic textual nuances of Medieval Bengali Literature. To acquaint students with Old and Medieval version of Bengali Language. To make students aware about the evolution of the history of Bengali Literature and Culture. To give the idea of the inextricable interconnection between Literature and Culture. To create a strong foundation of studying future course of literature. Rhetoric and Prosody To make students aware about the importance of Rhetoric and Prosody while studying poetry. To give practical lessons of Rhetoric and Prosody to students. To prepare students about the ornamental use of language in constructing sentences while speaking and writing. Introducing the foundation of Prosody along with the basic knowledge of Linguistics. Introduce to the students about the aesthetics of language while studying Prosody. To make students aware about Indian idea of Rhetoric and Prosody. Theory of Poetry and Translation To introduce students about the basic

features of Lyrical poetry. Introduce Students about the idea of Narrative Poetry. Give the basic idea of Translation Theory to students. To instruct students of how to read an Ancient Indian Epic and how to analyse the complex textual networks of the text. Introduce the basic premises of Vaisnava Literary and Poetic Theory. Give the basic lessons of Literary and Poetic Aesthetics. To inspire the students of creating their own register in creative writing. Religious Literature in the Medieval Period To give students basic ideas about the transition of Literature between two different historical periods. To give basic ideas about the Court Literature of the contemporary Medieval Period to the students. To make them aware about the deep connection between literature and history. Make students aware about the mixtures of multiple languages in Bengali Literature. To make students aware about Shakta Religion and Philosophy. To make students aware about Shaktapada and Shakta alphabet. To give basic ideas about Religious Literature and Social values of this form of literature. To create a sense of analysis power and nurture the ability of expression amongst students. Bengali (General) Through this curriculum students learn to translate from English to Bengali and contrarily from Bengali to English. Moreover they acquire skill in proof-reading, formal letter-writing, reporting or various affairs etc. Exercise of all these methods will help students in getting jobs as translator, professional Proof-reader or Reporter in News agencies and thus the course of study is building proficiency required for getting employed in different field.

DEPARTMENT OF BENGALI After successful completion of the three-year B.A. (Honours) degree program in Bengali, students should be able to achieve the following objectives/ outcomes: Program Specific Outcomes (PSO) :

1. Develop a strong concept of linguistics, history of old, medieval and modern Bengali literature. The students should possess the fundamental knowledge of Bengali Rhythms, Alonkar, 'Baishanab Padabali', 'Ramayan' and 'Annadamangal'.

2. Students are enabled to transfer and apply the acquired concepts and principles to study different branches of Bengali literature that is fiction, short story, easy and poetry.

3. Understand the principles and application of classification of Drama, Novels, and Poetry. Develop a conception of aesthetic sense and understand the interdisciplinary approach. Course Outcomes (CO) :

CO1: Develop ideas on History of Bengali literature and linguistics.

CO 2: Analyse Bengali Rhythms, Alonkar and develop ideas on classic Bengali poetry.

CO3: Increase conception of Bengali fiction and short story.

CO4: Understanding about the classification of easy, poetry and criticism. CO5: Students will be capable of oral and written communication about the classification of drama and history of Bengali theatre.

CO6: Students will demonstrate ideas about Epic, Lyric, Epistle, Classicism, Surrealism, Romanticism, Imagism.

CO7: Students will demonstrate knowledge of selected fiction.

CO8: Students will demonstrate the interdisciplinary approach.

DEPARTMENT OF BENGALI PSO: Develop a strong concept of linguistics, history of old, medieval and modern Bengali literature.

The students should possess the fundamental knowledge of Bengali Rhythms, Alonkar, Baishanab Padabali, Ramayan, Bhagbat, Mahabharata, Shakta Padabali and Annadamangal. Students are enabled to transfer and apply the acquired concepts and principles to study different branches of Bengali literature that is fiction, short story, essay and poetry. Understand the principles and application of classification of Drama, Novels, and Poetry. Develop a conception of aesthetic sense and understand the interdisciplinary approach. CO: Develop ideas on History of Bengali literature and linguistics. Analyse Bengali Rhythms, Alonkar and develop ideas on Ramayan, Bhagbat, Mahabharata, Shakta Padabali, Baishnab Padabali and Annadamangal. Increase conception of Bengali fiction and short story, essay and novel. Understanding about the classification of essay, novel, poetry and criticism. Mugberia Gangadhar Mahavidyalaya Mission and Student Learning Outcomes of the department of Bengali Mission The Department of Bengali of Mugberia Gangadhar Mahavidyalaya under Vidyasagar University follows the syllabus of U.G and P.G course, which according to Vidyasagar University and that syllabus offers diverse and flexible curriculum designed to help students prepare for meaningful careers in government, public service, acting, stage performing, journalism, teaching and other related areas. Students also participate in different seminars and/or different programs like foundation course on Human Rights appropriate to their career goals and interests.

Student Learning Outcomes

Bengali Outcome No. 1: Knowledge of the Field -- Concepts, Theories, and Methods Students learn the defining concepts and theories of Bengali language, literature, cult and culture which will help to fit for our society. Students learn about the methods and tools of Bengali syntax

and folk culture, beside of that they are developing their creative writing skill.

Bengali Outcome No. 2: Writing -- Academic Writing and Information Literacy Students learn to effectively use argument and to communicate claims to know in academic writing appropriate for the discipline like Wall Magazine. Students learn to evaluate and use evidence to support empirical claims to know in writing. Through the careful reading of texts and the analysis of argument and evidence, students will develop the skills necessary to clearly, thoughtfully, and persuasively communicate in writing. Students will develop and practice these skills throughout the curriculum.

Bengali Outcome No. 3: Critical Thinking - Students learn to apply learned concepts, theories, and methods, as well as their mastery of argument and evidence to produce and communicate original research which analyzes and explains relevant Bengali language and literature phenomena -- in both writing and orally.

Bengali Outcome No. 4: Students successfully completing a specialization in the study of Folk literature in under graduate level. Be able to describe and explain Bengali theory and systems around the world, explore Bengali literature in the international arena, Understand the fundamental concepts, issues, and theories central to comparative language and international relations. Be able to explain the similarities and differences between various types of cultural language and how they affect for the society.

Note: Subject of Bengali language and literature is such as human activity that is best understood by bringing theory and practice together through experience and application.

Department of Economics



Achhruram Memorial College, Jhalda

Bachelor of Arts in Economics (Core & Programme Course)

Course Outcome, Programme Outcome, Programme Specific Outcome

(CO, PO, PSO)

PROGRAMME OUTCOMES (PO) – BA

P O 1: Students will acquire comprehensive and contemporary knowledge within the social sciences and humanities disciplines.

P O 2: The program will introduce students to various socio-economic and political perspectives through an intercultural and interdisciplinary framework.

P O 3: Students will cultivate research competencies enabling them to comprehend, analyze, reflect upon, and critically assess information derived from primary and secondary sources.

P O 4: Students will demonstrate proficiency in communication and collaboration within both professional and social contexts.

P O 5: The program will furnish students with pertinent technological and analytical proficiencies, ensuring their preparedness for careers and global competitiveness.

P O 6: Students will develop robust ethical, moral, and humanistic values alongside a commitment to integrity.

P O 7: The program will underscore the importance of fostering mental and physical well-being.

P O 8: Students will cultivate the ability to think creatively and embrace innovative approaches.

P O 9: The program will establish a sturdy groundwork for pursuing advanced studies and professional endeavors.

P O 10: The program will sensitize students to issues concerning sustainable development and environmental preservation.

PROGRAMME SPECIFIC OUTCOMES (P.S.O.) FOR BA – ECONOMICS

P.S.O. 1: Comprehension of pivotal economic policies and their significance in the pursuit of objectives related to growth, development, and stability.

P.S.O. 2: Grasping the contemporary socio-economic, political, and legal milieu, and the operational dynamics of economies within this multifaceted framework.

P.S.O. 3: Proficiency in technological tools and analytical capabilities to apply theoretical understanding to the operational dynamics of an economy, encompassing both micro and macro levels.

COURSE OUTCOME (CO):

Paper: CC1

Course Title: Introduction to Microeconomics (BECOCCHT101)

This course aims to acquaint students with the fundamental principles of microeconomic theory. Emphasis is placed on cultivating an economist's mindset, demonstrating how microeconomic concepts can be employed to analyze real-world scenarios.

Paper: CC2

Course Title: Mathematical Methods in Economics-I (BECOCCHT102)

This is the initial segment of a compulsory two-part series. The course focuses not solely on specific economic models, but rather employs them as tools to elucidate the application of mathematical techniques to economic theory at large.

Paper: CC3

Course Title: Introduction to Macroeconomics (BECOCCHT201)

This course serves to introduce students to the fundamental concepts of Macroeconomics. It encompasses preliminary discussions on the determination and measurement of aggregate macroeconomic variables such as savings, investment, GDP, money, inflation, and monetary and fiscal policies.

Paper: CC4

Course Title: Mathematical Methods in Economics-II (BECOCCHT202)

This course constitutes the second part of a compulsory two-part sequence. It equips students with the capacity to engage with Matrix Algebra, Functions of several variables, multi-variable optimization, and Differential Equations.

Paper: CC5

Course Title: Intermediate Microeconomics-I (BECOCCHT301)

Designed to provide a robust grounding in microeconomic theory, this course enables students to formally analyze the behavior of individual economic agents.

Paper: CC6

Course Title: Intermediate Macroeconomics-I (BECOCCHT302)

This course introduces students to the formal modeling of a macro-economy using analytical tools. It explores various theories concerning output and employment determination in closed economies, in both the short and medium terms, and examines the role of policy within this context. The course also delves into theoretical issues pertinent to open economies.

Paper: CC7

Course Title: Statistical Methods for Economics (BECOCCHT303)

Focusing on statistical methodologies in economics, this course begins with an exploration of probability theory, followed by discussions on probability distributions of discrete and continuous random variables, joint distributions, and sampling techniques. It culminates with topics in statistical inference, encompassing point and interval estimation.

Paper: CC8

Course Title: Intermediate Microeconomics-II (BECOCCHT401)

Succeeding Intermediate Microeconomics I, this course places emphasis on fostering conceptual

clarity among students through the utilization of mathematical tools and reasoning. It covers topics such as general equilibrium and welfare, imperfect markets, and facets of information economics.

Paper: CC9

Course Title: Intermediate Macroeconomics-II (BECOCCHT402)

Building upon the foundations laid in Intermediate Macroeconomics I, this course delves into long-term dynamic issues such as growth and technical progress. It also furnishes micro-foundations for various aggregative concepts introduced in the preceding course.

Paper: CC10

Course Title: Introduction to Econometrics (BECOCCHT403)

This course offers a comprehensive introduction to basic econometric concepts and techniques. It encompasses statistical concepts related to hypothesis testing, estimation, and diagnostic testing of simple and multiple regression models, along with discussions on the consequences of misspecification of regression models.

Paper: CC11

Course Title: International Economics (BECOCCHT501)

Covering a systematic exposition of models elucidating the composition, direction, and consequences of international trade, this course also explores determinants and effects of trade policy. It concludes with an analytical examination of the causes and ramifications of the recent surge in international financial flows, grounding abstract theoretical models with real-world examples and case studies.

Paper: CC12

Course Title: Public Economics (BECOCCHT502)

Public economics, as examined in this course, entails the study of government policy from the perspectives of economic efficiency and equity. Topics encompass the nature of government intervention and its implications for allocation, distribution, and stabilization, including formal analyses of government taxation and expenditures. The subject also addresses public goods, market failures, externalities, and Indian public finances.

Paper: CC13

Course Title: Indian Economy (BECOCCHT601)

Utilizing appropriate analytical frameworks, this course examines major trends in economic indicators and policy debates in post-Independence India, with a focus on paradigm shifts and turning points. Given the rapid evolution of India's economy, the reading list is updated annually to reflect current developments.

Paper: CC14

Course Title: Development Economics (BECOCCHT602)

Commencing with a discussion on various conceptions of development and their justifications, this course progresses to examine aggregate models of growth and cross-national comparisons thereof. It employs the axiomatic basis for inequality measurement to develop measures of inequality and explores connections between growth and inequality. The course concludes by examining the linkages between political institutions and economic growth and inequality, considering the role of the state in economic development and the informational and incentive challenges affecting state governance.

Paper: DSE 1**Title:** Contemporary Issues in the Indian Economy (BECODSHT1)

This course seeks to offer a comprehensive introduction to the recent challenges faced by the Indian economy. Since 1991, India has pursued policies of free market liberalization, increased trade openness, and enhanced investment in infrastructure.

Paper: DSE 2**Title:** Economics of Health and Education (BECODSHT2)

This course aims to provide a theoretical understanding of the role of health and education in human capital formation. It elucidates the distinction between 'physical capital' and 'human capital'.

Paper: DSE 3**Title:** Applied Econometrics (BECODSHT3)

The objective of this course is to furnish students with a comprehensive introduction to the theory and application of contemporary econometric tools. Catering to students from diverse backgrounds, it is essential for those interested in applying econometric techniques to data and issues across various disciplines. The course primarily focuses on introducing students to the basics of estimation and statistical inference in single-equation linear regression models.

Paper: DSE 4**Title:** Environmental Economics (BECODSHT4)

This course endeavors to provide an understanding of the application of economic theory and policy analysis tools to various environmental challenges. Additionally, it introduces analytical concepts and theories pertaining to environmental externalities and the optimal allocation of natural resources.

Paper: DSE 5**Title:** Money and Financial Markets (BECODSHT5)

The objective of this course is to impart understanding about money and banking, including concepts, functions, and measurement, as well as theories of money supply determination. It also covers financial institutions, markets, instruments, and innovations.

Paper: DSE 6**Title:** Political Economy II (BECODSHT6)

This course aims to facilitate an understanding of the analysis of Social Change in Historical Perspective. It covers the method of historical materialism, the transition from feudalism to capitalism, alternative perspectives on capitalism as a historical process, the emergence of socialism, including the social mode of surplus extraction and socialist planning, and capitalism as an evolving economic system.

Skill Enhancement Courses (SEC) in Economics**Paper: SEC 1****Title:** Data Analysis (Semester III) (BECOSEHT305/BECOSERT304)

This course is designed to impart an understanding of data sources, distinguishing between

population census and sample surveys, principles of random sampling, and techniques for frequency distribution and summary statistics. It also covers the analysis of various Indian data sources such as the Economic Survey, RBI Bulletin on currency and finance, ASI DATA, Foreign Trade Statistics, and NSS Consumer surveys.

Paper: SEC 2

Title: Research Methodology (Semester IV/V) (BECOSEHT405/BECOSERT504)

This course aims to provide an understanding of research nature, including formulating research topics, conducting literature reviews, exploring research approaches and strategies, adhering to research ethics using secondary and primary data, employing data collection methods such as observations, interviews, and questionnaires, selecting appropriate sample selection methods, analyzing data, and composing project reports with appropriate referencing styles.

Paper: SEC 3

Title: Financial Economics (Semester IV) (BECOSERT404)

The objective of this course is to provide an understanding of deterministic cash-flow streams, the basic theory of interest including discounting and present value, the concept of internal rate of return, random asset returns, portfolios of assets, and the Capital Asset Pricing Model (CAPM).

Paper: SEC 4

Title: Contemporary Economic Issues (Semester VI) (BECOSERT604)

This course aims to provide an understanding of recent economic issues pertaining to Fiscal Policy, comprehending the Economic Survey, and analyzing the Union Budget. It covers the necessity of the budget, the process of budget making in India, and an analysis of the budget using various parameters.

Generic Elective Courses (GE) in Economics

Paper: GE 1

Title: Introduction to Microeconomics (BECOGHEHT9)

This course aims to delve into the realm of Economics, covering topics such as Supply and Demand, Market Mechanisms, Market Competition, Household Behavior including consumption decisions within budget constraints, Firm Behavior in Perfectly Competitive Markets, Input Markets, with a specific focus on labor markets and related public policies.

Paper: GE 2

Title: Introduction to Macroeconomics (BECOGHEHT9A)

This course seeks to introduce students to Macroeconomics and National Income Accounting, exploring concepts such as the balance of payments, functions of money, quantity theory of money, determinants of money supply and demand, credit creation, and tools of monetary policy. Additionally, it covers topics on inflation and its social implications, including hyperinflation. The course further addresses the Short-Run Closed Economy, comparing Classical and Keynesian systems, elucidating the simple Keynesian model of income determination, and introducing the IS-LM model and the fiscal and monetary multipliers.

Achhruram Memorial College

Department of English

Dept. of English: Honours in English

Achhruram Memorial College

Curriculum of CBCS (Introduced from the Academic Year 2017-2018)

PROGRAMME OUTCOME (PO)

Learning outcomes for English courses include the following:

1. The programme tries to improve the pupils' capacity to read, analyse critically, and appreciate literary works of various genres from the classical era to the post-modern milieu.
2. The programme illustrates the evolution of critical ideas in various literary texts.
3. The programme examines and brings to the forefront literature from the points of view of critical/cultural theories (such as social, political, economic, and historical perspectives).
4. The programme describes the Indian characteristics of English-language Indian literature and delves deep into the advantages and drawbacks of Indian English as a literary language.
5. The programme educates our children about the societal limitations of caste, colour, class, race, and gender and how they affect the writing and lives of women across the universe.
6. It tries to demonstrate the pre-colonial and post-colonial history of American literature and its socio-political-cultural realm within the framework of interdisciplinary studies.
7. The programme makes our students acquainted with fundamental linguistic principles and helps them pronounce words more clearly. Therefore, it gives them foundational language skills and enhances verbal and nonverbal abilities that will make them employable globally.
8. Communication abilities/skills essential to social and professional contact were developed in the classroom in order to lead to new opportunities because English is the *lingua franca*.
9. It seeks to familiarise our students with the procedures for producing a research paper to help them develop the research abilities that will be useful to them in their higher education.

COURSE OUTCOME (CO)

SEMESTER I

BENGCCHT-101: INDIAN CLASSICAL LITERATURE

CO-1.*AbhijnanaShakuntalam*: Kalidasa (18 class hours)

This text is a key to enter into the treasure of Indian Classical literature. It is a play in seven acts that accentuates eternal human endeavour to unite earth and heaven. A reading of *AbhijnanaShakuntalam* is meant for exposure to and understanding of pure literature.

CO-2. “The Dicing” and “The Sequel to Dicing” from *Mahabharata*: Vyasa (7+5=12 class)

It makes an introduction to Indian Epic tradition. Translinguistic in nature, these episodes of the primary epic *The Mahabharata* are meant for mature understanding of life through the challenging characters like Duryodhana and Shakuni. Therefore, students can form a new perception about the binary nature of moral and cultural ethos of India in those days.

CO-3.*Mricchakatika*: Sudraka (17 class hours)

Another Indian play in translation in ten acts, a 'Prakarana' play that deals with the ground realities of medieval India and gives exposure to life in all its vagaries. The kaleidoscopic vision of the play will attract young minds to the multi-layered social setup of the then times, and thus, may draw them to deeper studies on Indian history, culture, and class systems.

CO-4. “The Book of Vanci” from *Cilappatikaram*: IlankoAtikal (15 class hours)

It is a Tamil epic which marks a distinct departure from the Aryan epic tradition. Lyrical and melodious, this South Indian epic is romantic in nature, and it suggests a transcendence from the mundane world to the ethereal heaven. Moreover, it tells the tale of universal human saga of Love, Revenge, War and Power-politics, although from a Dravidian point of view.

BENGCCHT-102: EUROPEAN CLASSICAL LITERATURE

CO-1.*The Iliad* (Book I and Book IX): Homer (17 class hours)

A key to enter into the European Classical literature, *The Iliad*, even in excerpts, is worth reading. It presents the heroic life of the Indo-European forefathers. Ennobling and exotic, this text makes an interesting parallel with the Indian epics. Students may avail themselves of the opportunity of probing into a comparative study of the different structure and texture of the Oriental and the Occidental epics within the framework of interdisciplinary studies.

CO-2.*Oedipus the King*: Sophocles (17 class hours)

One of the greatest tragedies of all time, "Oedipus Rex" brings to the forefront the irony of human existence and ego-centric megalomania through the metaphor of vision. Deeply philosophical in nature, this play, through the tale of promiscuity of generations, tells the eternal saga of the sad music of humanity. Hence the enduring popularity of this text.

CO-3.*Poetics*: Aristotle (18 class hours)

One of the fundamental texts in literary theory makes a theoretical attempt to analyse literature primarily through the metaphor of tragedy. It is a must read for all students interested in literature, as it is the primal and seminal text on Aesthetics and Poetry in the West.

CO-4.Selections from *Metamorphoses*: Ovid (14 class hours)

Ovid's magnum opus *Metamorphoses* is another marvel of classical literature. The selections are made keeping in mind the capacity of the students to understand them and their areas of interest. Apart from the interest that the stories generate, they also bring to the forefront universal interrelationship between the Mythical characters and the Human mind.

SEMESTER II

BENGCCHT-201: INDIAN WRITING IN ENGLISH

CO-1.*The Guide*: R.K. Narayan (17 class hours)

The Guide is an immensely popular modern Indian English narrative that addresses intricate issues of Indianism through a well-told story. Reading of such a text is worth its while as it introduces students adequately to the concept of Indian English literature.

CO-2.*In Custody*: Anita Desai (17 class hours)

A novel short-listed for Booker, Anita Desai's *In Custody* experiments boldly with a crisis that always demands careful handling: the conflict between Hindi and Urdu after the independence of India from the colonial yoke. Therefore, our students will surely find it worth reading.

CO-3.Indian English Poetry (16 class hours)

Indian students studying literature in British India were first enamoured by English poetry, and they started imitating them slavishly at first, with some character and purpose. Modern Indian English poetry is worth reading, and students will be benefited by this exposure.

CO-4.Indian English Short Stories and Essays (18 class hours)

Indian English shows its optimum maturity in fictional works, and short stories comprise a good slice of it. It is always advisable that students should be encouraged to read Indian English short stories by R.K.Narayan, Mulk Raj Anand and Khushwant Singh, and essays by postcolonial writers such as Salman Rushdie and Amitav Ghosh are also worth reading.

BENGCCHT-202: BRITISH POETRY AND DRAMA: 14TH TO 17TH CENTURY

CO-1. “The Wife of Bath's Prologue”: Geoffrey Chaucer (7 class hours)

Poetry from Spenser to Marvell (8 class hours)

The students are introduced to English literature with the best poems from Chaucer to the Metaphysical School of Poetry, from the mediaeval era to Elizabethan milieu. This exposure makes them ready to face other challenges in the semesters to come. With Chaucer, modern English begins, and he is justly called the Father of English Literature. Students are encouraged to go through the development of English language and poetry from Chaucer to Marvell.

CO-2.*Edward II*: Christopher Marlowe (20 class hours)

This Renaissance tragedy of Christopher Marlowe is the first of the English plays that students face. This intricate text with historical background prepares them to come across *Macbeth*, *Hamlet* and *Henry IV* in future. The political dimension of power clash is also important for young minds. This play is of triple benefit for the students because it accommodates three major components of Elizabethan theatre: Tragedy, History play, and Chronicle play.

CO-3.*Macbeth*: William Shakespeare (20 class hours)

Macbeth is the shortest of the Shakespearean tragedies and the swiftest. So, it is almost an automatic choice, and students are immensely benefitted by reading this thrilling tragedy. It is at once a gripping moral and political play and a cascade of silvery poetry. It is one of the earliest examples of the Theatre of Power in the literary canon of the Elizabethan period.

CO-4.*As You Like It*: William Shakespeare (20 class hours)

This romantic comedy is the first one of the genres that students take up, a pleasant drama that presents a vision of life quite opposite to that of *Edward II* and *Macbeth*. Through the form of Comedy of geniality, humour and fun, Shakespeare projects the deeper theme of social cleansing and purification, which is of utmost importance to the moral make of the learners.

SEMESTER III BENGCCHT-301:

AMERICAN LITERATURE

CO-1.*The Hairy Ape*: Eugene O'Neill (18 class hours)

This impressionistic text is the first of the modern American plays that is offered to the students, considering the fact that they have become now mature enough to accept intellectual challenges. Therefore, this play makes the students aware about the hegemonic discourse of the primitive violence and political power-politics clash inherent in the history of humanity.

CO-2.*The Old Man and the Sea*: Earnest Hemingway (18 class hours)

A fictional presentation of Americanism, this work is a must read for anybody interested in literature or life. The tragic adventurism of the old man is a lesson for students to understand the ultimate philosophical reality that every human enterprise has its own worth beyond the human calculation of profit or loss. The element of „struggle for existence“ is portrayed through the central character, which every man should learn in order to make a mark in life.

CO-3.American Short Stories: (16 class hours)

No reading of American literature is complete without short stories by Poe or Faulkner. The concept of America as a „melting pot“ and the American dream finds expression mostly through the essays and short stories. So, the component is very interesting for pupils.

CO-4.American Poetry (18 class hours)

American poetry starting from Bradstreet to Frost creates a sense of historical continuity and development. Poetry is the essence of literature and reading of these poems alongside British and Indian will definitely help young students to perceive the underlying philosophy.

BENGCCHT-302: POPULAR LITERATURE

CO-1.*Through the Looking Glass*: Lewis Carrol (18 class hours)

Lewis Carrol creates a world of non-sense that draws attention of readers from eight to eighty years person. This popular appeal, now recognized in literature, is part of making a student ready to face any challenge in the field of literature. This unparalleled piece of fantasy fiction projects one of the central tensions of life: the polar tension between Logic and Imagination.

CO-2.*The Murder of Roger Ackroyd*: Agatha Christie (18 lectures)

Detective fiction as a popular genre finds place to initiate students to a world of murder, mystery and mathematics. It is important for all-round development of literary sensibility.

CO-3.*Three men in a Boat*: Jerome K. Jerome (17 class hours)

This hilarious story is a good dose of laughter medicine. It is hoped that such fiction will go well with a modern student surrounded by internet, website, cartoon network and cloud. CO-

4.*Bhimayana: Experiences of Untouchability*: Vyam and Vyam (17 class lectures)

It is a graphic novel and a biography of Bhimrao Ramji Ambedkar. Therefore, it serves the dual purpose of education and entertainment through a now- popular genre of fiction.

BENGCCHT-303: British Poetry and Drama: 17th and 18th Centuries

CO-1.*Paradise Lost Book I*: John Milton (18 class hours)

The students will learn how to read epic which is the longest text belonging to the genre poetry. As a result, within the constraints of the time available, students should be able to develop a critical approach to understanding Milton's *Paradise Lost*. They will be able to assess the poem's relationship to Milton's wider thought and historical role as well as evaluate the merits of some influential critical views of the poem on the literary canon of Britain.

CO-2.*She Stoops to Conquer*: Oliver Goldsmith(18 class hours)

This anti-sentimental comedy of Goldsmith will lead our students to delve deeper in studying the socio-cultural backgrounds of the 18th century. The students will be able to trace the developmental history or the transitional phase of the English theatre from 17th to 18th century.

CO-3.*The Rover*: Aphra Behn(18 class hours)

The students will be acquainted with major religious, political and social movements from 17th to 18th century and their influence on literature. They will have an understanding of drama as a representative of performing arts as well as capable of generating social criticism. Moreover, they can take up any form of social development work related to women's problems.

CO-4.*The Rape of the Lock* (Canto 1 & 2): Alexander Pope (14 class hours)

Our students will learn about the thoughts and ideologies of the Enlightenment as a movement, a revolution and an age. They will be acquainted with the mock-heroic poem and many relevant and important aspects of common knowledge even today. Most often, even in interviews for

corporate jobs, an understanding of such classic texts is tested or candidates are quizzed about some such classic literary productions to test their all-round knowledge and analytical skills.

SEC-I: English Language Teaching

CO-1. The Learner will learn to enhance skill.

CO-2. The Learner will understand the Structures of English Language.

CO-3. The learner will apply the Methods of teaching English Language and Literature.

CO-4. The Learner will know the Materials for Language Teaching.

CO-5. The Learner will be able to assess Language Skills.

CO-6. The Learner will learn to use Technology in Language Teaching.

SEMESTER IV

BENGCCHT-403: BRITISH LITERATURE: 18TH CENTURY

CO-1.English Essays: (14 class hours)

Essays are an important part of modern English literature, and reading of 18th century essays by Steele and Addison is helpful in understanding 18th century life and society better.

CO-2.*Gulliver's Travels* (Book I and Book II): Jonathan Swift (22 class hours)

This fictional work is now considered a classic because of the inherent allegorical message. Reading of this work will definitely inspire students to contemplate boldly and independently on the issues of their own world, and to distinguish between the 'Apparent' and the 'Real'.

CO-3.Poetry of Gray and Collins (12 class hours)

The Pre-Romantic English poetry paves the ground for the Romantic tradition. The poems prescribed are lucid and enjoyable. Students will be benefited by this component, and will be exposed to the world of imagination to which the 18th and 19th century paid their tributes.

CO-4.*The Castle of Otranto*: Horace Walpole (22 class hours)

It is the first specimen of Gothic fiction, and this work will definitely help the students read other fictions of this genre and be inspired to see the film versions that will expand their imagination and help them to relate literature of terror with the sensations of day-to-day life.

BENGCCHT-402: BRITISH ROMANTIC LITERATURE

CO-1. Poems of Blake and Scott (11 class hours)

It is a continuation of the Romantic tradition, and the poems of William Blake and Sir Walter Scott are very important to understand the basic nuances of Romanticism. Students, already reading Gray and Collins, will definitely be interested in this segment. The students will also be made aware of the pivotal role of Music and Painting in the literary domain of poetry.

CO-2. Poems of Wordsworth and Coleridge (15 class hours)

High Romanticism is explored through this segment. Students are introduced to the poems of Wordsworth and Coleridge they have been hearing of from teachers in their school days.

CO-3. Poems of Shelley and Keats (15 class hours)

High Romanticism continues. Students are supposed to be immensely benefitted by the inspired imagination and recreation of truth as epitomized by the Romantic epistemology of these poets.

CO-4. Essays of Charles Lamb: (18 class hours)

Reading an essay by Lamb, the prince of English essays, is an experience itself. Students will gain knowledge about facing problems with a smile if they perceive the philosophy of Lamb.

BENGCCHT-403: BRITISH LITERATURE: 19TH CENTURY

CO-1. *Pride and Prejudice*: Jane Austen (18 class hours)

The first great woman novelist in English literature, Jane Austen presents her simple, rural vision of life in all her novels. *Pride and Prejudice* is considered to be a novel of manners that presents the late 18th century English society in a very sketchy way. Therefore, reading of this novel will definitely help young students relate the realities of Indian society.

CO-2. *Hard Times*: Charles Dickens (18 class hours)

The novel presents in typical Dickensian way the socio-economic realities of mid-19th century England. The students will get the taste of Dickens, and they can relate the realities of post-globalization with what Dickens presents in *Hard Times*: the stark materialism and the curses of Industrialisation in 19th century England in particular, and Europe as a whole.

CO-3. *The Return of the Native*: Thomas Hardy (18 class hours)

Another great novel of 19th century that presents provincial realities in a well-told story of love and loss. Hardy's philosophy has a universal appeal, and students will find his world fascinating. They will also learn to look at Nature and Society with a different eye.

CO-4. Poems by Tennyson, Browning and Arnold (16 class hours)

Victorian poetry, represented by Tennyson, Browning and Arnold, is expressive of the disturbing realities of the age. So, there is an inherent complexity within the surface look of simplicity. Students will find the difference between Romantic poetry and Victorian ones very interesting. Victorian poetry being both a continuation of Romanticism (which germinated from a failed French Revolution), and an anticipation of the Twentieth Century War crisis, it focuses on the central theme of Loss of Faith and Love in a war-sickened wasteland.

BENGSEHT-404 (SEC-2): Business Communication

CO-1. The learner will be introduced to the essentials of Business Communication.

CO-2. The learner will be able to Cite references, and using bibliographical and research tools.

CO-3. The learner will be able to Write a project report.

CO-4. The learner will be able to Write reports on field work/visits to industries, business concerns etc./business negotiations.

CO-5. The learner will be efficient in Summarizing annual report of companies.

CO-6. The learner will be applying their learning in writing minutes of meetings.

CO-7. The learner will be to access E-correspondence been covered in due time.

SEMESTER V BENGCCHT

501: WOMEN'S WRITINGS

CO-1. Poems of Dickinson, Plath & D'Souza (12 class hours)

The poems are representative of how conscious, modern women address their thoughts and feelings, hopes and fears, dreams and despair, triumphs and tragedies, as a part of human dichotomy. Reading of their poems will enhance the level of perception of the students already exposed to World Literature, and will be exposed to the critical arena of Feminism.

CO-2. *Uncle Tom's Cabin*: Harriet Beecher Stowe (18 class hours)

This world-famous fiction that exposes the realities of the American attitude to the Blacks is worth reading for any lover of literature. The students will definitely be enriched by the humanitarian approach of Stowe, and be able to identify the curses of Apartheidism.

CO-3.Short Stories by Mansfield, JhumpaLahiri&Mahasweta Devi (21 class hours)

The unit will give a good exposure to students through short stories of sensibilities as different as Kiwi, Netizen and Indian. It is hoped that students are by now ready to accept such challenges. The multiple facets of existence, viz., 'Struggle for existence', 'Diasporic dislocation', and 'Tribal resistance' will lead students to an all-round perception of life.

CO-4.Essays by Virginia Woolf and Memoirs by Rassundari Devi (16 class hours)

The two essays by Virginia Woolf directly address feminine issues and the Memoirs of Rassundari Devi presents the development of feminine sensibility in India during the second half of the 19th century in India. So, the East-West combine of Feminine crises and complexities, presented in the package of literature, will bring to the fore the universal problems of the so-called 'weaker sex' so far suppressed by the patriarchal society.

BENGCCHT 502:BRITISH LITERATURE: EARLY 20TH CENTURY

CO-1.*Arms and the Man*: G.B. Shaw (18 class hours)

A pleasant comedy by George Bernard Shaw,*Arms and the Man*incorporates strong anti-war message within the feel of anti-romanticism. This three-act comedy is a must-read for the students of English literature for its anti-war stance, conviction and popularity.

CO-2.Short stories by Lawrence and Maugham (14 class hours)

The students will be immensely benefitted by reading the two masters of English literature. The complexities of modernist literature, when unravelled, will lead to aesthetic realization.

CO-3.*A Portrait of the Artist as a Young Man*: James Joyce (20 class hours)

The celebrated quasi-autobiographical novel by Joyce poses an intellectual challenge to the readers of any standard. It is a good exposure for the mature 3rd year students to cope up with the bitter realities of the modernist world and a successful transcendence through it.

CO-4.Poems of W.B. Yeats & T.S. Eliot (18 class hours)

No less challenging and daunting is to face the poetry of Yeats and Eliot, but the readings will definitely be surprisingly revealing and pleasant. It is hoped that the students will gain in maturity by such readings to face the challenges beyond the college successfully.

BENGDSHT-503: History of English Literature (OE to 1798)

CO-1. The learners will know the history of Old English Literature.

CO- 2. The learners will know the history of Middle English.

CO-3. The learners will know the history of literature and political environment of the period 1625 to 1700.

CO-4. The learners will conceptualize the literary phenomenon of 1700 to 1798 British Literature.

BENGDSHT-504: Literary Criticism

CO-1. *An Apology for Poetry*: Sir Philip Sidney (8 class hours)

It is significant to have an understanding of the Renaissance essay through Philip Sidney's *An Apology for Poetry*. The students of the fifth semester will have an in depth understanding of the history and culture of Renaissance England, along with a concise knowledge of the various literary forms prevalent in Renaissance England like the sonnet, essay, and drama.

CO-2. Preface to *Lyrical Ballads* (1802): William Wordsworth (8 class hours)

Biographia Literaria (Chapters XIII & XIV): S. T. Coleridge (9 class hours)

Reading these two significant texts will provide students a knowledge of the factors that contributed towards the movement of Romanticism in Britain as well as the philosophical ideas shaping the movement of Romanticism. They will gain a knowledge of the themes, concerns and forms shaping the distinctive poetry of the romantic movement, determining the constituents of Romantic poetry and to distinguish it from poetry written in other periods.

CO-3. "Modern Fiction": Virginia Woolf (9 class hours)

"Tradition and Individual Talent" (1919): T.S. Eliot (9 class hours)

The students of the fifth semester will have an understanding of the chief features of modernist poetry as well as an ability to distinguish between the various strains of modernist poetry. They will be able to differentiate the poetry of this period from works in other eras and make oral presentations and write well researched critical essays on the dialectics of modernist poetry.

CO-4.*Principles of Literary Criticism* (Chapters 1 & 2): I.A. Richards (17 class hours)

This text will develop a critical perspective amongst students and equip students with the practical application of theories in the close reading of an unknown text.

Semester VI

BENGCCHT 601:MODERN EUROPEAN DRAMA

CO-1.*Ghosts*: Henrik Ibsen (17 class hours)

Henrik Ibsen's "great play" *Ghosts* is an important illustration of the *avant-garde* movement in this sense that while regular tragedy deals mainly with the unhappy consequences of breaking the normal code, it deals with the consequences of not breaking it. It can be described as a scathing commentary on nineteenth century morality, illustrating religion, venereal disease, incest and euthanasia, some of the burning problems of the modern world.

Therefore, our students will be definitely benefitted by the reading of this experimental play.

CO-2.*Mother Courage and Her Children*: Bertolt Brecht (18 class hours)

This significant text of Brecht is immensely popular and frequently adapted. It is considered as the greatest anti-war play of all times, the reading of which will be enjoyable and beneficial to the students, as they will be exposed to the worldwide cry against War and for Peace.

CO-3.*Cherry Orchard*: Anton Chekov (17 class hours)

Cherry Orchard shows a new dimension of social class structure in Russia, presenting themes of cultural futility as the aristocracy makes vain efforts to maintain status and the bourgeois to find meaning in its new-found materialism. Students will be exposed to the Russian sociopolitical changes from the mid-nineteenth century to the first half of the 20th century.

CO-4.*Rhinoceros*: Eugene Ionesco (18 class hours)

A highly experimental absurd play, Eugene Ionesco's *Rhinoceros* created a new wave in Avant-Garde theatre movement. This absurd play is often read as a response and criticism to the sudden upsurge of Fascism and Nazism, and explores the themes of conformity, culture, responsibility, mass movements, philosophy and morality. A bit tricky and subtle though it is, the play is worth reading on the part of the advanced learners of literature.

BENGCCHT 602:POSTCOLONIAL LITERATURES

CO-1.*Things Fall Apart*: Chinua Achebe (18 class hours)

This novel has been very self-conscious undertakings by an artist-historian who finds it to be his outstanding duty, at the historical moment of Nigeria emerging from a ninety-year long colonial rule, to „decolonise“ the minds of its people by letting them know that their ancestral past was not one long night of oblivion and after that prepare them for assessing the present situation scientifically and with equipoise. Therefore, our students should know such postcolonial discourses as our country also suffered from the same kind of repressive designs of the colonial masters during the ideological state apparatus of the oppressive British rule.

CO-2.*Mystic Masseurs*: V.S. Naipaul (18 class hours)

Set in the West Indian Island of Trinidad,*Mystic Masseurs* delves deep into the general disillusionment that beset the post-war generations and the deep spiritual isolation felt by a frustrated writer of Indian descent.in a universe in which he felt himself to be inconsequential and a stranger among men, companionless. It has a direct relevance to the decline of political ethos across the globe, and the students must find it worth reading in contemporary times.

CO-3.Poems by African Women Writers (18 class hours)

African female poets almost always have taken to her pen as a conscious teacher and guide for her postcolonial society that has been mired in the ills of racism, apartheid, inter-ethnic feuds, civil wars, and numerous other economic, social, political, and cultural blights as a fall-out largely of colonial imposition and disruption. The development of African feminine sensibility in the last fifty years is amazingly fast, and the poems of Bessie Head, Ama Ata Aidoo and Grace Ogot will definitely inspire the students to explore them more and more.

CO-4.Postcolonial Poetry (16 class hours)

Postcolonial literature is an amazingly thriving field as hundreds of writers are addressing the colonised realities in newer veins. Pablo Neruda speaks of Latin American realities, Derek Walcott Caribbean Islands, David Malouf Australian, and Mamang Dai North-East Indian socio-political upheavals. Therefore, a close reading of these literary texts will not be complete without some bit of knowledge of these masters of postcolonial dialectics.

BENGDSHT-603: History of English Literature (1798 to present)

CO-1. The learners will be able to understand the literature of the Romantic age.

CO-2. The learners will be able to understand the literature, society and dilemma of the Victorian Period.

CO-3. The learners will be able to analyse the literature of the Modern Period.

CO.-4. The learners will be able to analyse the literature of the Post 1950s.

BENGDSHT-604: English Language and Literary Types

CO-1. The learners will be able to learn Philology.

CO-2. The learners will be able to understand Phonetics and Prosody.

CO-3. The learners will be able to analyse Rhetoric.

CO-4. The learners will be able to know Literary Terms and Types.

Department of Geography

Program outcomes, Program Specific outcomes and Course Outcomes

1. Programme Outcomes- Geography (Hons)

Department of Geography - After successful completion of three-Year degree program under CBCS system in Geography a student should be able to

P.O.-1 - To impart basic knowledge on geography as a spatial science and train the students of undergraduate of course to secure employment in sectors of geospatial analysis, development and planning, mapping and Surveying

2. To understand scope and evolution of the diverse discipline of Geography

3. Recognize, Synthesize and evaluate diverse sources of Knowledge relating to human-environment problems. Explain Societal relevance of geographical knowledge.

4. Appreciate and reflect critically on the importance of holistic and interpretative human-environment perspectives.

5. An understanding and acknowledgement of the threats that endanger the earth's natural systems.

6. Development of knowledge, skills and holistic understanding of the discipline among students.

7. Explain the scientific mode of thinking and scientific method of enquiry in students.

8. students become equipped with the ability to respond to both natural and man-made disasters and acquire management skills.

9. Ability to undertake research in interdisciplinary studies and problems or issues beyond the realm of what strictly comes under the purview of geography

Program Specific Outcomes

PSO-1 - Students will gain the knowledge of Physical geography. They will gather knowledge about the fundamental concepts of Geography and will have a general understanding about the geomorphologic and geotectonic process and formation. Imbibing knowledge, skills and holistic understanding of the Earth, atmosphere, oceans and the planet through analysis of landform development; crustal mobility and tectonics, climate change.

PSO-2 - Associating landforms with structure and process; establishing man-environment relationship; and exploring the place and role of Geography vis-a-vis other social and earth sciences. students can easily correlate the knowledge of physical geography with the human geography. They will analyse the problems of physical as well as cultural environments of both rural and urban areas. Moreover, they will try to find out the possible measure to solve those problems.

PSO-3 - understanding the functioning of global economies.

Pso-4 - Develop a sustainable approach towards the ecosystem and the biosphere with a view to conserve natural systems and maintain ecological balance.

PSO-5 - The physical environment, human societies and local and/or global economic systems are integrated to the principles of sustainable development.

PSO-6 - Indicating a tolerant mindset and attitude towards the vast socio-cultural diversity of India by studying and discussing contemporary concepts of social and cultural geography. Explaining and analysing the regional diversity of India through interpretation of natural and planning regions.

PSO-7 - Analysing the differential patterns of the human habitation of the Earth, through studies of human settlements and population dynamics. Understanding and accounting for regional disparities.

PSO-8 -Understanding the history and philosophy of the Subject; over viewing ancient and contemporary geographical thought and its relationship with modern concepts of empiricism, positivism, radicalism, behaviouralism, idealism etc.

pso-9 - Sensitization and awareness about the hazards and disasters to which the subcontinent is vulnerable and their management

PSO-10 - As a student of the course. they will train by different survey techniques by using instruments which will be helpful for measuring surface.

PSO-11 - Training in practical techniques of mapping, cartography, Software, interpretation of maps, photographs and images etc. so as to understand the spatial variation of phenomena on the earth surface. They will learn how to prepare map based on GOES GIS by using the modem geographical map making techniques.

Course Outcomes (Hons)

The course outcomes of the different papers offered are presented below. After completion of the course the student will be able to

Course Code	Course Title	Credits	Course Outcomes
CC-1 BGEDCC HS-101	Geotectonics and Geomorphology (Theory)	6	<ul style="list-style-type: none">• Understand the theories and fundamental Concepts of Geotectonic and Geomorphology.• Understanding earth's geological time scale, origin and tectonic and structural evolution, Gain Knowledge about earth's interior. Development an idea about concept of plate tectonic continental drifting, plate tectonics, Sea-floor spreading, Isostasy and resultant landforms

			<ul style="list-style-type: none"> • Acquire knowledge about types of folds and faults and earthquakes, volcanoes and associated landforms • Influence of rocks upon earth's landforms. • Overview and critical appraisal of landform development models. • Acquire knowledge about different geomorphic processes with special reference to fluvial, glacial, and, Karst and coastal processes
CC-2	Cartographic Techniques (Practical)	6	<ul style="list-style-type: none"> • Understand the basic Concepts about maps • construction of different types of Scales • Understand the basic concepts. about map projection and construction different types of projections stereographic, Cylindrical, Mercator and conical) • Understand the basic aspects of topographical maps Construction of relative relief, average slope map prepared stream ordering and transect chart • Understanding basic concepts of Surveying • Recognize the function and Significance of Survey instrument Such as Prismatic compass, Dumpy Level, Theodolite, plane table, abney level and clinocompass
CC-3	Hydrology and Oceanography (Theory)	6	<ul style="list-style-type: none"> • Analyse the concepts of Hydrology and hydrological cycle • Understand the Runoff, Run off-cycle, Infiltration and evapotranspiration • Acquire knowledge about drainage basin as a hydrological unit, principles of water harvesting and watershed management • Emphasizing the significance of groundwater occurrence movement and storage • Basic knowledge about major relief features of the ocean floor; characteristic and origin of the ocean

			<p>floor in the light of plate tectonics</p> <ul style="list-style-type: none"> • Acquire knowledge about physical and chemical properties of ocean water, water mass, T-s diagram • Understand the distribution of temperature and salinity of ocean water • Analyse the concepts of coral reefs - its formation classification and threats • Basic knowledge of the marine resources • Concept of sea level changes and Causes of sea level changes
CC-4	Cartograph and Thematic Mapping (Practical)	6	<ul style="list-style-type: none"> • Understand the basic concepts of rounding, scientific notation, logarithm and anti-logarithm, natural and log Scales • Preparation skills of Proportional circle, squares, Pie-graph, Dots and Sphere, • "Preparation of Geomorphological Maps, Preparation of Synoptic chart from climatological data • Understanding the methods of chorochromatic and choropleth and preparation of maps. • Preparation of maps using isolines • Preparation of thematic maps using Z-Score. and Location- Quotient. • Understand the methods of basic principles, of surveying by preparation of field books and plotting the data obtained by Prismatic Compass and Dumpy level
CC-5	Climate (Theory)	6	<ul style="list-style-type: none"> • Understand the basic principles of climatology - Nature, composition, insolation, heat Budget, horizontal and vertical distribution of temperature, inversion of temperature, Greenhouse effect and importance of ozone layer • Acquire knowledge about condensation, mechanism of precipitation – Bergeron-Findeisen Theory, collision and coalescence theory. Forms of

			<p>Precipitation</p> <ul style="list-style-type: none"> • Basic knowledge about Air Mass Understand different types of Fronts, frontogenesis and frontolysis • Basic knowledge about Weather- stability and instability, barotropic and baroclinic conditions • Acquire knowledge about atmospheric circulation - Planetary winds, jet stream, index cycle • Emphasizing the concept of knowledge of tropical and mid-latitude cyclone • Basic knowledge about monsoon circulation in India • Understand the climatic classification of Köppen, Thomthwaite and Oliver
CC-6	Geography of India – (Theory)	6	<ul style="list-style-type: none"> • Understand the physiographic divisions of India - tectonic and stratigraphic provinces • Acquire knowledge about climate, soil and natural vegetation of India • Acquire knowledge about distribution, growth, structure and policy of population of India • Basic knowledge about distribution of population by race, carte, religion language and tribes • Acquire knowledge of agricultural regions of India & green-revolution and its Consequences • Basic knowledge about mineral and powers resources distribution with special emphasis on iron ore, coal, petroleum and natural gas • Acquire knowledge about Industrial development of India with special reference to automobile and information technology • Concept of regionalisation of India • Acquire basic knowledge of physiographic divisions, forest and water-resources of West Bengal

			<ul style="list-style-type: none"> • Basic knowledge of distribution and growth of population of West Bengal and human development of West Bengal • Basic knowledge of mining, agriculture and industries of West Bengal • Regional characteristics and problems with special reference to Darjeeling hills, Jangal mahals, and Sundarbans
CC-7	Statistical Methods in Geography (Practical)	6	<ul style="list-style-type: none"> • Acquire basic knowledge about application of statistics in Geography • Knowledge about- Discrete and continuous data, population and samples, scales of measurement, sources of data • Basic knowledge about collection of data and formation of statistical tables • Acquire knowledge about sampling • Understand statistical distribution through frequency, cumulative frequency, normal and probability • Understand central tendency through mean, median and mode • Understand measures of dispersion - range, quartile deviation, Percentile, decile, standard deviation, mean deviation etc. • Understand correlation through scatter diagram, regression line, product moment correlation, Rank-size rules. • Understand and preparation of residuals
CC-8	Regional Planning and Development (Theory)	6	<ul style="list-style-type: none"> • Basic knowledge about concept of regions, types of regions and their delineations method • Acquire knowledge about principles, planning and objectives of regions • Understand basic tools and techniques of regional planning and need for regional planning in India

			<ul style="list-style-type: none"> • Basic Knowledge of concept of metropolitan areas and urban agglomeration • Understand development - its meaning and growth versus development • Basic concept and strategies of regional development of India • Understand theories and models for regional development - Growth Pole models of Perroux, and Growth Centre model • Understand theories and models for regional development - Cumulative Causation theory of Myrdal, Core-Periphery model of Hirschman, Rostow and Friedman • Understand the changing concept of development, Concept of underdevelopment, efficiency-equity debate • Understand indicators of development economic, Social, and environmental and human development • Basic knowledge of regional development in India with special reference to regional inequality, disparity and diversity • Basic knowledge for need and measures for balanced development in India
CC-9	Economic Geography (Theory)	6	<ul style="list-style-type: none"> • Acquire basic knowledge about meaning and approach of economic geography, new economic geography • Basic knowledge about concepts in economic geography, goods and Services, production, exchange and consumption • Understand concept of economic man • Understand concept of economic distance and transport costs • Basic knowledge of Concept and classification of economic activities. • Understand the theories of location of economic

			<p>activity through Von Thunen and Weber's theory</p> <ul style="list-style-type: none"> • Basic knowledge about primary activities with special reference to subsistence and commercial agriculture, forestry, fishing, and mining • Basic knowledge about secondary activities manufacturing with special reference to cotton textile iron and steel. Manufacturing regions Special economic zones and technology • Basic knowledge about agricultural systems with special reference to tea plantation in India and mixed-farming in Europe. • Basic knowledge about International Sea Routes railways and highways • Basic knowledge about GATT and OPEC
CC-10	Remote Sensing (practical)	6	<ul style="list-style-type: none"> • Acquire knowledge of principles of remote Sensing • Basic knowledge about sensor resolution and its application, image referencing schemes → and data acquisition • Preparation of False-colour Composites • Basic knowledge about principles of image rectification and enhancement • Basic knowledge of principles of image interpretation and feature extraction • Preparation of Land Use Land Cover (LULC) maps from Satellite images • Georeferencing of maps and images • Image classification and Post-classification analysis and class editing
CC-11	Environmental Geography (Theory)	6	<ul style="list-style-type: none"> • Basic understandings about geographers' approach to environmental studies • Basic knowledge about perception of environment in different stages of civilization • Basic concepts about holistic environment system

			<p>approach in environment</p> <ul style="list-style-type: none"> • Concept of ecosystems, its structures and functions • Basic knowledge about environmental pollution and environmental degradation • Acquire knowledge about space-time hierarchy of environmental problems-local, regional and global • Basic understanding of urban environmental issues with special reference to waste management • Acquire knowledge about environmental programmes and policies-global, national and local levels
CC-12	Research Methodology and Field Work (practical)	6	<ul style="list-style-type: none"> • Basic knowledge about research in geography - meaning, types and significance • Acquire knowledge about literature review and research design • Basic knowledge about defining research problem objectives and hypothesis • Basic knowledge and skills for techniques of writing Scientific reports • Basic concepts about preparing notes, reference, bibliography, abstract and keywords. • Analyse the role and significance of field work in Geography • Basic knowledge about selection of study area, objectives, pre-field preparations and ethics of Field study • Understanding different field techniques and tools: including observations, questionnaires, interview, landscape survey, transects and quadrants, sketch, photo and video recording. • Acquire knowledge about collection of samples, preparation of field book

CC-13	Evolution of Geographical Thought (Theory)	6	<ul style="list-style-type: none"> • Acquire knowledge about brief history of development of Geography • Basic contributions of Greek, Chinese, and Indian Geographers to the development of Geography as a subject • Impact of 'Dark Age' on Geography and contributions from Arab Geographers in medieval periods • Understanding the 'Age of discovery' with special reference to Portuguese explorations including Columbus, Vasco Da Gama, Magellan, Thomas Cook • Contributions of Bernard Varenus and Immanuel Kant as transition from Cosmography to Scientific geography • Dichotomies in Geography - General vs particulars, physical vs Human, Regional vs systematic, Determinism vs possibilism, Ideographic vs Nomothetic • Basic Knowledge about evolution of geographical thoughts in Germany, France, Britain and United states • Contributions from Humboldt and Ritter • Contributions from- Richthofen, Heffner and Ratzel • Basic knowledge about French, British and American schools of Geography • Acquire knowledge about trends of geography after World War II • Evolution of modern geography in India • Understanding Quantitative revolution behaviouralism systems approach, radicalism, feminism. • Post-modernism in geography • Geography in the 21st century.
CC-12	Geographic Information System (Practical)	6	<ul style="list-style-type: none"> • data models • Preparation of GIS database, points and its use in GIS • Preparation of GI based modelling and Spatial Overlay • Acquire knowledge of Spatial Modelling with GIS: and Application in Physical Geography and Human Geography, Web-GIS. • Preparation of Georeferencing of maps and images and topology • Preparation of data attachment and DBMS Nature of Geographic Information System, Measuring Systems: Location – Coordinate Systems • Data Representation: Topology and Attributes, Spatial Data Models: Raster and Vector • Pupariation of thematic mapping, morphometric analysis and choropleth mapping through GIS technology Creation of information layer.

Discipline Specific Elective	Fluvial Geomorphology (Theory)	6	<ul style="list-style-type: none"> • Understand scope and components of fluvial geomorphology and rivers hydro systems. • Acquire knowledge of Run-off - its components, controlling factors and run-off cycle, • Basic idea about models of channel initiation. and network development • Basic knowledge of drainage basin as a hydrological unit • concept of Linear areal and altitudinal report properties of drainage basin including Horton's stream laws, hypsometric curve • Detail Knowledge of Rosgen stream classification system • Basic knowledge about characteristics of large rivers in tropics • Concept of fluvial landforms with special reference. to terraces alluvial fans, bad land: and different depositional feature • Acquire knowledge about causes and consequences of human interference on fluvial system. • Basic knowledge of bank erosion and river degeneration processes, it's management and impact. on land use • Concept of Integrated watershed management
Discipline specific Elective 2	Urban Geography (Theory)	6	<ul style="list-style-type: none"> • Acquire knowledge about nature and scope of urban geography different approaches of urban geography and recent trends • Understand origin of urban centres in ancient, medieval, modern and post-modern periods. Factors, stages and characteristics of urban places • Basic knowledge of theories of urban evolution and growth with special emphasis on hydraulic theory, economic theory • Acquire knowledge of different aspects of urban places including location, site and situation, size and spacing of cities, Rank-size rule and the law of the primate city • Understand urban hierarchies - Central place theory, August Loch's theory of market centre • Basic knowledge of patterns of urbanization in developed and developing countries • understand ecological processes of urban growth urban fringe, city-region • Basic knowledge about theories of city structure. with reference to concentric zone theory, sector theory, multiple nuclei theory. • Acquire knowledge of different urban issues - problems of housing, slums, civic amenities

			<ul style="list-style-type: none"> • Understand patterns and trends of urbanization in India • Basic knowledge of policies on urbanization, urban change in post liberalized period in India • Acquire knowledge of land use in urban places like. Delhi, Kolkata and Chandigarh
Discipline Specific elective – 3	Population geography (Theory)	6	<ul style="list-style-type: none"> • Acquire knowledge of development of population geography as a field of specialization, relation between population geography and demography, sources of population data and their level of reliability and problems of mapping • Basic knowledge about population distribution. density and growth, classical and modern theories in population distribution and growth, demographic Transition model • Acquire knowledge about world patterns of determinants of population distribution and growth profile in India. • understand population composition and characteristics. age-sex composition, rural and urban composition, literacy • Basic knowledge of measurement of fertility and mortality, concept of cohort and life table • Acquire knowledge of migration, its causes and types. • Raw knowledge about national and international patterns of migration with reference to India • Understand the relationship between population and development - population resource regions • basic knowledge of human development index and its components • Basic knowledge of population policies of developed and less developed countries, India's population policy population and environment and implication for future • Understand contemporary issues of population geography, Ageing of population; Declining sex ratio; Population and environment dichotomy
Discipline Specific Go Elective-4	Soil and Biogeography	6	<ul style="list-style-type: none"> • Understand factors of soil formation with special reference to man as an agent of soil transformation • Basic knowledge of soil profile - its origin and characteristics with special reference to laterite, Podzol and chernozem soil profile • Acquire knowledge of soil properties with special reference to texture, structure and moisture • Acquire knowledge about significance of soil properties with special reference to pH, organic matter and NPK • Basic knowledge about soil erosion and degradation. Factors of soil erosion, processes of soil erosion and mitigation measures

			<ul style="list-style-type: none"> • Basic knowledge of principles of soil classification with special reference to genetic and USDA, concept of land capability • Acquire knowledge about concepts of biosphere, ecosystem, biome, ecotone, community and ecology • Basic knowledge about concepts of trophic structure, food chain and food web. Energy flow in ecosystems • Understand geographical extent and characteristics of tropical rain forest, taiga and grasslands biomes • Acquire knowledge of biogeochemical cycles with Special reference to carbon dioxide and nitrogen • Understand causes, consequences and management of deforestation • Understand definition types, threats and conservation measures of biodiversity
Discipline Specific Elective-5	Social Geography (Theory)	6	<ul style="list-style-type: none"> • Understand Concept, origin nature and scope of Social geography • Acquire knowledge of Concept of Social space, Social differentiation, social stratification and social processes • Basic knowledge about social categories - caste, class, religion, race and gender and their spatial distribution • Acquire knowledge about basis of social region formation, evolution of Social-cultural regions of India • Understand peopling process of India with special reference to technology and occupational changes and migration. • Understand social groups, social behaviour and contemporary social environmental issues with special reference to India • Basic knowledge of concept of social well-being, quality of life, gender and social well-being • Acquire knowledge about measurer of social well-being, - such as health care, education, housing and gender disparity, • Understand social geographies of inclusion and exclusion, slums, gated communities, communal conflicts and crime. • Acquire Knowledge of social planning during five-year plans • Basic knowledge of social policies of India with special reference to education and health • Understand SIA (Social Impact Assessment) - concept and importance
Discipline Specific	Political	6	<ul style="list-style-type: none"> • Understand nature and scope of political geography • Basic knowledge of state nation and nation-state

Elective-6	Geography (Theory)		<ul style="list-style-type: none"> • Acquire knowledge of attributes of state-frontiers, boundaries, exclave and enclave, shape, size, territory and Sovereignty. • understand geopolitics and geopolitical theories and with Special reference to heartland and rimland • Basic knowledge of electoral geography - special reference to geography of voting, geographic influence on voting pattern • Acquire knowledge about geography of representation, Gerrymandering • Acquire knowledge of political geography of conflicts of resource with special reference to oil, water and emission of greenhouse gases • Understand inter-state dispute on water resources of India • Understand Indian context of conflicts over forest rights • Understand geographical basis of Indian federalism and emergence of new state • Basic knowledge of politics of displacement - with special reference to issues of relief compensation and rehabilitation with reference to dams and special economic zones • Understand territorial politics with case studies of Jammu and Kashmir, Assam and GTA
Skill Enhancement Course-1	Disaster Management (Theory)	2	<ul style="list-style-type: none"> • Acquire knowledge of concept of hazards and disasters • Classification of hazard and disaster. • Understand different approaches of hazard study such as risk perception and vulnerability assessment • Understand hazard paradigms <p>Acquire knowledge of responses to hazard such as preparedness, trauma and aftermath Resilience and capacity building</p>
Skill Enhancement Course – 2	Advanced spatial statistical Techniques (Practical)	2	<ul style="list-style-type: none"> • Understand probability theory, probability density functions with respect to normal, binomial and Poisson distributions and their geographical applications • Understand sampling - sampling plans for Spatial and non-spatial data, sampling distributions, Sampling estimates • Understand correlation and regression analysis rank order correlation and product moment correlation, linear regression, residuals from regression, simple curvilinear regression and Introduction to multivariate analysis • Understand time series analysis, time-series processes, smoothing time series, time series components <p>Using of software packages such SPSS, Ms Excel etc</p>

Achhruram Memorial College, Jhalda

(Govt. Sponsored & Affiliated to Sidho-Kanho-Birsha University)

हिन्दी विभाग

Programme Outcome (PO), Programme Specific Outcome (PSO) & Course Outcome (CO)

Name of the Programme: Bachelor of Arts (Program) with Hindi

Programme Outcome (PO):-

1. इस पाठ्यक्रम का मूल उद्देश्य हिन्दी भाषा एवं साहित्य के माध्यम से विद्यार्थियों में हिन्दी भाषा के प्रति प्रेम और सम्मान की भावना को जागृत करना है ।
2. इस पाठ्यक्रम का अन्य उद्देश्य हिन्दी साहित्य के अध्ययन के जरिए विद्यार्थियों में समाज, राष्ट्र और सर्वोपरी मानवता के प्रति प्रेम-भावना को जागृत करना है ।
3. इस पाठ्यक्रम का अन्य उद्देश्य हिन्दी साहित्य के अध्ययन के माध्यम से विद्यार्थियों में नैतिक मूल्यों के प्रति आस्था जागृत करना है ।
4. इस पाठ्यक्रम का अन्य उद्देश्य पाठ्यक्रम के माध्यम से सुदूर ग्रामीण इलाकों के विद्यार्थियों तक हिन्दी भाषा को पहुँचाना भी है ।
5. इस पाठ्यक्रम का अन्यतम महत्वपूर्ण उद्देश्य हिन्दी साहित्य के विविध विधाओं - कविता, कहानी, उपन्यास, नाटक, निबंध, एकांकी आदि के रसास्वादन रुपी खाद-पानी-परिवेश के सृजन के माध्यम से विद्यार्थियों में साहित्य-सृजन की भावना को अंकुरित करना भी है ।

Programme Specific Outcome(PSO):-

सम्पूर्ण पाठ्यक्रम को इस तरह से सजाया गया है कि इससे गुजरते हुए विद्यार्थियों में

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1. साहित्य-अध्ययन के प्रति रुचि पैदा हो ।
2. साहित्य-सृजन के प्रति भी रुचि पैदा हो ।
3. स्नातकोत्तर की पढ़ाई के प्रति भी रुचि पैदा हो ।
4. कुल मिलाकर भावात्मक एवं कल्पनात्मक शक्ति के विकास के साथ-साथ रचनात्मकता के गुण का भी विकास हो ।

Course Outcome (CO):-

Semester-I

Course: Core Course (CC)

Course Title: हिन्दी साहित्य का इतिहास

1. प्रथम इकाई में हिन्दी साहित्येतिहास के काल-विभाजन और नामकरण से जुड़ी विभिन्न अवधारणाओं से विद्यार्थियों को अवगत करवाना एवं साथ ही आदिकालीन विविध काव्यधाराओं- सिद्ध, नाथ, जैन, रासो आदि से परिचय करवाना ।
2. दूसरी इकाई में विद्यार्थियों को हिन्दी साहित्य के स्वर्णकाल अर्थात् भक्तिकाल के सामान्य परिचय के साथ-साथ उस काल की सामाजिक, आर्थिक, राजनैतिक एवं सांस्कृतिक पृष्ठभूमि से भी परिचय करवाना । इसके साथ ही साथ भक्तिकालीन सगुण और निर्गुण कवियों – कबीर, तुलसी, सुर, जायसी आदि महान कवियों के जीवन व सृजन से भी परिचय करवाना ।
3. तीसरी इकाई में विद्यार्थियों को हिन्दी के रीतिकालीन साहित्य की पृष्ठभूमि से परिचय करवाने के साथ-साथ रीतिबद्ध, रीतिसिद्ध एवं रीतिमुक्त कवियों – केशव, बिहारी, घनानंद, भूषण आदि कवियों के जीवन व सृजन से परिचय करवाना ।
4. चौथी इकाई में विद्यार्थियों को हिन्दी के आधुनिककालीन साहित्यिक पृष्ठभूमि से परिचय करवाने के साथ-साथ भारतेंदुकालीन व द्विवेदीकालीन कवियों के साथ राष्ट्रीय काव्यधारा से जुड़े कवियों के जीवन व सृजन से परिचय करवाना ।

Course: Language Core Course (LCC)-MIL-1

Course Title: हिन्दी व्याकरण एवं संप्रेषण

1. हिन्दी भाषा एवं व्याकरण के अंतर्गत आनेवाले संज्ञा, सर्वनाम, विशेषण, क्रिया एवं अव्यय शब्दों से विद्यार्थियों को परिचय करवाना । साथ ही उन्हें हिन्दी शब्दों के लिंग से परिचय करवाना और हिन्दी वाक्यों में 'ने' चिन्ह के प्रयोग से अवगत करवाना ।
2. विद्यार्थियों को हिन्दी के विलोम शब्द, पर्यायवाची शब्द, मुहावरों व लोकोक्तियों से परिचय करवाना । साथ ही उन्हें हिन्दी के शब्द शुद्धि, वाक्य शुद्धि, भाव पल्लवन एवं सार संक्षेपण के विविध पहलुओं से अवगत करवाना ।

3. विद्यार्थियों को संप्रेषण की अवधारणा, उसके प्रकार, माध्यम, तकनीक व महत्व से अवगत करवाना ।
4. विद्यार्थियों को साक्षात्कार, भाषण कला एवं रचनात्मक लेखन के विविध पहलुओं से अवगत करवाना ।

Course: Ability Enhancement Compulsory Course (AECC)-1

Course Title: हिन्दी भाषा और संप्रेषण

1. विद्यार्थियों को भाषा की परिभाषा, प्रकृति एवं विविध रूपों के साथ हिन्दी भाषा की क्रिया, विभक्ति, सर्वनाम, विशेषण, अव्यय एवं संधि संबंधी विशेषताओं से परिचय करवाना ।
2. विद्यार्थियों को हिन्दी की वर्ण व्यवस्था (स्वर एवं व्यंजन) से परिचय करवाना एवं साथ ही स्वर तथा व्यंजन वर्णों के विविध प्रकारों से भी परिचय करवाना ।
3. विद्यार्थियों को उच्चारण स्थान के आधार पर वर्णों के वर्गीकरण से परिचय करवाना ।
4. विद्यार्थियों को हिन्दी वाक्य रचना , उसके भेद व रूपांतरण के साथ हिन्दी भाषा में भावार्थ लेखन व विभिन्न प्रकार के पत्र लेखन के विविध पहलुओं से परिचय करवाना ।

Semester-II

Course: Core Course (CC)

Course Title: मध्यकालीन हिन्दी कविता

1. विद्यार्थियों को भक्तिकालीन तीन कवियों – कबीर, सुर एवं तुलसी के जीवनवृत्त व सृजन से परिचय करवाना ।
2. विद्यार्थियों को कबीर के दोहों एवं पदों भक्ति एवं नीतिगत विविध संदर्भों से परिचय करवाना ।
3. विद्यार्थियों को सूर कृत विनय के पदों एवं भ्रमरगीत के पदों में निहित भक्ति एवं श्रृंगार के विविध संदर्भों से परिचय करवाना ।
4. विद्यार्थियों को तुलसी कृत दोहों एवं चौपाईयों में निहित भक्ति एवं लोक-समन्वय के विविध संदर्भों से परिचय करवाना ।
5. विद्यार्थियों को रीतिकालीन कवि बिहारी के जीवनवृत्त व सृजन से परिचय करवाना ।
6. विद्यार्थियों को कवि बिहारी के दोहों में निहित भक्ति, नीति एवं श्रृंगार के विविध संदर्भों से परिचय करवाना ।

Semester-III

Course: Core Course (CC)

Course Title: आधुनिक हिन्दी कविता

1. विद्यार्थियों को हिन्दी के आधुनिककालीन कवियों के जीवनवृत्त व सृजन से अवगत करवाना ।
2. विद्यार्थियों को हिन्दी के छायावादी कविद्वय - 'प्रसाद' एवं 'निराला' की कतिपय कविताओं से मुखातिब करवाना ।
3. विद्यार्थियों को हिन्दी के प्रयोगवादी कवि – 'अज्ञेय' के जीवनवृत्त एवं उनकी कतिपय कविताओं से परिचय करवाना ।
4. विद्यार्थियों को हिन्दी के प्रगतिशील कवि – नागार्जुन के जीवनवृत्त एवं उनकी कतिपय कविताओं से अवगत करवाना ।

Course: Skill Enhancement Course (CC)-1

Course Title: कार्यालयी हिन्दी

1. विद्यार्थियों को कार्यालयी हिन्दी का अभिप्राय, क्षेत्र एवं उसके उद्देश्य से अवगत करवाना ।

2. विद्यार्थियों को सामान्य हिन्दी एवं कार्यालयी हिन्दी के बीच के सामान्य संबंध एवं अंतर से अवगत करवाने के साथ-साथ कार्यालयी हिन्दी की वर्तमान स्थिति एवं उसकी संभावनाओं से भी अवगत करवाना ।
3. विद्यार्थियों को कार्यालयी हिन्दी की पारिभाषिक शब्दावलियों से अवगत करवाना ।
4. विद्यार्थियों को कार्यालय से निर्गत पत्र यथा – ज्ञापन, अनुस्मारक, आदेश, सूचना, निविदा आदि से परिचय करवाना ।
5. विद्यार्थियों को टिप्पण, प्रारूपण, संक्षेपण के विविध पहलुओं से अवगत करवाना ।

Semester-IV

Course: Core Course (CC)

Course Title: हिन्दी गद्य साहित्य

1. विद्यार्थियों को हिन्दी गद्य साहित्य के विविध विधाओं – उपन्यास, कहानी व निबंध से अवगत कराना ।
2. विद्यार्थियों को उपन्यासकार जैनेन्द्र के जीवनवृत्त से परिचय करवाना तथा साथ ही उनके द्वारा रचित 'त्यागपत्र' उपन्यास के मार्फत विद्यार्थियों में पारिवारिक रिश्तों एवं कर्तव्यबोध की भावना से अवगत कराना ।
3. विद्यार्थियों को कथाकार प्रेमचंद के जीवनवृत्त से परिचय करवाना तथा उनके द्वारा रचित 'नमक का दरोगा' कहानी के मार्फत विद्यार्थियों को आदर्शात्मक यथार्थवाद की भावना से अवगत कराना ।
4. विद्यार्थियों को कथाकार जयशंकर प्रसाद के जीवनवृत्त से परिचय करवाना तथा उनके द्वारा रचित 'आकाशदीप' कहानी के मार्फत विद्यार्थियों को समाजप्रेम तथा मानवतावाद की भावना से अवगत कराना ।

5. विद्यार्थियों को कथाकार यशपाल के जीवनवृत्त से परिचय करवाना तथा उनके द्वारा रचित 'परदा' कहानी के मार्फत विद्यार्थियों को मध्यवर्गीय तथा निम्नमध्यवर्गीय समा में बढ़ रही दिखावेपन एवं खोखले यथार्थ की भावना से अवगत कराना ।
6. विद्यार्थियों को कथाकार उषा प्रियंवदा के जीवनवृत्त से परिचय करवाना तथा उनके द्वारा रचित 'वापसी' कहानी के मार्फत विद्यार्थियों को दो पीढ़ियों के भावनात्मक संघर्ष एवं नैतिक रूप से पतनशील समाज से अवगत कराना ।
7. विद्यार्थियों को निबंधकार रामचंद्र शुक्ल के जीवनवृत्त से परिचय करवाना तथा उनके द्वारा रचित 'लोभ और प्रीति' निबंध के मार्फत विद्यार्थियों को मानवता पर पड़नेवाले प्रभाव के निमित्त लोभ और प्रीति की भावना के बीच निहित अंतर से अवगत कराना ।
8. विद्यार्थियों को निबंधकार हजारीप्रसाद द्विवेदी के जीवनवृत्त से परिचय करवाना तथा उनके द्वारा रचित 'कुटज' निबंध के मार्फत विद्यार्थियों को नैतिक रूप से मजबूत और झंझावातों में अपराजेय रहने पर उससे होनेवाली मानव-कल्याण से अवगत कराना ।

Course: Skill Enhancement Course (SEC)-2

Course Title: चलचित्र लेखन

1. विद्यार्थियों को भारतीय सिनेमा के सुनहरे इतिहास से परिचित कराने आरंभिक मूक एवं सवाक फिल्मों से अवगत करवाना ।
2. विद्यार्थियों को विगत शताब्दी की भारतीय लोकप्रिय हिन्दी फिल्मों, फिल्मी गीतों व संवादों से परिचय करवाने के साथ-साथ दादा साहब फाल्के सम्मान से सम्मानित निर्देशकों व अभिनेता-अभिनेत्रियों से भी परिचय करवाना ।
3. विद्यार्थियों को फिल्मी पटकथा-लेखन के विविध पहलुओं से परिचय करवाने के साथ-साथ हिन्दी पटकथा लेखन व हिन्दी में निर्मित विज्ञापन फिल्मों के क्रमिक विकास के इतिहास से अवगत कराना ।

4. विद्यार्थियों को हिन्दी की विश्व व्याप्ति में हिन्दी फिल्मों की महत्वपूर्ण भूमिका से अवगत कराने के साथ-साथ हिन्दी की प्रमुख फिल्मों के आधार पर भाषिक संरचना का व्यावहारिक प्रशिक्षण भी देना ।

Semester-V

Course: Discipline Specific Elective (DSE)-1

Course Title: सूर्यकांत त्रिपाठी निराला

1. विद्यार्थियों को प्रगतिशील हिन्दी कविता की पृष्ठभूमि तथा उसके आरंभ से अवगत कराना ।
2. विद्यार्थियों को निराला के अतिरिक्त हिन्दी के कतिपय प्रगतिशील कवियों के जीवनवृत्त तथा सृजन से अवगत कराना ।
3. विद्यार्थियों को हिन्दी के प्रगतिशील कवि निराला के जीवनवृत्त एवं सृजन से अवगत कराना ।

4. निराला की कविताओं के माध्यम से विद्यार्थियों में छायावादी कल्पना, प्रेम एवं सौन्दर्यबोध जागृत करना ।
5. निराला की कविताओं के माध्यम से विद्यार्थियों में नवीन जीवन शैली, करुणा एवं उत्साह जागृत करना ।
6. निराला की कविताओं के माध्यम से विद्यार्थियों में सामाजिक समता एवं अन्याय के प्रति विद्रोह की भावना जागृत करना ।
7. विद्यार्थियों को कवि निराला की भाषा, बिम्ब विधान तथा छंद चेतना से परिचित कराना ।
8. विद्यार्थियों को उपन्यासकार निराला के सृजन से परिचित कराना ।
9. निराला कृत बिल्लेसुर बकरीहा उपन्यास के माध्यम से विद्यार्थियों को तात्कालीन भारतीय समाज में व्याप्त जातिगत श्रेष्ठताबोध एवं उससे पनपी समस्याओं से अवगत कराते हुए उनको निराला के श्रम-सौन्दर्य के दर्शन से परिचित कराने का प्रयास करना ।

Course: Skill Enhancement Course (SEC)-3

Course Title: भाषा शिक्षण

1. विद्यार्थियों को हिन्दी भाषा के उद्भव तथा विकास से अवगत कराते हुए उन्हें हिन्दी के शब्द-भण्डार से परिचित कराना ।
2. विद्यार्थियों को प्राथमिक, माध्यमिक, उच्च शिक्षा, हिन्दीत्तर भाषियों-विभाषियों तथा विदेशियों में हिन्दी-भाषिक प्रशिक्षण के विभिन्न स्तरों से अवगत कराना ।
3. विद्यार्थियों को हिन्दी भाषा और व्याकरण के अंतर्गत मानक वर्तनी, उच्चारण व शुद्ध वाक्य विन्यास से अवगत कराना ।
4. विद्यार्थियों को हिन्दी के पर्यायवाची, विलोम, गूढ़ार्थवाची, संश्रुति तथा अनेक शब्द के लिए प्रयुक्त एक शब्दों से अवगत कराना ।
5. विद्यार्थियों को देवनागरी लिपि का परिचय, उसका इतिहास, उसकी विशिष्टता तथा वैज्ञानिकता से अवगत कराना ।

6. विद्यार्थियों को हिन्दी भाषा के शि।ट शब्दों का भारतीय भाषाओं के संदर्भ में तुलनात्मक अध्ययन से अवगत कराना तथा साथ ही हिन्दी भाषा के भविष्य पर तार्किक विमर्श करने की ओर प्रवृत्त करना ।

Semester-VI

Course: Discipline Specific Elective (DSE)-2

Course Title: समकालीन हिन्दी कविता

1. विद्यार्थियों को समकालीन हिन्दी कविता की पृष्ठभूमि तथा उसके आरंभ से अवगत कराना ।
2. विद्यार्थियों को समकालीन हिन्दी काव्यधारा के प्रमुख कवियों से परिचय करवाना ।
3. विद्यार्थियों को समकालीन हिन्दी कविता की भाषा,बिम्ब विधान तथा छंद चेतना से परिचित कराना ।
4. विद्यार्थियों को हिन्दी के समकालीन कवि धूमिल के जीवनवृत्त, सृजन एवं उनकी कतिपय कविताओं से परिचय करवाना ।
5. विद्यार्थियों को हिन्दी के समकालीन कवि रघुवीर सहाय के जीवनवृत्त, सृजन एवं उनकी कतिपय कविताओं से परिचय करवाना ।
6. विद्यार्थियों को हिन्दी के समकालीन कवि केदारनाथ सिंह के जीवनवृत्त, सृजन एवं उनकी कतिपय कविताओं से परिचय करवाना ।
7. विद्यार्थियों को समकालीन हिन्दी दलित विमर्श के महत्वपूर्ण कवि ओमप्रकाश वाल्मीकि के जीवनवृत्त, सृजन एवं उनकी कतिपय कविताओं से परिचय करवाना ।
8. विद्यार्थियों को हिन्दी के समकालीन कवि त्रिलोचन के जीवनवृत्त, सृजन एवं उनकी कतिपय कविताओं से परिचय करवाना ।
9. विद्यार्थियों को हिन्दी के समकालीन कवि सर्वेश्वर दयाल सक्सेना के जीवनवृत्त, सृजन एवं उनकी कतिपय कविताओं से परिचय करवाना ।
10. विद्यार्थियों को हिन्दी के समकालीन कवि शमशेर बहादुर सिंह के जीवनवृत्त, सृजन एवं उनकी कतिपय कविताओं से परिचय करवाना ।
11. विद्यार्थियों को हिन्दी के समकालीन कवि भवानी प्रसाद मिश्र के जीवनवृत्त, सृजन एवं उनकी कतिपय कविताओं से परिचय करवाना ।
12. विद्यार्थियों को उक्त समकालीन कवियों की कतिपय कविताओं के माध्यम से समकालीन हिन्दी कविता की विशिष्टताओं से परिचय करवाना ।

Course: Skill Enhancement Course (SEC)-4

Course Title: भाषा कम्प्यूटिंग

1. विद्यार्थियों को कम्प्यूटर, उसका इतिहास एवं उसमें हिन्दी का आरंभ तथा विकास से अवगत कराना ।
2. विद्यार्थियों को कम्प्यूटर में प्रयुक्त हिन्दी के विभिन्न फांटो से परिचय कराने के साथ-साथ कम्प्यूटर में हिन्दी की चुनौतियों व संभावनाओं से अवगत कराना ।
3. विद्यार्थियों को मल्टीमीडिया की कार्य-प्रणाली से अवगत कराते हुए कम्प्यूटर में डाटा प्रविष्टि, सूचना संग्रहण व सूचना प्रोद्योगिकी के विविध पहलुओं से परिचित कराना ।
4. विद्यार्थियों को संचार प्रोद्योगिकी की प्रयोजनीय शब्दावलियों से अवगत कराते हुए उन्हें संचार भाषा के रूप में हिन्दी की उपलब्धियों से परिचित कराना ।
5. विद्यार्थियों को कम्प्यूटर में हिन्दी के विभिन्न अनुप्रयोगों से अवगत कराना ।
6. विद्यार्थियों को रेडियो और टेलीविजन के कम्प्यूटर साधित कार्यक्रमों से अवगत कराना ।

DEPARTMENT OF HISTORY

COURSE OUTCOME (CO)

CURRICULUM OF CBCS, SKBU, Purulia, West Bengal (Introduced from the Academic Year 2017-2018)

Semester I (July to December)

History is basically a study of the past and the 1st semester incorporates two courses, directly linked with the history of ancient India. These two courses primarily aim at reconstructing the cultural, religious, social and urban history from the proto-historic period down to Gupta age. Students are given the scope to be familiar with these topics.

Semester II (January to June)

In this semester, both the courses aim at reconstructing the Maurya, Gupta and post Gupta age. These two courses incorporate the political history and economic history of the period. A very informative paper for students.

Semester III (July to December)

All the papers in 3rd semester incorporate Islamic history - from the Delhi sultanate down to Akbar. All these courses are very helpful for the students of history to have a clear concept of the Islamic phase of Indian history.

Semester IV (January to June)

The courses of semester IV primarily incorporate studies on colonial India - from 1765 down to freedom struggle led by Mahatma Gandhi. These courses highlight on the rural economy and society, renaissance, historiography, different schools of history, Gandhian nationalism and India's freedom struggles. Students will have a concept of nationalism through these courses.

PROGRAMME SPECIFIC OUTCOME (PSO)

SEMESTER I

CC I: Early History of India (Proto-History to 6th century B.C.)

1. **Understanding of Cultural Roots:** Learning about the early history of India provides students with insights into the cultural foundations of Indian society. They can explore the origins of religious beliefs, social customs, and traditions that continue to shape Indian culture today.
2. **Development of Critical Thinking Skills:** Studying ancient civilizations and their historical contexts encourages students to analyse primary sources, archaeological evidence, and scholarly interpretations. This fosters critical thinking skills as students evaluate different perspectives and draw their own conclusions about the past.
3. **Appreciation of Diversity:** India's early history is characterized by the coexistence of diverse cultures, languages, and religious beliefs. By studying this period, students gain a deeper appreciation for the rich diversity of Indian society and the interconnectedness of different regions and communities.
4. **Insights into Global History:** The early history of India is interconnected with broader global historical developments, such as the emergence of urban civilizations, the spread of trade networks, and the evolution of religious and philosophical movements. Understanding India's early history within this global context helps students appreciate its significance in world history.
5. **Development of Research and Writing Skills:** Exploring historical topics related to India's early history requires students to conduct research, analyse evidence, and communicate their findings effectively. This helps develop research and writing skills that are valuable across various academic disciplines and professional fields.
6. **Cultural Awareness and Empathy:** Studying the early history of India encourages students to develop cultural awareness and empathy towards different societies and historical periods. They learn to understand and respect the complexities of past civilizations, including their achievements, challenges, and contributions to human history.
7. **Relevance to Contemporary Issues:** Many themes and issues from India's early history, such as governance, social inequality, religious diversity, and cultural exchange, remain relevant in today's world. By examining these historical precedents, students can gain insights into contemporary issues and appreciate the continuity and change in Indian society over time.

Overall, studying the early history of India offers students a holistic understanding of the country's past, enriching their knowledge, fostering critical thinking skills, and promoting cultural awareness and empathy. These benefits extend beyond the classroom, contributing to students' personal growth and their ability to engage with the complexities of the modern world.

CC2. Cultural Transition in Ancient India

Studying the cultural transitions in ancient India offers several benefits for students:

1. **Understanding Cultural Dynamics:** Exploring cultural transitions in ancient India helps students understand how societies evolve over time. They learn about the factors that influence cultural change, such as migration, trade, conquest, and interaction with neighbouring civilizations.
2. **Appreciation of Cultural Diversity:** Ancient India was a melting pot of diverse cultures, religions, languages, and traditions. By studying cultural transitions, students gain a deeper appreciation for the complexity and diversity of Indian society, as well as the interconnectedness of different regions and communities.
3. **Development of Analytical Skills:** Analysing cultural transitions in ancient India requires students to examine a wide range of sources, including archaeological evidence, literary texts, inscriptions, and art. This fosters analytical skills as students interpret and evaluate different types of evidence to reconstruct historical narratives.
4. **Exploration of Identity Formation:** Cultural transitions in ancient India involved the interaction and integration of various ethnic, linguistic, and religious groups. Studying these transitions allows students to explore how identities are constructed and negotiated within complex and dynamic societies.
5. **Reflection on Globalization:** Ancient India was connected to the broader world through trade routes like the Silk Road and maritime routes. Cultural transitions in ancient India provide insights into early processes of globalization, including the exchange of goods, ideas, technologies, and cultural practices across regions and civilizations.
6. **Engagement with Contemporary Issues:** Many themes and issues from ancient India, such as multiculturalism, religious syncretism, language diversity, and social hierarchy, have relevance to contemporary debates and challenges. By studying cultural transitions in ancient India, students can draw connections between the past and present, enriching their understanding of contemporary issues.
7. **Promotion of Tolerance and Respect:** Exploring cultural transitions in ancient India promotes tolerance, respect, and appreciation for cultural differences. Students learn to recognize the value of diversity and the importance of mutual understanding and respect in multicultural societies.
8. **Empowerment of Marginalized Voices:** Cultural transitions in ancient India involved interactions between dominant and marginalized groups. Studying these transitions allows students to uncover the experiences and perspectives of marginalized communities, including women, lower castes, and indigenous peoples, thereby promoting social justice and inclusion.

Overall, studying cultural transitions in ancient India enriches students' understanding of the complexities of historical change, fosters critical thinking skills, promotes cultural awareness and empathy, and encourages reflection on contemporary issues. These benefits contribute to students' personal growth and their ability to engage meaningfully with the diversity of the world around them.

SEMESTER II

CC III : Consolidation of Empire Under Maurya's and Gupta

1. **Understanding of Political History:** Exploring the consolidation of the Maurya and Gupta empires provides students with insights into the political structures, strategies, and processes involved in state formation and consolidation in ancient India. They learn about the rise of centralized authority, administrative systems, and military organization under these empires.
2. **Analysis of Power Dynamics:** Studying the consolidation of empires allows students to analyse the power dynamics between rulers, elites, and subjects in ancient Indian society. They explore how empires expanded their territories, established hegemony over diverse regions, and managed political alliances and vassal states.
3. **Investigation of Economic Systems:** The consolidation of empires had significant economic implications, including the development of trade networks, taxation systems, and agrarian policies. Students examine how empires facilitated economic growth, resource extraction, and wealth redistribution through state intervention and infrastructure development.
4. **Exploration of Social Structures:** The consolidation of empires influenced social structures and hierarchies in ancient India. Students explore the roles of different social groups, such as the ruling elite, bureaucrats, merchants, farmers, artisans, and laborers, and analyse how imperial policies shaped social mobility, status, and identities.
5. **Examination of Cultural and Intellectual Developments:** The Maurya and Gupta periods were characterized by significant cultural and intellectual achievements, including the patronage of art, literature, philosophy, and science. Students study the cultural syncretism, religious pluralism, and intellectual flourishing that occurred under these empires, as well as their contributions to literature, art, architecture, and scholarship.
6. **Comparison of Governance Models:** By comparing the governance models of the Maurya and Gupta empires, students gain insights into different approaches to statecraft, administration, and political ideology in ancient India. They analyse the strengths and weaknesses of centralized versus decentralized governance structures and assess their long-term impacts on Indian history.
7. **Engagement with Historical Sources:** Studying the consolidation of empires involves analysing a variety of historical sources, including inscriptions, coins, archaeological remains, literary texts, and secondary scholarship. Students learn to critically evaluate primary and secondary sources, interpret evidence, and construct historical narratives.
8. **Application of Historical Concepts:** The consolidation of empires allows students to apply historical concepts such as imperialism, state-building, hegemony, sovereignty, and cultural diffusion to understand complex historical processes. They develop analytical skills in identifying patterns, causes, and consequences of imperial expansion and consolidation.
9. **Relevance to Contemporary Issues:** Many themes and issues from the consolidation of empires, such as governance, imperialism, cultural exchange, and socio-economic development, have relevance to contemporary debates and challenges. By studying these historical precedents, students gain insights into enduring issues and dynamics in global politics and society.

Overall, studying the consolidation of the Maurya and Gupta empires enriches students' understanding of ancient Indian history, fosters critical thinking skills, promotes interdisciplinary learning, and encourages reflection on contemporary issues. These academic

benefits contribute to students' intellectual growth and their ability to engage with the complexities of the past and present.

CC IV: Reconstructing the early Medieval History of India: Politics, Society and Economy

1. **Historiographical Skills:** Exploring early medieval Indian history involves engaging with diverse historical interpretations, methodologies, and sources. Students learn to critically evaluate primary and secondary sources, assess different historiographical perspectives, and construct nuanced narratives of the past.
2. **Understanding of Political Dynamics:** The early medieval period in India was marked by the fragmentation of political authority, the rise of regional kingdoms, and the emergence of new political structures. Students analyse the processes of state formation, dynastic politics, and governance models, as well as the factors contributing to political instability and conflict.
3. **Insights into Social Transformations:** The early medieval period witnessed significant social transformations, including changes in caste relations, urbanization, religious movements, and cultural interactions. Students explore the complexities of caste dynamics, social mobility, gender roles, and the interplay between religious and secular authority.
4. **Analysis of Economic Systems:** Studying the economy of early medieval India involves examining agrarian structures, trade networks, urbanization patterns, and economic exchanges. Students explore the impact of technological innovations, commercial expansion, taxation policies, and land tenure systems on economic development and social organization.
5. **Exploration of Cultural and Religious Trends:** The early medieval period was characterized by the patronage of art, literature, architecture, and religious institutions by ruling elites and merchant communities. Students analyze the spread of religious ideas, the syncretism of cultural practices, and the formation of regional identities through the lens of material culture and textual sources.
6. **Comparison of Regional Histories:** The early medieval period in India was characterized by regional diversity, with the emergence of distinct political, social, and cultural formations across different regions. Students compare and contrast the histories of various regions, such as North India, South India, Central India, and the Deccan, to understand regional variations in political organization, social structures, and economic activities.
7. **Engagement with Interdisciplinary Approaches:** Studying early medieval Indian history requires students to integrate insights from archaeology, epigraphy, numismatics, literature, and anthropology. They learn to apply interdisciplinary approaches to historical research, synthesizing evidence from multiple sources to reconstruct the complexities of past societies.
8. **Relevance to Contemporary Issues:** Many themes and issues from early medieval Indian history, such as identity politics, regionalism, religious pluralism, and socio-economic inequalities, have relevance to contemporary debates and challenges. By studying these historical precedents, students gain insights into enduring issues and dynamics in Indian society and politics.

Overall, studying the reconstruction of early medieval history in India provides students with a deeper understanding of the complexities of historical change, fosters critical thinking skills, promotes interdisciplinary learning, and encourages reflection on contemporary issues.

These academic benefits contribute to students' intellectual growth and their ability to engage meaningfully with the complexities of the past and present.

SEMESTER III

CC V : Developments in Medieval India : religion, Society and Culture

1. **Exploration of Religious Dynamics:** The medieval period in India saw significant developments in religious thought, practice, and institutions. Students examine the spread of Hinduism, Buddhism, Jainism, Islam, and Sikhism, as well as the interactions and conflicts between religious communities. They explore religious syncretism, the construction of sacred spaces, the role of religious leaders and institutions, and the impact of religious ideologies on social and political life.
2. **Analysis of Social Structures:** The medieval period witnessed changes in social hierarchies, kinship systems, and community identities. Students explore caste dynamics, gender roles, class relations, and the experiences of marginalized groups such as women, lower castes, and religious minorities. They examine the intersectionality of social identities and the ways in which social norms and practices were negotiated and contested.
3. **Understanding of Cultural Expressions:** Medieval India was a vibrant cultural landscape characterized by artistic, literary, and architectural achievements. Students analyse the development of regional artistic styles, literary genres, musical traditions, and architectural forms. They explore the patronage of cultural activities by ruling elites, merchants, and religious institutions, as well as the transmission of cultural ideas and practices through trade, pilgrimage, and intellectual exchange.
4. **Engagement with Intellectual Traditions:** The medieval period was a time of intellectual ferment, with advances in philosophy, science, and scholarship. Students study the contributions of medieval Indian thinkers to fields such as metaphysics, logic, linguistics, astronomy, and medicine. They explore the transmission and translation of knowledge across linguistic and cultural boundaries, as well as the formation of intellectual networks and institutions.
5. **Interpretation of Historical Sources:** Studying developments in medieval India involves analysing a variety of historical sources, including texts, inscriptions, coins, artworks, and archaeological remains. Students learn to critically evaluate primary and secondary sources, interpret textual and visual evidence, and reconstruct historical narratives that account for diverse perspectives and contexts.
6. **Comparison of Regional Histories:** Medieval India was characterized by regional diversity, with distinct political, social, and cultural formations across different regions. Students compare the histories of various regions, such as North India, South India, Bengal, Gujarat, and the Deccan, to understand regional variations in religious practices, social structures, and cultural expressions.
7. **Relevance to Contemporary Issues:** Many themes and issues from medieval Indian history, such as religious pluralism, social inequality, cultural identity, and intercultural exchange, have relevance to contemporary debates and challenges. By studying these historical precedents, students gain insights into enduring issues and dynamics in Indian society and culture.

Overall, studying developments in medieval India pertaining to religion, society, and culture provides students with a deeper understanding of the complexities of historical change, fosters critical thinking skills, promotes interdisciplinary learning, and encourages reflection

on contemporary issues. These academic benefits contribute to students' intellectual growth and their ability to engage meaningfully with the complexities of the past and present.

CC VI : Delhi Sultanate: Administration and Economy

1. **Understanding of Political Structures:** The Delhi Sultanate was a medieval Muslim empire that ruled over large parts of the Indian subcontinent. Studying its administration provides insights into the political structures of the Sultanate, including the central government, provincial administration, and local governance. Students learn about the roles and responsibilities of various officials, the organization of the military, and the mechanisms of governance.
2. **Analysis of Governance Models:** The Delhi Sultanate employed diverse governance models, drawing on Islamic principles of administration as well as local traditions and practices. Students explore the Sultanate's system of justice, revenue collection, land tenure, and public works. They examine how these institutions evolved over time and influenced state-society relations in medieval India.
3. **Investigation of Economic Policies:** The economy of the Delhi Sultanate was shaped by agrarian systems, trade networks, and fiscal policies. Students examine the Sultanate's economic policies, including taxation, trade regulations, market interventions, and infrastructure development. They analyse the impact of these policies on agricultural productivity, commercial activities, and urban growth.
4. **Exploration of Social Structures:** The Delhi Sultanate was a diverse society characterized by multiple religious, linguistic, and ethnic communities. Students study the social structures of the Sultanate, including caste relations, urban guilds, and the experiences of different social groups such as Muslims, Hindus, and non-Muslim minorities. They explore issues of social mobility, cultural exchange, and identity formation in medieval India.
5. **Engagement with Historical Sources:** Studying the Delhi Sultanate involves analysing a variety of historical sources, including chronicles, administrative records, legal texts, and inscriptions. Students learn to critically evaluate primary sources, interpret textual and visual evidence, and reconstruct historical narratives that account for diverse perspectives and contexts.
6. **Comparison with Other Empires:** The Delhi Sultanate existed within a broader historical context of medieval empires in Eurasia and the Islamic world. Students compare and contrast the administration and economy of the Delhi Sultanate with other contemporary empires, such as the Abbasid Caliphate, the Mongol Empire, and the Vijayanagara Empire. They explore similarities and differences in governance models, economic systems, and cultural practices.
7. **Relevance to Contemporary Issues:** Many themes and issues from the history of the Delhi Sultanate, such as governance, religious pluralism, economic development, and state-society relations, have relevance to contemporary debates and challenges. By studying these historical precedents, students gain insights into enduring issues and dynamics in Indian society and politics.

Overall, studying the administration and economy of the Delhi Sultanate provides students with a deeper understanding of medieval Indian history, fosters critical thinking skills, promotes interdisciplinary learning, and encourages reflection on contemporary issues. These academic benefits contribute to students' intellectual growth and their ability to engage meaningfully with the complexities of the past and present.

SEMESTER IV

CCVII: Consolidation of Mughal rule under Akbar

1. **Understanding of Political History:** Akbar's reign marked a pivotal period in Mughal history, characterized by the consolidation and expansion of Mughal rule across the Indian subcontinent. Students delve into the political structures, administrative reforms, and strategies employed by Akbar to centralize authority and maintain control over a diverse empire.
2. **Analysis of Administrative Innovations:** Akbar introduced several administrative innovations aimed at strengthening the Mughal state and fostering social cohesion. Students examine the implementation of the Mansabdari system, revenue reforms, land grants, and the establishment of a centralized bureaucracy. They analyse the impact of these reforms on state-society relations and economic development.
3. **Exploration of Religious Policies:** Akbar's policies towards religion, including his efforts to promote religious tolerance and syncretism, are a significant aspect of his reign. Students study Akbar's engagement with various religious communities, his patronage of scholars and religious debates, and the establishment of a pluralistic imperial ideology known as Sulh-i-Kul (Peace with All). They assess the challenges and contradictions inherent in Akbar's religious policies and their long-term implications for Mughal society.
4. **Investigation of Cultural Developments:** Akbar's court was a center of cultural patronage and intellectual exchange, attracting scholars, artists, and thinkers from diverse backgrounds. Students explore the cultural developments of Akbar's reign, including the flourishing of Persian literature, the art of Mughal miniature painting, and architectural innovations such as the construction of Fatehpur Sikri. They analyse how cultural exchange and hybridity shaped Mughal art, architecture, and literature during this period.
5. **Engagement with Military Strategies:** Akbar's military campaigns played a crucial role in expanding and consolidating Mughal territory. Students examine Akbar's military strategies, including his use of diplomacy, alliances, and technology in warfare. They analyse key battles and campaigns, such as the conquest of Gujarat, Bengal, and the Deccan, and assess their impact on the Mughal Empire's territorial boundaries and power dynamics in South Asia.
6. **Interpretation of Historical Sources:** Studying the consolidation of Mughal rule under Akbar involves analysing a variety of historical sources, including court chronicles, administrative documents, architectural inscriptions, and visual representations. Students learn to critically evaluate primary sources, interpret textual and visual evidence, and reconstruct historical narratives that capture the complexities of Akbar's reign.
7. **Comparison with Other Empires:** Akbar's reign can be compared with other contemporary empires, such as the Safavids in Persia and the Ottomans in the Middle

East. Students explore similarities and differences in governance models, religious policies, cultural achievements, and military strategies, gaining insights into the broader dynamics of early modern empires in Eurasia.

Overall, studying the consolidation of Mughal rule under Akbar provides students with a deeper understanding of Mughal history, fosters critical thinking skills, promotes interdisciplinary learning, and encourages reflection on the complexities of empire-building in South Asia. These academic benefits contribute to students' intellectual growth and their ability to engage meaningfully with the complexities of the past and present.

CC VIII: Colonial State and Select Themes of Popular Resistance

1. **Understanding Colonialism:** Students gain a comprehensive understanding of colonialism, including its historical context, motivations, and impacts on colonized societies. They analyse the political, economic, and social structures of colonial states, as well as the ideologies and practices that sustained colonial rule.
2. **Analysis of Power Dynamics:** Studying the colonial state and popular resistance enables students to explore power dynamics between colonizers and colonized peoples. They examine how colonial states exercised control through mechanisms such as coercion, collaboration, and divide-and-rule policies, and how colonized populations resisted and negotiated colonial domination.
3. **Engagement with Resistance Movements:** Students explore various forms of popular resistance against colonial rule, including armed uprisings, nonviolent protests, cultural revitalization movements, and intellectual critiques of colonial ideologies. They analyze the strategies, goals, and outcomes of resistance movements, as well as the contributions of key leaders and organizations.
4. **Investigation of Colonial Policies:** Students examine specific colonial policies and practices, such as land tenure systems, taxation policies, legal codes, and educational reforms, and their impacts on colonized societies. They analyse how these policies shaped social structures, economic relations, cultural identities, and political landscapes in colonial contexts.
5. **Exploration of Social Movements:** Studying popular resistance allows students to explore broader social movements and struggles for justice, equality, and self-determination. They examine the intersections between resistance to colonialism and other social justice movements, including anti-caste struggles, labour movements, feminist movements, and indigenous rights movements.
6. **Interpretation of Historical Sources:** Students analyse a wide range of historical sources, including archival documents, oral histories, visual materials, and testimonies of resistance leaders and participants. They learn to critically evaluate primary sources, interpret conflicting narratives, and reconstruct historical events and processes from multiple perspectives.
7. **Comparison with Global Contexts:** Students compare colonial experiences and resistance movements in different parts of the world, gaining insights into the global dimensions of colonialism and anti-colonial struggles. They explore connections and parallels between resistance movements in different regions, as well as the transnational networks and solidarity among anti-colonial activists.

8. **Relevance to Contemporary Issues:** Studying colonialism and resistance movements has relevance to contemporary debates and challenges, including issues of imperialism, racism, nationalism, and global inequality. Students reflect on the legacies of colonialism and the ongoing struggles for decolonization, sovereignty, and social justice in post-colonial societies.

Overall, studying the colonial state and select themes of popular resistance provides students with a deeper understanding of colonial history, fosters critical thinking skills, promotes empathy and solidarity with marginalized communities, and encourages reflection on contemporary issues of power, oppression, and resistance. These academic benefits contribute to students' intellectual growth and their ability to engage meaningfully with the complexities of the past and present.

CCIX: Cultural History of Bengal: Reform and Revival

1. **Understanding of Cultural Dynamics:** Students gain insights into the rich cultural heritage of Bengal, including its literature, art, music, dance, and religious traditions. They explore how cultural practices evolved over time, influenced by interactions between different communities, historical events, and intellectual currents.
2. **Analysis of Reform Movements:** Studying reform movements in Bengal allows students to examine efforts to transform social, religious, and cultural norms in response to colonialism, modernity, and globalization. They analyse the goals, strategies, and impacts of reform movements such as the Brahmo Samaj, the Arya Samaj, the Swadeshi movement, and the Bengal Renaissance.
3. **Exploration of Religious Revival:** Students explore religious revival movements in Bengal, including the revitalization of Hinduism, Buddhism, Islam, and other indigenous belief systems. They examine how religious leaders and reformers sought to reinterpret scriptures, revive rituals, and promote religious practices that were perceived as authentic and relevant to contemporary society.
4. **Investigation of Literary and Intellectual Trends:** The cultural history of Bengal is marked by literary and intellectual achievements in fields such as literature, philosophy, and social sciences. Students analyse the works of prominent Bengali writers, poets, philosophers, and intellectuals, exploring themes such as nationalism, identity, gender, and social reform.
5. **Engagement with Artistic Expressions:** Students study the visual arts, performing arts, and material culture of Bengal, including painting, sculpture, architecture, music, dance, and handicrafts. They examine how artistic expressions reflect cultural values, religious beliefs, and social identities, and how they evolve over time in response to changing contexts.
6. **Interpretation of Cultural Texts:** Studying the cultural history of Bengal involves analysing a variety of cultural texts, including literary works, religious scriptures, folk songs, and visual representations. Students learn to critically evaluate these texts, interpret their meanings, and reconstruct the cultural worldviews and experiences they convey.
7. **Comparison with Global Contexts:** Students compare cultural developments in Bengal with similar movements and trends in other regions of India and the world. They explore connections and exchanges between Bengal and other cultural centres,

as well as the impact of global processes such as colonialism, globalization, and diaspora on Bengali culture.

8. **Relevance to Contemporary Culture:** Studying the cultural history of Bengal has relevance to contemporary debates and practices in literature, art, religion, and social activism. Students reflect on the legacies of cultural reform and revival movements in Bengal and their ongoing influence on Bengali identity, politics, and society.

Overall, studying the cultural history of Bengal, focusing on reform and revival, provides students with a deeper understanding of Bengal's cultural heritage, fosters critical thinking skills, promotes interdisciplinary learning, and encourages reflection on the complexities of cultural change and continuity. These academic benefits contribute to students' intellectual growth and their ability to engage meaningfully with the cultural diversity of Bengal and its global significance.

CC X: Age of Gandhian Nationalism

1. **Understanding of Modern Indian History:** The Age of Gandhian Nationalism, spanning roughly from the early 20th century to India's independence in 1947, is a crucial period in modern Indian history. Students gain insights into the socio-political developments, cultural transformations, and ideological debates that shaped India's struggle for independence from British colonial rule.
2. **Analysis of Gandhian Ideology:** Students explore the principles and strategies of Gandhian nationalism, including nonviolent resistance (satyagraha), civil disobedience, and constructive program. They examine Gandhi's philosophy of truth (satya), nonviolence (ahimsa), and self-discipline (Tapasya), as well as his emphasis on moral values, grassroots activism, and social justice.
3. **Investigation of Mass Mobilization:** The Age of Gandhian Nationalism witnessed widespread mass mobilization and popular participation in the freedom struggle. Students analyse the role of various social groups, including peasants, workers, women, students, and intellectuals, in the nationalist movement. They explore how Gandhi's leadership and organizing tactics galvanized diverse communities and fostered a sense of collective solidarity.
4. **Exploration of Socio-economic Reforms:** Gandhian nationalism encompassed not only political goals, but also socio-economic reforms aimed at addressing poverty, inequality, and social injustice. Students examine Gandhi's advocacy for swadeshi (economic self-reliance), village industries, rural upliftment, and the upliftment of marginalized communities such as untouchables (Harijans).
5. **Engagement with Key Events:** Students study key events and campaigns of the Gandhian era, such as the Non-Cooperation Movement, the Salt Satyagraha, the Quit India Movement, and the Round Table Conferences. They analyse the motivations, strategies, and outcomes of these movements, as well as the responses of the British colonial authorities.
6. **Interpretation of Historical Sources:** Studying the Age of Gandhian Nationalism involves analysing a variety of historical sources, including Gandhi's writings, speeches, and correspondence, as well as contemporary newspapers, memoirs, and

archival documents. Students learn to critically evaluate primary sources, interpret conflicting narratives, and reconstruct historical events and processes.

7. **Comparison with Other Nationalist Movements:** Students compare Gandhian nationalism with other nationalist movements in India and around the world, exploring similarities and differences in ideologies, strategies, and outcomes. They examine the contributions of other nationalist leaders and organizations, such as the Indian National Congress, the Muslim League, and revolutionary groups.
8. **Relevance to Contemporary Issues:** Studying the Age of Gandhian Nationalism has relevance to contemporary debates and challenges, including issues of democracy, human rights, social justice, and nonviolent resistance. Students reflect on the legacies of Gandhi's ideas and methods and their applicability to current struggles for peace, equality, and sustainable development.

Overall, studying the Age of Gandhian Nationalism provides students with a deeper understanding of India's freedom struggle, fosters critical thinking skills, promotes empathy and solidarity with marginalized communities, and encourages reflection on contemporary issues of power, oppression, and social change. These academic benefits contribute to students' intellectual growth and their ability to engage meaningfully with the complexities of the past and present.

Department of Philosophy
Achhruram Memorial College, Jhalda
(Affiliated to Sidho-Kanho-Birsha University, Purulia, W.B.)



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Programme Outcome, Programme Specific Outcome and Course Outcome

Programme Outcome

The Bachelor of Arts (BA) program in Achhruram Memorial College is a three year (Six Semester) degree offered by the Sidho-Kanho-Birsha University, Purulia, with a view to impart in-depth knowledge and broad understanding of Humanities. Creativity as human resource is the source of Humanities.

After completion of the B.A. Honours Programme from this college students are expected to develop an analytical skill which will help them to solve the problem related issues that she faces in next level of studies. Students of this programme will become capable to ask questions, critically appreciate a scholarly presentation of any form and debate upon the issues which invite cross discussions. It is also expected that students learn to appreciate diversity and develop cultural sensitivity. Make them eligible candidates for admissions to post-graduate/further higher studies. Also students completing the three years B.A. Honours programme become confident in the sense that they feel they are employable.

Program Specific Outcome

As a subject Philosophy enquires into the nature of the universe in which we live, the nature of the human soul and its destiny, nature of God or the Absolute, nature of matter, time, space, the evolution of life and mind and their relation to one another. Philosophy is the description of the world as reality. It seeks truth and value of the whole world.

- So students of B.A. philosophy Honours will be able to acquire knowledge that is vital to the discipline of philosophy, including knowledge of core concepts, distinctions, theories, argumentative techniques, movements, and influential figures, within the core fields of aesthetics, ethics, epistemology, logic, metaphysics, and social & political philosophy.
- Students will be able to reason clearly and carefully, employing the principles of logic to construct cogent arguments in both of their speech and writing. Their capacity to reason clearly and carefully will be manifest in their use of a) deductive reasoning skills, wherein the conclusion is embedded in the conditions that are known, given, or accepted, and b) inductive reasoning skills, wherein one must reason beyond the conditions that are known, given, or accepted.

- B.A. Philosophy Honours students will be able to think creatively and independently, exploring possibilities beyond those deep-rooted existing opinions and practices.
- Encourage students to read and interpret philosophical texts to explore knowledge about ancient, medieval and contemporary philosophical thoughts.

- Make them able to understand reality from different perspectives and thus realize that different people will define issues in different ways.
- Moreover, Philosophy Program develops in students a sense of the value and a reflective attitude and sensitivity towards philosophical judgments, and a life-long commitment to learning and inquiry.

Course Outcome

Honours

SEMESTER-I	
Course	Outcome
BPHICCHT-101 General Features of Indian Philosophy & Nastik Sampradaya	Provides the basic features of Indian philosophy emphasizing on its origin, developments of various schools, concepts of rta, rna, yajna. However main focus will be on three sect of Nastik philosophy- Carvaka, Buddhism and Jainism.
BPHICCHT-102 Pre-Socratic Period to Aristotle.	The objective of this course is to provide the origin and development of the philosophy of Greek sphere. The Pre-Socratic, Platonic and Aristotelian conception of epistemology, causation, theory of ideas, theory of forms and matter is included in this paper.
General Elective (GE) GE-I Ethics in Public Domain	Students from other disciplines will get familiarised with some basic philosophical concepts and also interact with some ethical problems, facing in our day-to-day life. This paper includes Morality, Cultural Relativism, Subjectivity, Media Ethics, Caste and Poverty.
SEMESTER-II	
BPHICCHT-201 Indian Ethics	This paper will explain the core ideas of Indian ethical thinking, such as theory of karma, re-birth, and various types of dharmas. Also the students will understand the meaning of <i>Purusarthas</i> and their inter-relations. The paper also provides the basic features of ethical thinking of Buddhist and Jaina philosophies.
BPHICCHT-202 Western Logic	In this paper the students will acquire the basic concepts of the logical thinking of Western Philosophy. Emphasis will be on deductive logic with special reference to the text of I. M. Copi and C. Cohen's " <i>Introduction to Logic</i> ".

General Elective (GE) GE-II Formal Logic	Students, other than Philosophy, will understand the basic features of deductive arguments. They will learn the principles of valid argument and establish their understanding accordingly.
SEMESTER-III	
BPHICCHT-301 Western Ethics	The objective of this paper is to develop the notion of basic concepts of western ethical thinking. Students will understand the some basic ideas of ethics, i.e., ideas of Good, Right, Justice, Duty and Obligation. Basically, traditional western ethical thinking such as Kant's Categorical Imperative, Bentham and Mill's Utilitarianism will be discussed here. Also, students will get some practical ethical problems concerning the issues of crime and punishment, free will and responsibility.
BPHICCHT-302 <i>Astik Sampradaya</i> (Indian Philosophy)	This paper is introduced in the syllabus to elucidate the basic concepts of the Indian Astik philosophy. Four pramanas of Nyaya, seven categories of Vaisesika, Satkarya Vada and the concepts of Prakriti of Samkhya, the philosophy of Yoga and the nature of Brahman and its relation to Jiva of Advaita philosophy will be primarily focussed here.
BPHICCHT-303 Medieval Age: Western Philosophy	For better understanding of the views of western modern philosophers this paper is included. Descartes's method of doubt, Cogito ergo sum, criterion of truth, nature of substance, classification of ideas and the problem of mind-body; Spinoza's substance, attributes and modes, concept of God and Leibnitz's theory of Monad will be discussed here. In contrast to such rational philosophy the empirical philosophy of John Locke, Berkeley and David Hume will also be discussed. Finally, students will get the glimpses of Kant's critical philosophy.
BPHISEHT-305 (SEC-1) Method of Induction & Probability.	Keeping in mind the introductory idea of the CBCS system, this paper deals with the idea of method of induction and probability as a specific skill enhancement course.

SEMESTER-IV

BPHICCHT-401 Existentialism	As a rational as well as critical thinker, the students of philosophy should understand the philosophy of Sartre and such existential thinkers. This paper introduces the chief features of existentialism and many critical ideas such as anxiety, freedom, Bad Faith, authentic and inauthentic existence and the notion of Being-in-itself and Being-for-itself.
BPHICCHT-402 Philosophy of Religion	As a student of philosophy our students should understand the philosophy of religion and various doctrines accordingly. That is why this paper has been included in the curriculum. The Judaic-Christian concept of God, arguments for the existence of God and the arguments against the existence of God will be our major concern. In addition to that, the problem of evil and the problem of religious languages will imbibe in the students to think rationally about the various religious problems in our society.
BPHICCHT-403 Indian Logic and Epistemology	Under the title of “Indian Logic and Epistemology” a popular text of Nyaya Philosophy <i>Tarkasangraha</i> of famous writer Annambhatta is introduced in this paper. Elaborate discussion of four Pramanas of Nyaya philosophy has been introduced here to understand the student valid cognition and its origins according to Nyaya philosophy.
BPHISEHT-405 (SEC-2) Practical Ethics	To develop values of the good citizen as well as the demand of the skill enhancement course, some contemporary practical, social as well as ethical problems has been discussed in this paper. Emphasis will be on Environmental Ethics, Feminism and Euthanasia.

SEMESTER-V

BPHICCHT-501 Special Text (Indian) Vedantasara	As Advaita Vedanta is one of the major and dominant schools of Indian Philosophy, a famous text of this school, namely ‘ <i>Vedantasara</i> ’ has been incorporated here to understand the philosophy of Sankara. Here we will discuss the notion of Brahama, the notion of Jiva, relation between Brahma and Jiva, Mayabada and the very view of Moksha in respect of Advaita theory.
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BPHICCHT-502 Special Text (Western) The Problems of Philosophy	<p>As a subject philosophy wants to develop the skill of critical thinking among the students, ‘<i>The Problems of Philosophy</i>’ by Bertrand Russell is introduced here. The text includes appearance and reality, existence of matter, idealism, knowledge by acquaintance and knowledge by description and Russell’s view about induction has been included in this course.</p>
BPHIDSHT-503 (DSE-1) Text from Western Epistemology (<i>An</i> <i>Enquiry Concerning</i> <i>Human</i> <i>Understanding</i>)	<p>British philosopher David Hume’s well-popular text ‘<i>An enquiry Concerning Human Understanding</i>’ is incorporated as a DSE paper in our honours curriculum, keeping in mind to acquire knowledge of Hume’s philosophy.</p>
BPHIDSHT-504 (DSE-2) Text from Modern Indian Thought (<i>Practical Vedanta</i>)	<p>Students will understand how Vivekananda laid philosophical foundations for Hindu cultural reformation and Indian society utilizing Advaita logic and its practical aspects.</p>
SEMESTER-VI	
BPHICCHT-601 Contemporary Indian Philosophy	<p>Contemporary Indian philosophy has arisen in awareness of the need to reconcile the forces of tradition with those of modernity. The paper is about the philosophical views of K. C. Bhattacharyay, B. R. Ambedkar, Sri Aurobindo, S. Radhakrishnan and M. K. Gandhi.</p>
BPHICCHT-602 Contemporary Western Philosophy	<p>A well-known text of A. J. Ayer, <i>Language, Truth and Logic</i> is introduced here. The book is a modified version of logical positivism, which Ayer called ‘logical empiricism’. Here students will understand the logic behind the elimination of metaphysics, the function of philosophy and specially the nature of philosophical analysis according to Ayer.</p>
BPHICCHT-603 (DSE-3) Text: <i>Hind Swaraj</i>	<p>No doubt that as a prominent example of good citizen, freedom fighter and moreover a philosopher, student of philosophy should understand the life and views of M. K. Gandhi. So as a path-breaking book ‘<i>Hind Swaraj</i>’ of Gandhi has been incorporated here to induce in the students the concept of <i>Satyagraha</i>, the power of passive resistance and Gandhi’s view about rail, doctor and lawyers and finally the meaning of actual civilization.</p>

BPHICCHT-604 (DSE-4) Text: <i>The Communist Manifesto</i>	Students will understand the goals of Communism, as well as the theory underlying this movement. The text argues that class struggle, or the exploitation of one class by another, are the motivating force behind all historical developments.
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PROGRAMCOURSE

SEMESTER-I

BPHICCRT-101 General features of Indian Philosophy	To understand the basic philosophical views of Indian philosophy this paper is included. Emphasis will be on the philosophy of Caarvaka, Buddhism, Nyaya, Vaisesika, Samkhya and Advaita Vedanta.
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SEMESTER-II

BPHICCRT-201 Western Logic	This paper provides the basic concepts of deductive arguments including Classes and their relations, Boolean interpretation of propositions, Square of opposition, Existential import of propositions, Conversion, Syllogism, Venn Diagram and test of truth-functional arguments by Truth Table.
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SEMESTER-III

BPHICCRT-301 Indian Ethics	Understand the students the Indian ethical views, i.e., Purusarthas, Vidhi, Nisedha, Dharma, various types of Karmas referred by the Vedas and the main features of Bauddha and Jaina ethics.
BPHISERT-304 (SEC-I) Critical Thinking and Decision Making	This paper is about the philosophy of religion. Here students of program course will comprehend the necessity of religion in human society, the meaning of secularism with its relation humanism, religious plurality and finally the relation between morality and religion.

SEMESTER-IV

BPHICCRT-401 Western Ethics	The objective of this paper is to develop the notion of basic concepts of western ethical thinking. Students will understand the some basic ideas of ethics, i.e., ideas of Good, Right, Justice, Duty and Obligation. Basically, traditional western ethical thinking such as Kant's Categorical Imperative, Bentham and Mill's Utilitarianism will be discussed here. Also, students will meet and understand some practical ethical problems concerning the issues of crime and punishment, Moral languages.
BPHISERT-404 (SEC-II) Philosophy of Education	It is a discourse of the concept and meaning of the philosophy of education. Students will gain knowledge of education from the perspectives of Rabindranath Tagore, M. K. Gandhi and Swami Vivekananda.

SEMESTER-V

BPHIDSRT1 (DSE-I) Applied Ethics	To develop values of the good citizen some contemporary practical, social as well as ethical problems has been discussed in this paper. Emphasis will be on the nature and scope of applied ethics, Environmental Ethics, Feminism and Animal Ethics.
BPHIDSRT2 (SEC-III) Psychology-I	The relation between Body and Mind is one the key problem in philosophy. To familiar with this problem two papers under Skill Enhancement Course are introduced. In this paper students will be understood the scope and various methods of psychology, the Mind-Body relation, attention, intelligence and some popular test offered by psychologists to measure human intelligence.
BPHIGERT (GE-1) Ethics in the Public Domain	This paper is designed to explore the ethical concepts of Indian aspects among students. It includes purusarthas, various karmas, and the concept of rebirth and ethical views of Bauddha and Jain philosophy.

SEMESTER-VI

BPHIDSRT-601 (DSE-II) Nyaya (Hetvabhasa)	One of the most important part of Nyaya philosoppsy, hetvabhasa is included in this paper. Students will understand the definition and five types of hetavabhasa here.
BPHISERT604 (SEC-IV) Psychology-II	Human learning and memory, Personality, Anxiety and Guilty feelings, the Sub-conscious mind and the Dream theory will be discussed in this paper to understand students some primary concepts of psychology.

BPHIGERT (GE-2) Formal Logic	This paper provides the basic logical concepts, Aristotelian Logic, Propositional Logic and some aspects of Symbolic Logic related to Venn Diagram and Truth Table among students of other discipline.
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ACHHRURAM MEMORIAL COLLEGE, JHALDA, PURULIA

AFFILIATED TO SIDHO KANHO BIRSHA UNIVERSITY, PURULIA

DEPARTMENT OF PHYSICAL EDUCATION

Program Outcomes, Program Specific Outcomes and Course Outcomes

Department of Physical Education

Programme Outcomes: B. A. Programme course with Physical education

Department of Physical education	After successful completion of three year degree program in Physical education a student should be able to;
Programme Outcomes	<p>PO-1. The students acquire an overall knowledge about Physical Education.</p> <p>PO-2. Demonstrate, solve and an understanding of major concepts in all disciplines of physical education.</p> <p>PO-3. They develop the fundamental skills and ability to play various types of games and sports practically.</p> <p>PO-4. Employ critical thinking and the scientific knowledge to design, carry out, record and analyze the results of games & sports.</p> <p>PO-5. Create an awareness of the impact of physical education on the society and development outside the community.</p> <p>PO-6. They learn the basic rules and regulation of different games and sports like Kabaddi, Kho-Kho, Football, Volleyball, Badminton, Cricket, Athletics etc.</p> <p>PO-7. They get to practice Yoga skills and Pranayama.</p> <p>PO-8. Use modern techniques, various equipments.</p> <p>PO-9. In this program, an all round development of student is done.</p>

<p>Programme</p> <p>Specific Outcomes</p>	<p>PSO-1. Gain the knowledge of Physical education through theory and practical.</p> <p>PSO-2. To know the layout of games & sports.</p> <p>PSO-3. How to know the care & maintenance of sports equipments.</p> <p>PSO-4. To understand the specific games.</p> <p>PSO-5. To know the Indian games.</p> <p>PSO-6. To know the track & field events.</p> <p>PSO-7. To know the fitness & wellness.</p> <p>PSO-8. To know the life style & nutrition.</p> <p>PSO-9. To know the importance of yoga.</p> <p>PSO-10. To know the how to work internal organ system of our body.</p> <p>PSO-11. To know the importance of health education.</p> <p>PSO-12. To know the environmental hygiene.</p> <p>PSO-13. To know the need of nutrition.</p> <p>PSO-14. To know the first aid & safety education.</p> <p>PSO-15. To know the training techniques.</p> <p>PSO-16. To know the fitness test.</p> <p>PSO-17. To know the sports skill test.</p> <p>PSO-18. To know the postural deformities and causes.</p> <p>PSO-19. Use modern tools and equipments.</p>
<p>Course Outcomes B. A. Physical education</p> <p>Semester-I</p>	
<p>Course</p>	<p>Outcomes</p> <p>After completion of these courses students should be able to:</p>
<p>Course Title:</p> <p>Foundation History of Physical Education.</p> <p>Course Code :</p> <p>BPEDCCRT101</p>	<p>CO-1. To develop modern concept of physical education.</p> <p>CO-2. To gain the knowledge about pre- independence & post- independence of physical education in India.</p> <p>CO-3. To develops the psychological factors of influence motor learning.</p>

SEMESTER - II

Course Title: Management of Physical Education Course Code : BPEDCCRT20 1	CO-1. To develop modern concept of sports management CO-2. To gain the knowledge of Tournaments CO-3. develops the leadership qualities & organizational performance CO-4. To develop the layout abilities of games & sports
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SEMESTER - III

Course Title: Game Specialization Course Code : BPEDCCRS301	CO-1. To develop the fundamental skills gain the knowledge about specific games CO-2. To gain the practical knowledge about games & sports CO-3. To gain the practical knowledge about rules regulation of games & sports
Course Title: Fitness and Wellness(SEC-1) Course Code : BPEDSERT304	CO-1. To develop modern concept of fitness CO-2. To gain the knowledge about wellness CO-3. To gain the knowledge about the relationship between physical activities & wellness. CO-4. To improve healthy life style & living status

Course Title: Yoga Science Generic (Hons) Course Code : BPEDGEHT25	CO-1. To develop modern concept of yoga CO-2. To gain the knowledge about aims & objectives of yoga CO-3. To gain the knowledge about yogic exercises through cure disease. CO-4. To improves physiological values of Pranayam & shudhikiryas.
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SEMESTER - IV	
Course Title: Anatomy and Physiology Course Code : BPEDCCRT401	CO-1. To gain the knowledge about structure & function of skeletal system CO-2. To gain the knowledge about effect of exercise of muscular system CO-3. To gain the knowledge about mechanism of blood circulatory system of human body CO-4. To gain the knowledge about respiratory systems CO-5. To gain the knowledge about the nervous systems
Course Title: Yoga Skills(SEC-2) Course Code : BPEDSERT404	CO-1 To gain the knowledge about yogic exercises through cure disease CO-2. To improves physiological values of Pranayam & shudhi kiryas
Course Title: Health Education Generic (Hons) Course Code : BPEDGEHT25A	CO-1. To develop modern concept of health education CO-2. To gain the knowledge about importance of health education in daily life CO-3. To gain the knowledge about personal hygiene

SEMESTER - V	
<p>Course Title: Health Education & Safety Education Course Code : BPEDDSRT501</p>	<p>CO-1. To develop modern concept of health education</p> <p>CO-2. To gain the knowledge about importance of health education in daily life</p> <p>CO-3. To gain the knowledge about personal hygiene</p> <p>CO-4. To gain the knowledge about safety education</p> <p>CO-5. To gain the knowledge about pollution & nutrients</p>
<p>Course Title: Sports Training Course Code : BPEDDSRT502</p>	<p>CO-1. To gain the knowledge about meaning ,definition & aim – objectives of sports training</p> <p>CO-2. To gain the knowledge about the methods of training & conditioning of sports.</p> <p>CO-3. To gain the knowledge about the training load & adaptation</p> <p>CO-4. To gain the knowledge about the training techniques</p>
<p>Course Title: Test measurement and evaluation in Physical Education (SEC-3) Course Code : BPEDSERT504</p>	<p>CO-1. To gain the knowledge about of test , measurement & evaluation</p> <p>CO-2. To gain the knowledge about the measurement of body composition ,somatotypes</p> <p>CO-3. To gain the knowledge about of the fitness test</p> <p>CO-4. To gain the knowledge about of the sports skill test</p>
<p>Course Title: Yoga Science Program (GE) Course Code : BPEDGERT25</p>	<p>CO-1. To develop modern concept of yoga</p> <p>CO-2. To gain the knowledge about aims & objectives of yoga</p> <p>CO-3. To gain the knowledge about yogic exercises through cure disease.</p> <p>CO-4. To improves physiological values of Pranayam & shudhikiryas.</p>

SEMESTER -**VI**

Course Title: Indigenous games marching , mass demonstration , Gymnastics and Yoga Course Code : BPEDDSRS3	CO-1. To gain the knowledge abouttheindigenous games. CO-2. To gain the knowledge aboutdrill & marching CO-3. To gain the knowledge aboutmass demonstrations CO-4. To gain the knowledge practices about yoga skills CO-5. To gain the knowledge aboutBratachariya & NCC & NSS
Course Title: Track and Field Course Code : BPEDDSRS4	CO-1. To develop the fundamentalskills gain the knowledge about track & field CO-2. To gain the practical knowledgeabout officiating.
Course Title: Postural deformitiesand remedial measures (SEC-4) Course Code : BPEDSERT604	CO-1. To gain the knowledge aboutmeaning ,definition postural deformities CO-2. To gain the knowledge aboutthe postural deformities CO-3. To gain the knowledge aboutpreventing & correcting postural defects in yoga CO-4. To gain the knowledge about nutrients preventingpostural defects
Course Title: Health Education (GE) Course Code : BPEDGERT25A	CO-1. To develop modern concept ofhealth education CO-2. To gain the knowledge about importance of health educationin daily life CO-3. To gain the knowledge aboutpersonal hygiene

Achhruram Memorial College

Jhalda, Purulia , West Bengal

AFFILIATED TO SIDHO-KANHO-BIRSHA UNIVERSITY, PURULIA

DEPARTMENT OF POLITICAL SCIENCE

**Program Outcomes, Program Specific Outcomes
and Course Outcomes**

Department of POLITICAL SCIENCE

Programme Outcomes: B. A. Political Science (Program)

Department of Political Science	After successful completion of three year degree program in Political Science, a student should be able to;
Programme Outcomes	<p>PO-1. To encourage the students with the practical knowledge of political, social and environmental issues connecting with the society.</p> <p>PO-2. To encourage human values and social commitment by bringing the issues of justice, dignity of life, liberty, rights, diversity of religion, ethnicity etc.</p> <p>PO-3. To provide scope of the students to visit practical field in village areas, different institutions, Parliament, Secretariat etc.</p> <p>PO-4. To offer courses comprising relevant issues of gender, human values etc. in the curriculum.</p>

<p>Programme Specific Outcomes</p>	<p>PSO-1. To offer various courses emphasizing with the issues relevant to the contemporary world.</p> <p>PSO-2. To Encourage students two explore and observe the practical world in a pragmatic manner.</p> <p>PSO-3. To offer specialised courses such as Introduction to Human Rights, Public Administration, Social Movements in India etc.</p> <p>PSO-4. To train the students in skill oriented courses such as Women and politics, Local Government in India, Welfare State, Issues and challenges etc.</p>
<p>Course Outcomes B.A Political Science (Program)</p> <p>Semester-I</p>	
<p>Course</p>	<p>Outcomes</p> <p>After completion of these courses students should be able to:</p>
<p>BPLSCCRT 101 Political Theory</p>	<p>CO-1. Understanding the concept of freedom and it's contemporary relevance.</p> <p>CO-2. To know, what is equality, having different facets.</p> <p>CO-3. To get the basic idea on Right and Justice with different practical forms.</p> <p>CO-4. To understand significance of State and contemporary world.</p>

SEMESTER - II	
BPLSCCRT 201 Indian Constitution and Politics	<p>CO-1. Introduction to the Constitution of India, it's Preamble and features.</p> <p>CO-2. To explore Rights and Duties of the Indian citizens.</p> <p>CO-3. To understand Parliamentary Government and Federalism.</p> <p>CO -4. Role and power of President, Prime Minister, Council of Ministers.</p> <p>CO-5. To understand the State Government and its administration.</p>
SEMESTER - III	
BPLSCCRT301 International Relations	<p>CO-1. To understand the meaning of international relations and it's nature and scope.</p> <p>CO-2. To analyse new issues in international relations and its impact on international order.</p> <p>CO-3. To analyse and explain the history of international politics and its current form.</p> <p>CO-4. To have conceptual clarity of basic concepts of international relations, its usages and relevance.</p>

<p>BPLSSERT 304</p> <p>Legislative Process in India</p>	<p>CO-1. To know composition, power and function of the Union Legislature.</p> <p>CO-2. To differentiate various types of bills.</p> <p>CO-3. To understand the role of opposition in the Parliament.</p> <p>CO-4. To understand the procedure of passing bills.</p>
<p>BPLSGEHT 13</p> <p>Gandhi & Contemporary World</p>	<p>CO-1. To know Gandhi's critique of modern civilization.</p> <p>CO-2. To have knowledge about Gandhi's ideas of Non-violence and Satyagraha.</p> <p>CO-3. To understand the meaning of Swaraj.</p> <p>CO-4. To perceive Gandhi's ideas of Sarvodaya.</p>

SEMESTER - IV

BPLSCCRT 401 Comparative Government and Politics	CO-1. Introduction to different government structures. CO-2. Explore political dynamics and political system. CO-3 Importance of political parties on decision-making and policy formation. CO-4. Classification of political system. CO-5. To understand historical context of modern government.
BPLSSERT 404 Parliamentary Procedures in India	CO-1. To understand the parliamentary procedure when the house is in session. CO-2. To know various Motions. CO-3. To understand the Importance of different committees.
BPLSGEHT13A United Nations and global conflicts I	CO-1. To realise the purpose of establishment of United Nations and its charter defining its functions. CO-2. To know the role of different UN institutions viz. General Assembly, Security Council. CO-3. To understand the demand for reforming Security Council. CO-4. To access the achievements and failures of UN.

SEMESTER - V

501 Human Rights	CO-1. Understanding the concept of human rights. CO-2. To know the impact of globalisation on human rights. CO-3. To know about the Universal Declaration of Human Rights. CO-4. To grow awareness on women and child rights.
502 Indian Foreign Policy	CO-1. To understand the basic tenets of Indian foreign policy. CO-2. To know about non-alignment. CO-3. To understand the importance of Look-East and Act East policy.
503 Gandhi and Contemporary World	CO-1. To understand Gandhi's political ideas. CO-2. To learn about Swaraj. CO-3. To know, the importance of Sarvodaya. CO-4. To differentiate between non-violence and cowardice.
504 Democratic Awareness and Recent Legislations in India	CO-1. To know, how to get help from national Human Rights Commission. CO-2. To know the function of National Commission for Women. CO-3. To understand the importance of right to Information Act, 2005 and Right to Free and Compulsory Education Act, 2009. CO-4. To develop awareness among consumers about their rights.

SEMESTER - VI

601 Human Rights in India	<p>CO-1. Exploring the non western perspectives on human rights. CO-2. Impact of Indian tradition on human rights.</p> <p>CO-3. To know, how human rights are included in the Constitution of India. CO-4. To know the role of media, civil society and judiciary for the protection of human rights.</p>
602 Political History of Bengal (1905 - 1962)	<p>CO-1. To know, why partition of Bengal happened and its consequences. CO-2. To understand the ideas of Rabindranath and Aurobinda in relation to Bharat Rashtra.</p> <p>CO-3. To realise the pain and sorrow of refugees due to partition of Bengal in 1947. CO-4. To understand the role of women protagonist's in Bengal.</p>
603 United Nations and global conflicts	<p>CO-1. To understand the necessity of such an international organisation. CO-2. To know about UN peacekeeping operations.</p> <p>CO-3. To know the demand for reforming Security Council. CO-4. To assess the achievements and failures of UN.</p>
604 Democratic process and awareness of recent legislations	<p>CO-1. To understand the importance of grass root democratic institutions. CO-2. To know about Domestic Violence Act, 2005 for the protection of women.</p> <p>CO-3. To grow awareness for the prevention of the sexual harassment at workplace.</p>

Department of Sanskrit

Achhruram Memorial College, Jhalda

(Affiliated to Sidho-Kanho-Birsha University, Purulia, W.B.)



PROGRAM OUTCOMES (PO)

Students of all undergraduate general degree programs should have acquired the following abilities/ values at the time of graduation:

- *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.
- *Social Interaction*: Elicit views of others, mediate disagreements and help reach conclusions in group settings.
- *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.
- *Ethics*: Recognize different value systems including your own, understand the moral dimensions of your decisions, and accept responsibility for them.
- *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.
- *Oral Communications*: Students will demonstrate the skills needed to participate in conversation that builds knowledge

collaboratively

PROGRAMME SPECIFIC OUTCOME (PSO)

Programme Specific Outcomes of Sanskrit is the pathway which connects the dimmed past of ancient India to the present digital India. Indian society, culture and history are unique and this contextually specificity of Indian social realities could be grasped through Sanskrit texts indeed. A student pursuing these courses for advanced knowledge in Indian philosophy, literature, history, philology, mythology, grammar, language, literary theory, epigraphy, modern sanskrit literature etc. Making command over Devanāgarī script, which provides them the paleographical knowledge to read out the script of modern languages i.e. Hindi, Marathi, Tamil etc. Practice of textual analysis of Sanskrit and Vedic Sanskrit texts endows her to develop a critical perspective to assess existing research through careful reading, analysis and discussion. The ability to apply relevant theoretical perspectives in Sanskrit philosophical and literary works to contemporary topics and also to develop a scientific approach towards analysis of modern texts.

The academic programmes both Honours and Programme courses enable the students not only to acquire the following professional skills but also develop a deep understanding of rich heritage and dynamic prevalent scenario of India through various texts in different disciplines of ancient pedagogy which are composed in Sanskrit. Strong communicative skill in Sanskrit developed through the add-on ‘Spoken Sanskrit Certificate Course’ conducted by Rashtriya Sanskrit Sansthan, New Delhi. The ability to apply relevant theoretical perspectives in Sanskrit philosophical and literary works to contemporary topics and also to develop a scientific approach towards analysis of modern text characteristics of poetic forms. Analyze poetic works for their structure and meaning, using correct terminology.

Students will be able to identify topics and formulate questions for productive inquiry. Sanskrit is recognized as “mother of all languages” throughout the greater portion of the world. Even if you aiming for a bright career only, Sanskrit can provide it, till today. Sanskrit is the language which should bubbles up in our mind even if we merely think about Hindu Survival. If someone does not know Sanskrit he/she is obviously missing something i.e. practical advantages of Vedas, Gītā, Upaniṣads, Rāmāyaṇa, Mahābhārata,

Arthaśāstra and many other scriptures, which are still regarded as the finest piece by a large portion of our society. We need to keep in mind that it has a perfect grammar and nicely built structure towards spiritual upliftment.

CHAPTER SPECIFIC COURSE OUTCOMES (CO)

SEMESTER –I (HONOURS)

- **CC 1- Classical Sanskrit Literature (Poetry)**

Raghuvansam, Kumarsambhavam, Kiratarjuniyam, Nitisatakam, Origin & development of Mahakavya and Giti kavya..

After gone through this paper students' will be able to gain knowledge about the history of Sanskrit literature, about Kalidasa, Ramayana etc.

- CO1: Students' will be able to know about the novel contribution of kalidasa in field of Sanskrit literature and his works on drama ,kavya etc.
- CO2: This paper has designed to give knowledge about the mythe of visnupurana, Ramayana and Chronology system of Rahgu's family .
- CO3: This Course is attempt to enhance the knowledge of the learners about Dilipa's character, Meter, Rhetoric etc.
- CO4: Students can learn appropriateness of little, background of contents.and Kumarsambhava is a legendary Sanskrit poem written by Mahakavi Kalidasa. It is one of the most foremost and substantial examples of 'Kavya' poetry.
-
- CO5: Students can learn Poetic excellence and will know about Kumarsambhava, which essentially talks about the courtship of Lord Shiva and Parvati. After sometime, Shiva and Parvati were blessed with a son whom they named Kartikeya
- CO6: Students can learn penance of Parvati .
- CO7: Learners will be able to collect the knowledge about the grammatical analysis, translation, . They will be to realize excellence from kiratarjuniyam.
- CO8: They will be able to achieve knowledge about main subject matter, origin and unique style (Bharaverarthagouravam) .
- CO9: There are three types of satakam in the history of Sanskrit literature . among them nitisataka is more valuable work of Bhatrihari to teach the students about morality , Humanism.
- CO10: By the words of vanechara students can came to know about judhithira's character . they will also know about poitical history through Mahabharata.

- **CC 2- Critical Survey of Sanskrit Literature**

Sukonasopadesa, Vishrutacharitam, Origin and development of prose, important prose romances and fable.

After completion this paper students' will be able to achieve knowledge about the origin and development of prose literature, translation, Banas contribution, the fables and its values.

- CO1: Learners will know about the origin and development of Sanskrit Prose Literature and Fable Literature.
- CO2: Make the Students' acquainted with the historical evolution of Sanskrit prose Literature and the Indian contribution to the fable literature.
- CO3: The course is supposed to learn the students with three masterpiece(Dandin, Subandhu & Bana) representatives of Sanskrit prose literature and individual literary styles of their writings.
- CO4: Learners will be able to know about the author Dandin and his memorable work.
- CO5: Students will be able to gain their knowledge about the development and growth of Sanskrit Prose.
- CO6: Learner will realize the poetic excellence and the language style of Dandin.
- CO7: Students can learn about Banabhatta, the prose writer of classical Sanskrit literature. They will also know the style of his (Banbhatta) writing.
- CO8: The first portion of kadambari kavya is called Sukonasopadesa, in this portion student can realize the depth of minister Shukanasa's advice.

SEMESTER-II(HONOURS)

- **CC 3- Classical Sanskrit Literature (Prose)**

Vedic literature , Ramayana , Mahabharata , Puranas & General introduction to Vyakarana, Darshana and Sahityasastra.

This Paper is designed to make the students' be familiar with the importance of Ramayana, Mahabharata. This paper treats the students about the general introduction thorough Indian Philosophy.

- CO1: Origin , development and general concept of Vedic literature.
- CO2: Time, subject matter, religion, philosophy and social life of four samhitas (Rik, Yaju, Sama, Atharva).
- CO3: Meaning , subject matter and importance of Bramhanas, Aranyakas, Upanishadas and vedangas.
- CO 4: Concepts about the period of different grammars in grammar literature.
- CO5: They can gain Familiarity with various texts of grammar.
- CO6: Identification of different grammars according to the epoch and epoch division of grammar literature.
- CO7: To know Summary of various books like Ashtadhyayi, Mahavashya, Bartic etc.
- CO 8: Gain ideas about different types of Formulas.
- CO9: The identity of the ornamental masses from old ornamental to the new ornamental.
- CO10: They can gain the six types of communities of poetry and their names.
- CO11: General knowledge about Bharata, its Rasasutra, Originism, Assumptions, Expressionism.
- CO12: General idea about Bhabha and his kavyalamkar.
- CO13: Students can know Bamana and its rhetorical texts.
- CO14: Various acharyas of Dhani prasthan and their texts.
- CO15: The rhetorical kuntaka and its rhetorical scriptures according to Kuntaka, it is a sign of poetry.
- CO16: This study will be enhance the knowledge of the students about the special feature os Sanskrit Purana , it's growth and original source of our cultural heritage .
- CO17: Students will be able to know about puran's implication on human and social welfare, and Dharma.
- CO18; Students will be able to gain Knowledge about the differences between History and Purana .
- CO 19: Philosophical intuition can help them to consider fact or incident of the material world with an imperial outlook.
- CO 20: Students will be able to know about the philosophical thinking of great Indian philosophers about the human life and reality.
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- CO 21: Students will be able to know how can we testify the truth and existence of God and it's relation with the world.
- CO22: Learners will know about the origin and development of classical Sanskrit literature.
- CO23: Students will be able to know the literary value of Mahabharata.
- CO24; students will be able to know the social value of Mahabharata.

- CO25: Student can learn the Ramayana is considered to be the first literature work the world and hence it is called the Adikavya.
- CO26: Student will be able to Vedas is older than Ramayana but is philosophic verses with no stories embedded in it, so the Epic Ramayana is known of the Adikavya.

CC 4- Self-Management in the Srīmadbhagavadgītā

Cognitive and emotive apparatus, Controlling the mind ,Self management through devotion

From this paper students will be able to know about the importance of Gita in human life ,the indias ,atma etc.

CO 1: Our students will be able to gain knowledge about Gita's value to preserve our life

CO2: Students will be able to know about the role of Brahmha and its existence

CO3: Students can realize its position in the world and its ethical value on human life

CO4: Gita treats the students about humanism ,respect through the verses of Gita

CO5: Students can understand the three fold gunaas of Chitta namely swatta, Raja, and Tama

CO6: Students will be able to knowledge about the techniques of controlling the mind .

CO7: After reading this course all these can be achievable. The learner will gain the knowledge of various means and ways for the resolution of conflict i.e. social, spiritual and emotional.

CO8: The course will instill the leadership qualities among the learners.

CO9: The course will help the learners to grow as a balance and successful human being to face the life successfully.

CO10: The study of Gita may inspired the learners with God gifted poetic talent to compose beautiful poetry.

CO11: Students will be able to control their mind and avoid their mind's agility.

Co12: Learners will be know the way to solve the various kind of problems.

SEMESTER-III(HONOURS)

- **CC 5- Classical Sanskrit Literature (Drama)**

Swapnavasabhadattam, Mudrarakshasham,& Critical Survey of Sanskrit Drama

After reading this paper students' will be able to gain knowledge about unique feature of Vasas Style, importance of 1st and 6th act of Swapnavasabhadattam norms of marriage .

- CO1: Students will be know about bhasa's contribution on Sanskrit drama.
- CO2: This paper will be able to enhance the knowledge about classical Sanskrit drama.
- CO 3: students will be able o gain knowledge of dramaturgy.

- CO 4: Students will be able to the critical secret of Sanskrit drama.
- CO5: This paper is designed to introduce the students about historical background of classical Sanskrit literature.
- CO 6: This paper treated Students about the political background of ancient India .
- CO 7: This paper understand the Students the Students about Chanakya's political power, his strategics.
- CO8: This Paper treats learners bout lyric words such as chanda, alamkara, guna etc.
- CO9: Students can learn the Dramic fuction.
- CO10: Students can learn the description of Nature.
- CO11: Students can learn Relevance of the Curse.
- CO12: Students can learn Curse is known in Ancient India.

- **CC 6- Sanskrit Composition and Communication**

This paper aims at teaching composition and other related information based on *laghusiddhāntakaumudībhaktyarthaprakaraṇa*. Student might be familiar themselves about the grammatical knowledge in Sanskrit. They introduce the basic of prefixes, suffixes, case-endings, compounds, essay writings etc.

- **CC 7- Indian Social Institutions and Polity**

Nature and concepts, value of life, Indian polity, cardinal theories and thinkers of Indian polity

This paper is included to UG syllabus to aware the students' about sociological definition of social institution , deferent kinds of dharma , source of dharma. Saptanga, janapada, danda etc.

- CO1: Students' will be able to know about the caste discrimination is a serious issue in Indian Society and Polity.
- CO2: Students' need to learn various theories in the text about genesis and development of this institution as well as to see how this institution degenerated and yet how bold voice were raised against caste based discrimination even within the orthodox shastra tradition.
- CO3: This segment should help learners to become sensitive to discrimination practice and to appreciate the need for inclusive growth for Indian's democracy to survive and become stronger at the grass roots.
- CO4: Learners will be able to know the 'Saptanga' theory of State.
- CO5: Learners will gather their knowledge on the subject of 'Mandala' theory of Inter-state relationship and 'Sadgunya' policy, 'Caturvidya Upaya' and the three types of state power 'shakti'.
- CO6: Make the Learners acquainted with some important thinkers of Indian polity like-Manu, Kautilya, Kamandaka, Mahatma Gandhi.
- CO7: Students' will be able to know about Republic states in the Buddhist period like Digghnikaya, Mahaparinibbana sutta ,Anguttaranikaya.
- CO8: The primary institution of vedic period, like sabha, samiti, vidath, parisad etc.
- CO9: Students will be understand about initial stage of Indian polity from vedic period to Buddhist period.
- CO10: Learners can know that the king was elected by the people on those days.
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SEMESTER-IV(HONOURS)

- **CC 8- Indian Epigraphy, Palaeography and Chronology**

Epigraphy, paleography, Study of Selected inscription, chronology.

From this paper students' will be able to gain knowledge about Indian inscription, its type, ancient Indian scripts,

epigraphy and ancient Indian chronology.

CO 1: To get idea from various elements of ancient India are found from Epigraphy.

CO2: Students can know Ashoka's Girnar inscription about the place, languages, religion.

CO3: They gain ideas about the subject matter of Sarnath Laghustamvalekh.

CO 4: History of Sudarshan Lake obtained from the records of Girnar of Rudradamana.

CO 5: The literary significance of Girnar's records.

CO6: Chandraguptas's genealogy obtained from the mehorauli Iron pillar.

CO 7: Various element such as foreign details, astrology etc. in the context chronology.

CO 8: Chronology is important for the acceptance and analytical study of any type of composition.

CO 9: Knowledge of the method of referring to the period of records.

CO 10: To know period of records by the Vedic Chhandas.

CO 11: Bikramabda is the very important of the Epigraphy period records.

CO12: Students can learn Introduction to Epigraphy and Types of Inscriptions.

CO13: Students can learn Ancient Indian History and Culture.

CO14: Students can learn History of Epigraphically studies in India.

CO15: Students can learn History of Decipherment of Ancient Indian Scripts.

CO16: Students can learn Antiquity of the Art of Writing.

CO17: Students can learn Writing Materials of Ancient India.

CO18: Students can learn Inscribers and Library of Ancient India.

CO19: Students can learn Introduction to Ancient Scripts.

- **CC 9- Modern Sanskrit Literature**

Mahakavya & charita kavya, Gadyakavya& Rupaka, Gitikavya and other genres, general survey of Modern Sanskrit literature.

This paper deals with the subject of modern Sanskrit literature and the subjects are Sardulasakatam, Sataparvika, bhimayanam etc. Among them Sardulasakatam is a work on labor war of transport corporation of ancient kolkata written by vikramacharya . Besides Sataparvika is s prose by Abhiraja Rajendra Mishra on women's position in the society. Since ancient time it is found that man are the ruler of society and they always wants to underestimate woman folk and tries to prove women's inferiority than men. Avirajarajendra mishra takes the pen to compose the Sataparvika to honour the respectable position of women in our society which is also a Indic heritage -

- CO 1: Student will be able to know about modern poets namely Bhatta Mathura Nath Sastri, Hariram Acharya, their works and their contribution in the field of modern Sanskrit Gitikavya.
- CO2: Students will be able to know about note worthy poet Haridasa Sidhdhanta vagisa and its works in the field of Sanskrit literature.
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- CO 3: They will be able to compare it's with ancient Sanskrit literature.
- CO 4: Students will be able to taste the honey of modern Sanskrit literature through prose, drama and poem.
- CO 5: Students will be able to know virendrakuma Bhattacharya's date, life and his works on Sanskrit literature.
- CO 6: Students will be able to know the transport system of ancient Kolkata.
- CO7: Students will be able to Sardulasakatam gives us a special message that unity is the power of success.
- CO 8: Students will be able to sataparvika aware the students about the need and value of woman in society
- CO9: Students will be able to know origin and development of modern Sanskrit literature.
- CO10: After completion of Swatantra sabhabam students will be stable a position to develop their thinking through analytical study.
- CO11: Learners will be inspired and guided by the valuable teaching and moral lesson of those poetry.
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- **CC 10- Sanskrit and World Literature**

Survey of Sanskrit literature in the world, Upanishad and Gita in the world, Sanskrit Fables in the world literature, Ramayana and Mahabharata in South Eastern Asia, Kalidasa in the west and Sanskrit Studies across the world.

This course is aimed to provided information to students about the spread 7 influence of Sanskrit literature and culture through the ages in various parts of the world in medieval and modern times.

- CO1: Vedic cultural elements in ancient Eastern and western societies (Hittani and Mittani,Iranian,Greek,Roamanian,Lithuanian).
- CO2: The influence of Sanskrit word on World Civilization (English, Chinese, Japanese, Russian,Latin,Greek etc.)
- CO3: Indian influences on Western literature-A general survey (AbhigyanaSakuntalam,Meghdutam, Panchatantram, Mudrarakshasam etc.).
- CO4: Dara Shikoh's Persian Translation of Upanisads and their Influence on Sufism, Latin translation and its influence on Western thought.
- CO5: Translation of the Gita in European languages and religio-philosophical thought of the west.
- CO6: Students will be able to know about translation of Panchatatra, VetalpanchavimsaTIka in Eastern and Western languages.
- CO7: Students will be able to understand influence and position of Ramayana in South-Eastern Asia such as Cambodia, Java, Indonesia, Laos, Malaysia, Myanmar, Philippines, Thailand .
- CO8: From this paper Students will be able to gain knowledge about the influence of Mahabharata story in folk culture of SE.
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- CO9: Learners will be getting to know about English and German translation of Kalidas's creations.
- CO10: Learners will be know the appreciation about Kalidasa's creation influent on western Literatures and theaters.
- CO11: Learners will be able to gain their knowledge about the Sanskrit study centers situated in Asia, America, Europe.
- CO12: Make the learners acquainted about the with so many western scholars and their work in Sanskrit Literature.
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SEMESTER-V(HONOURS)

- **CC 11- Vedic Literature**

Samhita and Brahamana, Vedic Grammar and Mundakopanisad

This course on Vedic literature introduces various Vedic text. Students' also be able to read One Upanisad namely Mundaka.

- CO1: Knowledge of Selected hymns of Vedas has describe here such as Agni, Usha, Akshasukta, Hirannyagarbha etc. among them Hirannyagarbha sukta is one kind of Darshanika sukta which enhance the knowledge of students about Philosophical thinking.
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- CO2: Agni, Usha, Shivasamkalpa etc are the most importance suktas are vedic literature where characteristics of deities has incorporated here. And this hymns will be able to enhance the knowledge of critical thiking.
- CO3: Akshasukta of Rigveda is secular hymns which gives the students about the knowledge of moral value through the story of Kitaba which has applied here.
- CO4: 'Unity is the diversity'- which is the main mantra of India is describe in Sammanasyam Sukta through the hymns.
- CO5: They can to know about Vedic Society, Vedic culture, Tradition, origin of cast system in India. They can analyze women education system between Ancient India and modern India.
- CO6: This paper learned the students' about Upanishads and its types viz. Mundakopanisad, Katopanisad, Isopanisad ,Kenopanisad .etc. through Upanisada they will be able to testify the through of Vedanta philosophy.
- CO7: This paper deals vidya conception of Samhita, brahamana etc. This paper teaches the students' about the system of Jajna, and how can mantras applied in Jajna.
- CO8: This paper is designed to make the students familiar with the inner meaning of Vedic words. Ste Students will came to know about structure of vedic Grammar .
- CO9: This paper will encourage the students about Let- Lakara, Suffix, Prefix . they will be able to gain knowledge about formation of words through Vedic grammar.
- CO10: Through its students acquire knowledge on Vedic Tumun prataya. Through the Vedic sutras they gain new ideas on Panini's Astadhyayi and the sutra which applied here.
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CC 12- Sanskrit Grammar

Sanskrit is much known for a long tradition of grammatical and semantic analysis of the languages. Paninie's grammar has always been highly respected for providing the best model for structural and semantic studies. This course intents to

introduce to students the basic structure of Sanskrit language through the Lghusiddhantakaumudi , the premier text of Sanskrit grammar by Varadraj.

CO1: Students will be able to know the grammatical part of Sidhyanta Koumudi and Laghusidhyanta Koumudi. And differentiation of two books.

CO2: Learning about Baradraj and his various types of books. General introduction to BaradCraj.

O3: Students will able to know conception about various types of law like Halantam,Tassyalopa etc. And the specific meaning those sutras.

CO4: In grammatical rules, what is sabarna and its application. Another important sustras Adianteno saheta, Halantam, Upadeseajanunasike It etc.

CO5: Concept about three types of Sandhi. discuss about Ach Sandhi, Haal Sandhi, Bisarga Sandhi.

CO6: Learning about Yan, Guna, Dirgha, Ayadi, Vrddhi etc. suitable example of each sandhi with many sutras.

CO7: Little knowledge of scutra, stutra and anunasikatva. student will able to know many rules of three types of particular haal sandhi.

CO8: Student will able to know about Vibhaktyartha Prakaran and its various type with some important Sutras.

CO9: They can able to know many ideas about word formation and complete sentence structure.

CO10: General ideas of Visarga Sandhi and its various types of law. Students can a big difference Between three sandhi Ach , Haal and Visarga.

.SEMESTER-VI(HONOURS)

- **CC 13- *Ontology and Epistemology (Darśana)***

This course aims to get acquainted with the cardinal principles of the Nyāya-Vaiśeṣika Philosophy through the *Tarkasamgraha* text and to enable students to handle Philosophical texts in Sanskrit. It also intends to give them an understanding of essential aspects of Indian Philosophy. A conceptual perspectives that human behaviors and actions are largely determined by stimuli which are not of

their own making. The relevance of the emergence of debate for philosophical activity in India. The significance of epistemology in Indian philosophy and the sense in which religion is involved in it. An attempt to extract some intercultural aspects of the history of Indian Philosophy.

- **CC 14- *Poetics and Literary Criticism***

The study of Sanskrit Poetics embraces all poetic arts and include concepts like *Alaṃkāra*, *Rasa*, *Rīti*, *Vakrokti*, *Dhavani* and *Auchitya*. The entire domain of Sanskrit Poetics has flourished with the topics such as definition of Poetry and Divisions functions of word and meaning theory of Rasa, Alaṃkāra and chandas. This develops capacity for creative writing and literary appreciation. Students can apply as a term to any argumentation about literature. They learn many notable works of criticism combine discussions of texts with broad arguments about the nature of literature and the principles of assessing it. Criticism will help the students to cover all phases of literary understanding. Students can evaluate and interpret a topic.

SEMESTER-V(HONOURS)

- **DSE- 1- *Art of Balanced Living***

Self presentation, Concentration, Refinement of behavior

This course aim to get the students acquainted with theories of art of living inherent in Sanskrit literature and apply them to live a better life. It also intends to make students work on human resource management for giving better result.

- CO1: Learners will be able to know about Yog Darshan and Vedantasar.
- CO2: Learners will get to accumulate some knowledge about Hearing(Sravana) and its six elements.
- CO3: Learners will be able to know about the Reflection (Manana) and Meditation(Nididhyasana).
- CO4: Make the learners acquainted with the conversation between Jagyabalka and Moitrayi about Hearing, Reflection, and Meditation situated in Bhadranyakopanosad.
- CO5: Students can learn the methods of improving behavior Gita-bhakti-yoga.
- CO6: Students can learn the metaphysical Gita karma-yoga.
- CO7: Learning about methods improving behavior dhyana –yoga.
- CO8: Students will able to know what is Gita? General idea of Gita, important of Gita.Classification of 18 yogas.
- CO9: Students will able to know what is Yoga? General ideas of Yoga.Importanance of Yoga.
- CO10: Classification of Astangayoga. General discussion of Yama, Niyama, Asana, Pranayam, Prattahar ,Dharana, Dhyan, Samadhi.
- CO11: Students will be able to know the Kriyayoga and Cittaprasadana and general differentiation of Kriyayoga and cittaprasadana.
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- **DSE- 2 *Sanskrit Linguistics***

Bhasasastra,

This course aims to enhance the linguistics knowledge of the learners.

- C01: Students will be able to understand about linguistic form and definition.
- C02: : Students will be able to enhance their linguistics knowledge.
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- C03: Students will be able to know how a language is changes in differents aspects.
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- C04: Students will be able to know diversity of Sanskrit language.

.SEMESTER-VI(HONOURS)

- **DSE- 4 *Fundamentals of Ayurveda***

Ayurveda is a five thousand years ago medicinal practice considered by many profound scholar. Ayurveda means ‘The science of life’ which gradually originated in many sub-continent. This course will introduce students to the theory of Ayurveda. The major objective is to understand the basic principles and concepts of preventative medicine and health maintenance diet and nutrition usage of commonly uses spices and herbs. And outline of Ayurvedic therapeutic procedures in Ayurveda.

- **DSE- 6 Indian Polity**

This course is to make the students acquainted with various aspects of political institutions and Indian polity as propounded in the ancient Indian text from vedicsaṃhitās to later texts in the Dharmasāstra and Arthasāstra traditions.this course is to make the students acquainted with various aspects of social institutions and Indian polity as propounded in the ancient Sanskrit texts such as Saṃhitās, Mahābhārata, Purāṇa, Arthasāstrasand other works known as Nītiśāstra. *Varṇa*-System and Caste System, Position of Women in the Society, Social Values of Life, Initial stage of Indian Polity (from Vedic period to Buddhist period), State Politics ‘*Rājadharmā*’, Relevance of GandhianThought in Modern Period, Cardinal Theories of Indian Polity.

SEMESTER-I(PROGRAM COURSE)

- **DSC- 1 Self-Management in the *Srīmadbhagavadgītā***

From this paper students will be able to know about the importance of Gita in human life ,the indias ,atma etc.

- CO 1: Our students will be able to gain knowledge about Gita’s value to preserve our life
- CO2: Students will be able to know about the role of Brahmha and its existence
- CO3: Students can realize its position in the world and its ethical value on human life
- CO4: Gita treats the students about humanism ,respect through the verses of Gita
- CO5: Students can understand the three fold gunaas of Chitta namely swatta, Raja, and Tama

SEMESTER-II(PROGRAM COURSE)

- **DSC- 2 Sanskrit Composition and Communication**

CO1: Students will be able to know the grammatical part of Sidhyanta Koumudi and Laghusidhyanta Koumudi. And differentiation of two books.

CO2: Students will able to know conception about various types of law like Halantam, Tassyalopa etc. And the specific meaning those sutras.

CO3: In grammatical rules, what is sabarna and its application. Another important sustras Adianteno saheta, Halantam, Upadeseajanunasike It etc.

CO4: Students will be able to know about Sanskrit translation and Essay writing.

CO5: Students will enhance their capacity to express their ideas in Sanskrit.

SEMESTER-III (PROGRAM COURSE)

- **DSC- 3 *Vedic Literature***

This course on Vedic literature introduces various Vedic text. Students' also be able to read One Upanisad namely Mundaka.

- CO1: Knowledge of Selected hymns of Vedas has describe here such as Agni, Usha, Akshasukta, Hirannyagarbha etc. among them Hirannyagarbha sukta is one kind of Darshanika sukta which enhance the knowledge of students about Philosophical thinking.
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- CO2: Agni, Usha, Shivasamkalpa etc are the most importance suktas are vedic literature where characteristics of deities has incorporated here. And this hymns will be able to enhance the knowledge of critical thiking.
- CO3: Akshasukta of Rigveda is secular hymns which gives the students about the knowledge of moral value through the story of Kitaba which has applied here.
- CO4: 'Unity is the diversity'- which is the main mantra of India is describe in Sammanasyam Sukta through the hymns.
- CO5: They can to know about Vedic Society, Vedic culture, Tradition, origin of cast system in India. They can analyze women education system between Ancient India and modern India.

SEMESTER-IV (PROGRAM COURSE)

- **DSC- 4 *Classical Sanskrit Literature (Poetry)***

After gone through this paper students' will be able to gain knowledge about the history of Sanskrit literature, about Kalidasa, Ramayana etc.

- CO1: Students' will be able to know about the novel contribution of kalidasa in field of Sanskrit literature and his works on drama ,kavya

etc.

- CO2: This paper has designed to give knowledge about the myths of Visnupurana, Ramayana and Chronology system of Rahgu's family .
- CO3: This Course is attempt to enhance the knowledge of the learners about Dilipa's character, Meter, Rhetoric etc.
- CO4: Students can learn appropriateness of title, background of contents and Kumarsambhava is a legendary Sanskrit poem written by Mahakavi Kalidasa. It is one of the most foremost and substantial examples of 'Kavya' poetry.
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- CO5: Students can learn Poetic excellence and will know about Kumarsambhava, which essentially talks about the courtship of Lord Shiva and Parvati. After sometime, Shiva and Parvati were blessed with a son whom they named Kartikeya
- CO6: Students can learn penance of Parvati .
- CO7: Learners will be able to collect the knowledge about the grammatical analysis, translation, . They will be to realize excellence from Kiratarjuniyam.
- CO8: They will be able to achieve knowledge about main subject matter, origin and unique style (Bharaverarthagouravam) .

SEMESTER –V(PROGRAM COURSE)

- ***DSE- 2 Art of Balanced Living***

This course aims to get the students acquainted with theories of art of living inherent in Sanskrit literature and apply them to live a better life. It also intends to make students work on human resource management for giving better results. Self-presentation, Concentration and Refinement of Behavior also introduced here with the reading of Yogāsūtra of Patañjali.

SEMESTER-VI(PROGRAM COURSE)

- **DSE- 3 *Fundamentals of Ayurveda***

Ayurveda is a five thousand years ago medicinal practice considered by many profound scholar. Ayurveda means ‘The science of life’ which gradually originated in many sub-continent. This course will introduce students to the theory of Ayurveda. The major objective is to understand the basic principles and concepts of preventative medicine and health maintenance diet and nutrition usage of commonly uses spices and herbs. And outline of Ayurvedic therapeutic procedures in Ayurveda

SEMESTER-I

- **G.E-1 *Basic Sanskrit***

- CO1: Students will be able to know the grammatical part of Sidhyanta Koumudi and Laghusidhyanta Koumudi. And differentiation of two books.

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- O2: Students will able to know conception about various types of law like Halantam,Tassyalopa etc. And the specific meaning those sutras.

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- CO3: In grammatical rules, what is sabarna and its application. Another important sustras Adianteno saheta, Halantam, Upadesejanunasike It etc.

- CO4: Concept about three types of Sandhi. discuss about Ach Sandhi, Haal Sandhi, Bisarga Sandh

- **GITA ChapterXII**

From this paper students will be able to know about the importance of Gita in human life ,the indias ,atma etc.

- CO 1: Our students will be able to gain knowledge about Gita's value to preserve our life
- CO2: Students will be able to know about the role of Brahmha and its existence
- CO3: Students can realize its position in the world and its ethical value on human life
- CO4: Gita treats the students about humanism ,respect through the verses of Gita
- CO5: Students can understand the three fold gunaas of Chitta namely swatta, Raja, and Tama
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SEMESTER-II

- ***G.E-2Basic Principles of Indian Medicine System(Ayurveda)***

- CO1: Students will be able to know about the Ayurveda.
- CO2: Students will know about our ancient Ayurvedic Doctors like Charaka, Susruta.
- CO3: Students will know about our ancient General Medicine, Pediatrics, Surgery, Ophthalmology, ENT, Toxicology, Psychiatry Medicine etc.
- CO4: Students will know, how old our ancient Medicine system was and they will be filled with proud.
- CO5: : Students will know that Āyurveda is a traditional Indian system of healthcare that has been traced back to as early as 5,000 BCE.

.SEMESTER –III(HONS&PROG)

- ***S.E.C- 1 Indian System of Debate***

This course aims to get the students acquainted with the Indian principles of debate and its applications

.SEMESTER-IV(HONS &PROG)

- ***S.E.C- 2 Tradition and History of Indian Dramaturgy***

It aims at to cope up the learners with dramaturgy which was developed by Bharatmuni.

SEMESTER-V(PROG)

- **S.E.C- 3 *Indian System of Logic***

The course wants to enable students to develop logical faculty of their mind and to perceive the world in a more national way in their day to day life.

SEMESTER-VI(PROG)

- **S.E.C- 4 *Tradition and History of Indian Theatre***

The objectives of this curriculum are to introduce classical aspects of development of Indian theatre among the students.