



**WAZIR RAM SINGH GOVERNMENT COLLEGE DEHRI,
DISTRICT-KANGRA, (H.P) (176022)**

Program outcomes and course outcomes

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Programme Outcomes, Programme Specific Outcomes Course Outcomes

B.Sc in Life Sciences (Botany) (PO's, PSO's & CO)

As per Syllabus (Subject: Botany):-

Course Outcomes (COs):

- Understanding of Plant Diversity and its importance in the maintenance of ecological balance. Students learn to carry out practical work, in the field and in the laboratory, interpreting plant morphology and anatomy, Plant identification, Vegetation analysis techniques
- Apply the knowledge of basic science, life sciences and fundamental process of plants.
- Apply modern techniques and instruments for Biochemical estimation, Molecular Biology, Biotechnology, Plant Tissue culture experiments, and cellular and physiological studies of plants with an understanding of the applications in human life.
- Apply the knowledge gained from the studies for the upliftment of society via addressing health, environmental issues, food scarcity etc. They become competent enough in various analytical and technical skills related to plant sciences.

PSO'

- Students should demonstrate a comprehensive understanding of fundamental botanical principles, including plant morphology, anatomy, physiology, taxonomy, and ecology..
- Students should be capable of designing and conducting independent research projects in botany, including formulating research questions, designing experiments, collecting and analyzing data, and interpreting results.
- Students should demonstrate ethical conduct in all aspects of scientific research and practice, including respect for intellectual property, adherence to safety protocols, and consideration of societal implications of botanical research.
- Students should develop the skills necessary to access, evaluate, and synthesize information from a variety of sources, and demonstrate a commitment to continued learning and professional development in the field of botany.
- Students should be proficient in conducting laboratory experiments and fieldwork related to plant biology, including techniques for plant identification, tissue culture, microscopy, and data analysis.

Course Code	Paper Title	Course Outcomes
	Biodiversity	The students will develop understanding about the diversity,

BOTA101	(Microbes,Algae ,Fungi and Archegoniates)	identification, classification, reproduction and economic importance of lower plants.
BOTA102	Plant Ecology and Taxonomy	The students will be learning to understand the concept, types, development and functions of various ecosystems and their communication application of these concepts to solve environmental problems. The various environmental factors governing these ecosystems are also clearly understood. The students will know about the systematic position of Genera, Species and, Families. They will develop knowledge about plant nomenclature, identification and structure of flowers
BOTA201	Plant Anatomy and Embryology	Familiarize with the intricate internal and external structures of different plant parts. Gaining insights into the intricacies of plant reproduction including the development of flowers, mechanisms of pollination, fertilization, embryogenesis, and seed formation
BOTA202	Plant Physiology and Metabolism	Understanding the internal physiological processes which are essential for plant growth and survival. Learning about plant cell relation to water, photosynthesis, respiration, transpiration, mineral requirements, plant hormones and plant movement
BOTA203	Biofertilizers	Familiarize with the microbes used as biofertilizers and process of the production and formulation of biofertilizers. emphasizing on the role of biofertilizers in environmentally friendly and sustainable farming practices.
BOTA204	Gardening and Floriculture	Understanding of fundamental concepts of gardening, landscaping, and ornamental horticulture. Acquaintance with the cultivation practices for ornamental plants and various methods of plant propagation.
BOTA301	Economic Botany and Biotechnology	Understanding various uses of plants such as for food, medicine, fibre and beverages. Acquaintance with the concepts and, tools and techniques related to in-vitro propagation of plants and biotechnology.
BOTA303	Cell and Molecular Biology	Development of strong fundamental basics for molecular studies. Enumeration and appreciation of ultra-structure of plant cell and cell organelles
BOTA306	Medicinal Botany and Ethnobotany	Understanding the role of plants in human medicine. Development of the indigenous knowledge in the community and conserve the plants
BOTA307	Mushroom	Understanding mushrooms, their types and uses. Acquaintance

	Cultivation Technology	with the cultivation, packaging and marketing of edible mushrooms.
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DEPARTMENT OF CHEMISTRY

Course Outcomes of Chemistry

Paper Code	Paper Title	Course outcomes
CHEM 101TH	ATOMIC STRUCTURE, BONDING, GENERAL ORGANIC CHEMISTRY & ALIPHATIC HYDROCARBONS	<p>Comprehend Atomic Structure and Quantum Mechanics:</p> <ul style="list-style-type: none"> • Explain the limitations of Bohr's atomic theory and the transition to quantum mechanics. • Demonstrate an understanding of key quantum principles such as the de Broglie relation and Heisenberg Uncertainty Principle. • Interpret the Schrödinger wave equation and its significance in describing atomic orbitals. • Analyze the significance of quantum numbers in defining electron configurations and orbital shapes. <p>Apply Principles of Chemical Bonding:</p> <ul style="list-style-type: none"> • Differentiate between ionic and covalent bonding, emphasizing energy considerations and stability factors. • Calculate lattice energy using the Born-Landé equation and relate it to the stability and solubility of ionic compounds. • Analyze molecular shapes and structures using Valence Bond (VB) and Molecular Orbital (MO) theories. • Compare and contrast the VB and MO approaches in explaining bonding and molecular properties.

		<p>Understand Fundamentals of Organic Chemistry:</p> <ul style="list-style-type: none"> • Describe physical effects and electronic displacements (inductive effect, resonance) influencing organic reactivity. • Identify nucleophiles and electrophiles and their roles in organic reactions. • Explain the strength of organic acids and bases, focusing on factors affecting pK values and aromaticity. • Apply stereochemical concepts (chirality, isomerism) to analyze molecular structures and reactions. <p>Analyze Reactions and Functional Groups in Aliphatic Hydrocarbons:</p> <ul style="list-style-type: none"> • Execute and interpret key reactions (e.g., halogenation, hydration) and synthesis methods (e.g., Wurtz reaction) of alkanes, alkenes, and alkynes. • Evaluate stereochemical outcomes of alkene and alkyne reactions, including addition reactions and oxidations. • Apply the concept of functional groups to understand the chemical behavior and reactivity of aliphatic compounds. • Demonstrate knowledge of preparation methods and reactions for aliphatic hydrocarbons up to 5 carbons.
<p>CHEM 101PR (Lab Course)</p>	<p>ATOMIC STRUCTURE, BONDING, GENERAL ORGANIC CHEMISTRY & ALIPHATIC HYDROCARBONS</p>	<ul style="list-style-type: none"> • Experimentally performs volumetric determination by neutralization and redox titrations that provokes analytical skills in students. • In organic qualitative analysis to detect the extra element nitrogen, sulphur and halogens present in the organic compound • To separate the mixture by chromatography prepares students to learn separations using this technique in industrial as well as medical areas.

		<ul style="list-style-type: none"> • Students will employ critical thinking to carry out, record and analyze the results of chemical experiments. They will demonstrate proficiency in the use of appropriate instrumentation to collect and record data from chemical experiments.
CHEM 102TH	STATES OF MATTER ,CHEMICAL KINETICS & FUNCTIONAL ORGANIC CHEMISTRY	<p>Understanding Physical Properties of Gases and Liquids:</p> <ul style="list-style-type: none"> • Explain the postulates of the Kinetic Theory of Gases and derive the kinetic gas equation. • Analyze deviations of real gases from ideal behavior using compressibility factor and van der Waals equation. • Understand Maxwell-Boltzmann distribution laws of molecular velocities and energies, and their temperature dependence. • Calculate collision parameters such as collision diameter, mean free path, and collision frequency. • Describe the determination of surface tension and viscosity of liquids, and their temperature dependence. <p>Exploring Solid State Chemistry:</p> <ul style="list-style-type: none"> • Identify different forms of solids and crystal systems, including Bravais lattice types and symmetry elements. • Explain laws of crystallography, such as the constancy of interfacial angles and rational indices. • Understand X-ray diffraction by crystals using Bragg's law and interpret crystal structures of NaCl, KCl, and CsCl. • Discuss defects in crystals and their impact on material properties. <p>Analyzing Chemical Kinetics:</p> <ul style="list-style-type: none"> • Define reaction rates and factors affecting them, including temperature, pressure, and catalysts. • Differentiate between reaction order and molecularity, and derive integrated rate equations for zero, first, and second order

		<p>reactions.</p> <ul style="list-style-type: none"> • Calculate activation energy using the Arrhenius equation and interpret the effect of temperature on reaction rates. • Compare collision theory and activated complex theory for bimolecular reactions. <p>Applying Organic Chemistry Principles:</p> <ul style="list-style-type: none"> • Apply the functional group approach to prepare and analyze reactions of aromatic hydrocarbons, alkyl halides, aryl halides, and their reactivity. • Understand the preparation and reactions of alcohols, phenols, ethers, aldehydes, and ketones up to 5 carbons. • Perform qualitative analysis of various organic reactions, including electrophilic substitutions and nucleophilic substitutions. • Identify the relative strengths of C-Halogen bonds in different types of halides and ethers.
<p>CHEM 102 PR Lab Course</p>	<p>STATES OF MATTER, CHEMICAL KINETICS & FUNCTIONAL ORGANIC CHEMISTRY LAB</p>	<p>Physical Chemistry Practicals:</p> <ul style="list-style-type: none"> • Understand experimental methods for measuring surface tension and viscosity of liquids and solutions using stalagmometer and Ostwald's viscometer. • Investigate the effect of concentration on surface tension and viscosity, particularly with detergent solutions and aqueous solvents. • Apply principles of chemical kinetics by studying reaction rates in acid hydrolysis and saponification processes, comparing the strengths of different acids. <p>Organic Chemistry Practical:</p> <ul style="list-style-type: none"> • Develop skills in systematic qualitative organic analysis of compounds containing specific functional groups (e.g., -COOH, phenolic, aldehydic, ketonic, amide, nitro, amines) and preparation of derivatives. • Perform techniques such as melting point

		<p>determination to characterize organic compounds.</p> <ul style="list-style-type: none"> Gain proficiency in identifying and synthesizing organic compounds through qualitative analysis and derivative preparation.
CHEM 201TH	<p>SOLUTIONS, PHASE EQUILIBRIUM, CONDUCTANCE, ELECTROCHEMISTRY &</p> <p>ORGANIC CHEMISTRY</p>	<p>Solutions and Phase Equilibrium:</p> <ul style="list-style-type: none"> Understand the thermodynamics of ideal and non-ideal solutions, including Raoult's law, vapor pressure-composition curves, and distillation techniques. Analyze phase diagrams for one-component and two-component systems, including eutectics and congruent melting points. Apply Gibbs Phase Rule and Clausius-Clapeyron equation to determine phase equilibria and phase transitions in systems like water and sulfur. <p>Conductance and Electrochemistry:</p> <ul style="list-style-type: none"> Study the conductance of electrolytes, including equivalent and molar conductivity, and its variation with dilution. Explore conductometric titrations for acid-base reactions and applications in determining solubility products and hydrolysis constants. Investigate electrochemical cells, EMF measurements, Nernst equation, and thermodynamic properties like ΔG, ΔH, and ΔS from cell data. <p>Functional Group Chemistry:</p> <ul style="list-style-type: none"> Learn preparation methods and reactions of carboxylic acids, their derivatives (acid chlorides, anhydrides, esters, amides), and study comparative nucleophilicity. Explore the synthesis and reactions of amines (aliphatic and aromatic) including important tests like Hinsberg and Carbylamine tests. Understand the chemistry of diazonium salts, including their conversion to benzene

		<p>derivatives and dyes.</p> <p>Carbohydrates:</p> <ul style="list-style-type: none"> Classify carbohydrates based on structure and properties, with a focus on monosaccharides like glucose and fructose. Study cyclic and open-chain structures of monosaccharides, mutarotation phenomenon, and disaccharides (sucrose, maltose, lactose) and basic polysaccharide structures (starch and cellulose)
<p>CHEM 201TH</p> <p>Lab Course</p>	<p>SOLUTIONS, PHASE EQUILIBRIUM, CONDUCTANCE, ELECTROCHEMISTRY &</p> <p>ORGANIC CHEMISTRY</p>	<p>Distribution Law:</p> <ul style="list-style-type: none"> Understand and determine the distribution coefficient of iodine between CCl₄ and water, and benzoic acid between benzene and water. <p>Conductance:</p> <ul style="list-style-type: none"> Learn to determine the cell constant and conductance parameters like equivalent conductance, degree of dissociation, and dissociation constant for a weak acid. Perform conductometric titrations involving strong acid vs. strong base and weak acid vs. strong base reactions. <p>Organic Chemistry:</p> <ul style="list-style-type: none"> Gain hands-on experience in the preparation of organic compounds like iodoform and glucosazone. Choose two experiments from a range of options including separation of amino acids by paper chromatography, determination of glycine concentration by formylation, titration curve of glycine, enzyme kinetics studies with salivary amylase on starch, and differentiation between reducing and non-reducing sugars.
<p>CHEM 202TH</p>	<p>CHEMISTRY OF MAIN GROUP ELEMENTS , CHEMICAL</p>	<p>Hydrogen:</p> <ul style="list-style-type: none"> Understand hydrogen's unique position in the periodic table, isotopes, and the properties of

	<p>ENERGETICS AND EQUILIBRIA</p>	<p>ortho and para hydrogen.</p> <ul style="list-style-type: none"> • Explore industrial production methods of hydrogen, its chemistry with hydrides, heavy water, and hydrogen bonding. • Study the formation and properties of hydrates. <p>S-Block Elements:</p> <ul style="list-style-type: none"> • Analyze the periodicity of s-block elements in terms of electronic configuration, atomic and ionic size, and ionization enthalpy. • Learn about the general characteristics of s-block elements including density, melting points, flame coloration, and reducing character. • Understand solvation, complexation tendencies, and the behavior of metals in liquid ammonia. <p>P-Block Elements:</p> <ul style="list-style-type: none"> • Conduct comparative studies on group 13 and 14 elements, including the borohydrides, oxides, oxy-acids, and halides of boron. • Explore allotropic forms of carbon, fullerenes, and the chemistry of nitrogen and phosphorus hydrides, oxides, and oxyacids. • Study the basic properties of halogens, interhalogen compounds, and noble gas compounds. <p>Noble Gases:</p> <ul style="list-style-type: none"> • Investigate the occurrence and history of noble gases, including their isolation and properties. • Learn about the preparation and structure of important noble gas compounds such as fluorides, oxides, and oxyfluorides. • Explore specific compounds like krypton difluoride and clathrate compounds of noble gases. <p>Chemical Energetics:</p> <ul style="list-style-type: none"> • Review thermodynamics principles and laws, focusing on thermochemistry and standard enthalpies of formation. • Calculate bond energy, bond dissociation
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		<p>energy, and resonance energy using thermochemical data.</p> <ul style="list-style-type: none"> Understand the variation of enthalpy with temperature and the implications of Kirchhoff's equation. <p>Chemical Equilibrium and Ionic Equilibria:</p> <ul style="list-style-type: none"> Explore free energy changes in chemical reactions and the thermodynamic derivation of the law of chemical equilibrium. Understand Le Chatelier's principle and the relationships between different equilibrium constants. Study the ionization of weak acids and bases, pH scale, common ion effect, salt hydrolysis, and solubility product principles.
<p>CHEM 202PR Lab Course</p>	<p>CHEMISTRY OF MAIN GROUP ELEMENTS , CHEMICAL ENERGETICS AND EQUILIBRIA</p>	<p>Inorganic Mixture Analysis:</p> <ul style="list-style-type: none"> Perform semi-micro qualitative analysis of inorganic mixtures using hydrogen sulfide (H₂S) for the identification of up to four ionic species (two cations and two anions) from a given list. Conduct spot tests to confirm the presence of specific ions wherever feasible. <p>Thermochemistry:</p> <ul style="list-style-type: none"> Determine the heat capacity of a calorimeter for different volumes to understand its performance in heat measurement. Calculate the enthalpy of neutralization by reacting hydrochloric acid with sodium hydroxide. Determine the integral enthalpy of solution for salts like potassium nitrate (KNO₃) and ammonium chloride (NH₄Cl), as well as the enthalpy of hydration for copper sulfate. <p>Ionic Equilibria: pH Measurements:</p> <ul style="list-style-type: none"> Measure the pH of various solutions including aerated drinks, fruit juices, shampoos, and soaps using a pH meter, ensuring to use dilute

		<p>solutions of soaps and shampoos to protect the glass electrode.</p> <ul style="list-style-type: none"> • Prepare buffer solutions such as sodium acetate-acetic acid and ammonium chloride-ammonium hydroxide, measure their pH, and compare experimental values with theoretical expectations.
CHEM 203 Skill Enhancement Course	BASIC ANALYTICAL CHEMISTRY	<p>Introduction to Analytical Chemistry:</p> <ul style="list-style-type: none"> • Understand the interdisciplinary nature of analytical chemistry and the concept of sampling. • Learn about the importance of accuracy, precision, and sources of error in analytical measurements. • Master the presentation of experimental data with emphasis on significant figures. <p>Analysis of Soil:</p> <ul style="list-style-type: none"> • Explore the composition of soil and concepts of pH measurement. • Perform complexometric titrations for the estimation of Calcium and Magnesium ions as Calcium carbonate. • Gain practical experience in determining pH of soil samples and conducting complexometric titrations with chelating agents. <p>Analysis of Water:</p> <ul style="list-style-type: none"> • Define pure water and study sources of water contamination along with sampling and purification methods. • Conduct pH, acidity, and alkalinity determination of water samples. • Learn to measure dissolved oxygen (DO) in water samples, essential for assessing water quality. <p>Analysis of Food Products:</p> <ul style="list-style-type: none"> • Understand nutritional values of foods and concepts related to food processing, preservation, and adulteration.

		<ul style="list-style-type: none"> Identify common food adulterants and analyze preservatives and coloring matter in food products. Develop skills in detecting and quantifying adulterants in items like coffee powder, spices, and pulses, ensuring food safety and quality.
CHEM 204	FUEL CHEMISTRY	<p>Energy Sources and Fuels:</p> <ul style="list-style-type: none"> Understand the classification of energy sources into renewable and non-renewable categories. Study the composition of coal and its uses in various industries, including carbonization processes. Explore the production and applications of coal gas, producer gas, and water gas. Learn about coal tar fractionation and the utilization of coal tar-derived chemicals. Gain insights into coal gasification techniques, liquefaction, and solvent refining processes. <p>Petroleum and Petrochemical Industry:</p> <ul style="list-style-type: none"> Examine the composition of crude petroleum and the process of refining to obtain different petroleum products. Explore various types of petroleum products and their applications in industry and daily life. <p>Fuel Production and Petrochemicals:</p> <ul style="list-style-type: none"> Study fractional distillation principles and processes for refining petroleum. Investigate cracking methods (thermal and catalytic) and reforming processes to produce different fuels. Learn about alternative fuels such as LPG, CNG, LNG, bio-gas, and synthetic fuels. Explore the production and applications of petrochemicals like vinyl acetate, propylene oxide, and toluene derivatives. <p>Lubricants and Cosmetic Chemistry:</p> <ul style="list-style-type: none"> Understand the classification and properties of lubricants, including synthetic varieties.
Skill Enhancement Course	& CHEMISTRY OF & COSMETICS PERFUMES	

		<ul style="list-style-type: none"> • Study the properties of lubricants such as viscosity index and cloud point and their practical determination. • Explore the chemistry and preparation of various cosmetic products like hair dye, shampoo, sunscreen lotions, and lipsticks. • Gain insights into the importance of essential oils in cosmetic industries, focusing on specific compounds like eugenol, geraniol, and sandalwood oil.
CHEM 301TH	<p>POLYNUCLEAR HYDROCARBONS, DYES, HETEROCYCLIC COMPOUNDS AND SPECTROSCOPY (UV, IR, NMR)</p>	<p>Polynuclear Hydrocarbons and Synthetic Dyes:</p> <ul style="list-style-type: none"> • Study the synthesis and reactions of polynuclear hydrocarbons like naphthalene, anthracene, and phenanthrene. • Examine the color and constitution of synthetic dyes, applying electronic concepts to understand their classification. • Explore the chemistry and synthesis of specific dyes including methyl orange, congo red, malachite green, crystal violet, phenolphthalein, fluorescein, alizarin, and indigo. <p>Heterocyclic Compounds:</p> <ul style="list-style-type: none"> • Understand the classification, nomenclature, and aromatic characteristics of heterocyclic compounds like pyrrole, furan, thiophene, and pyridine. • Explore methods of synthesis and chemical reactions with a focus on electrophilic substitution mechanisms. • Investigate nucleophilic substitution reactions in pyridine and compare the basicity of pyridine, piperidine, and pyrrole. • Study condensed heterocyclic compounds including indole, quinoline, and isoquinoline, emphasizing synthesis methods and electrophilic substitution mechanisms. <p>Application of Spectroscopy in Organic Molecules:</p>

		<ul style="list-style-type: none"> • Learn the principles and applications of UV, visible, and IR spectroscopy in organic molecule analysis. • Understand electromagnetic radiation, electronic transitions, chromophores, and auxochromes. • Explore the interpretation of UV and IR spectra, focusing on molecular vibrations, functional groups, and the effect of substitution on specific absorptions. <p>Nuclear Magnetic Resonance (NMR) Spectroscopy:</p> <ul style="list-style-type: none"> • Study the principles of NMR spectroscopy, including chemical shift, peak positions, and signal splitting. • Learn about the interpretation of proton NMR spectra, including analysis of shielding, deshielding, and magnetic equivalence of protons. • Solve problems involving NMR spectroscopy for structure determination of organic compounds, analyzing spectra of various molecules.
CHEM 301TH Lab Course	POLYNUCLEAR HYDROCARBONS, DYES, HETEROCYCLIC COMPOUNDS AND SPECTROSCOPY (UV, IR, NMR)	<p>Chromatographic Separation:</p> <ul style="list-style-type: none"> • Conduct paper chromatography to separate and analyze mixtures of metal ions such as Fe^{3+}, Al^{3+}, Cr^{3+} or Ni^{2+}, Co^{2+}, Mn^{2+}, Zn^{2+}. • Measure the R_f (retention factor) values for each separated ion pair, demonstrating the principles of chromatographic separation. <p>Preparation and Conductivity Measurement of Complexes:</p> <ul style="list-style-type: none"> • Prepare and characterize coordination complexes including: <ul style="list-style-type: none"> • Tetraamminecarbonatocobalt(III) nitrate • Tetraamminecopper(II) sulphate • Potassium trioxalatoferrate(III) trihydrate

		<ul style="list-style-type: none"> • Measure the conductivity of these complexes to understand their behavior in solution. <p>Colorimetry and Calibration Curve:</p> <ul style="list-style-type: none"> • Perform colorimetric analysis using a spectrophotometer. • Construct a calibration curve by plotting absorbance at λ_{max} against known concentrations of a colored compound (e.g., KMnO_4 or CuSO_4). • Use the calibration curve to estimate the concentration of the colored compound in an unknown solution, demonstrating the application of colorimetry for quantitative analysis.
CHEM 302TH	INDUSTRIAL CHEMISTRY AND ENVIRONMENT	<p>SECTION A: Industrial Gases and Inorganic Chemicals</p> <ul style="list-style-type: none"> • Understand the large-scale production, uses, storage, and safety considerations associated with industrial gases like oxygen, nitrogen, hydrogen, and chlorine. • Study the manufacture, applications, and hazards of inorganic chemicals such as hydrochloric acid, nitric acid, sulphuric acid, caustic soda, and potassium permanganate. <p>SECTION B: Industrial Metallurgy</p> <ul style="list-style-type: none"> • Explore the principles of metallurgy including modes of occurrence of metals and reduction of metal oxides using carbon. • Learn about hydrometallurgy, purification methods of metals (electrolytic, oxidative refining), and preparation of metals for semiconductor technology. <p>SECTION C: Environmental Science</p>

		<ul style="list-style-type: none"> Investigate environmental aspects including ecosystems, biogeochemical cycles (carbon, nitrogen, sulphur), and air pollution. Study water pollution sources, measurement techniques, impacts on ecosystems, water purification methods, and industrial effluent treatment. <p>SECTION D: Energy & Environment</p> <ul style="list-style-type: none"> Examine various energy sources (coal, petrol, natural gas, nuclear, solar) and their environmental impacts. Understand nuclear pollution, waste disposal, and disaster management. Introduction to biocatalysis, highlighting its importance in green chemistry and the chemical industry.
<p>CHEM 302TH Lab Course</p>	<p>INDUSTRIAL CHEMISTRY AND ENVIRONMENT</p>	<p>Water Quality Assessment:</p> <ul style="list-style-type: none"> Learn methods to determine dissolved oxygen levels, chemical oxygen demand (COD), and biological oxygen demand (BOD) in water. Understand how these parameters relate to water quality and ecosystem health. <p>Chemical Analysis Techniques:</p> <ul style="list-style-type: none"> Gain practical experience in titration methods for measuring chloride, sulphate, salinity, and total alkalinity in water samples. Learn how to estimate dissolved carbon dioxide (CO₂) and percentage of available chlorine in bleaching powder. <p>Air Quality Monitoring:</p> <ul style="list-style-type: none"> Study techniques to estimate suspended particulate matter (SPM) in air samples. Explore the significance of common bio-indicators in assessing pollution levels and environmental impact. <p>Chemical Preparation and Applications:</p>

		<ul style="list-style-type: none"> • Learn the preparation methods and applications of borax and boric acid. • Understand the industrial uses and importance of these chemicals in various sectors.
CHEM 307 Skill Enhancement Course	CHEMICAL TECHNOLOGY & SOCIETY and BUSINESS SKILLS FOR CHEMISTRY	<p>Chemical Technology</p> <ul style="list-style-type: none"> • Gain foundational knowledge of distillation, solvent extraction, leaching, and adsorption processes. • Understand the essential equipment used in chemical technology, such as reactors, distillation columns, pumps, and mills. • Learn about scaling up operations in the chemical industry and explore clean technology principles. <p>Society</p> <ul style="list-style-type: none"> • Explore societal and technological issues through a chemical perspective. • Develop chemical and scientific literacy to comprehend topics like pollution in air and water, renewable energy, materials science (plastics, polymers), and molecular processes (combustion, genetic engineering). <p>Business Basics</p> <ul style="list-style-type: none"> • Introduce key business concepts including business planning, market analysis, project management, and marketing strategies. • Examine the current challenges and opportunities within the chemistry-based industries, considering the global economic landscape. <p>Making Money and Intellectual Property</p> <ul style="list-style-type: none"> • Study financial aspects of chemical business

		<p>operations using case studies.</p> <ul style="list-style-type: none"> • Understand the significance of intellectual property, particularly patents, in protecting innovations and technologies.
<p>CHEM 308</p> <p>Skill Enhancement Course</p>	<p>PESTICIDE CHEMISTRY & PHARMACEUTICAL CHEMISTRY</p>	<p>Pesticides</p> <ul style="list-style-type: none"> • Gain an understanding of pesticides, including both natural and synthetic types. • Explore the benefits and adverse effects of pesticides, alongside changing concepts and structure-activity relationships. <p>Synthesis and Uses of Representative Pesticides</p> <ul style="list-style-type: none"> • Study the synthesis, technical manufacturing processes, and applications of representative pesticides in various classes: <ul style="list-style-type: none"> • Organochlorines (e.g., DDT, Gammexene) • Organophosphates (e.g., Malathion, Parathion) • Carbamates (e.g., Carbofuran, Carbaryl) • Quinones (e.g., Chloranil) • Anilides (e.g., Alachlor, Butachlor) <p>Drugs & Pharmaceuticals</p> <ul style="list-style-type: none"> • Explore drug discovery, design, and development processes. • Learn synthesis methods for representative drugs in different classes: <ul style="list-style-type: none"> • Analgesics, antipyretics, and anti-inflammatory agents (e.g., Aspirin, Paracetamol, Ibuprofen) • Antibiotics (e.g., Chloramphenicol) • Antibacterial and antifungal agents (e.g., Sulphonamides, Trimethoprim) • Antiviral agents (e.g., Acyclovir) • Central Nervous System agents (e.g., Phenobarbital, Diazepam) • Cardiovascular drugs (e.g., Glyceryl Trinitrate)

		<ul style="list-style-type: none"> Others like antileprosy and HIV-AIDS related drugs.
		<p>Fermentation</p> <ul style="list-style-type: none"> Study both aerobic and anaerobic fermentation processes. Explore the production of various substances through fermentation: Ethyl alcohol and citric acid Antibiotics such as Penicillin, Cephalosporin, Chloromycetin, and Streptomycin Amino acids (Lysine, Glutamic acid) Vitamins (Vitamin B2, Vitamin B12, Vitamin C)

Programme	Programme Outcomes
Chemistry	<p>Foundational Knowledge and Skills in Chemistry:</p> <ul style="list-style-type: none"> Demonstrate a comprehensive understanding of key concepts in chemistry, including principles of thermodynamics, kinetics, equilibrium, and chemical analysis. Apply theoretical knowledge to practical scenarios, such as conducting experiments in physical chemistry, organic chemistry, and analytical chemistry. <p>Proficiency in Laboratory Techniques and Instrumentation:</p> <ul style="list-style-type: none"> Develop proficiency in laboratory techniques essential for chemical

	<p>analysis, including titrations, chromatography, spectroscopy, and viscosity measurements.</p> <ul style="list-style-type: none"> Utilize modern laboratory instrumentation effectively to analyze and characterize chemical compounds and reactions.
	<p>Problem-Solving and Critical Thinking:</p>
	<ul style="list-style-type: none"> Apply critical thinking skills to analyze and solve complex chemical problems, both theoretical and experimental. Develop the ability to interpret experimental data, draw conclusions, and propose scientific explanations based on chemical principles.
	<p>Ethical and Safety Practices in Chemistry:</p>
	<ul style="list-style-type: none"> Demonstrate a commitment to ethical conduct and safety protocols in chemical experiments and research. Apply ethical considerations to decision-making processes related to chemical synthesis, analysis, and environmental impact.
	<p>Interdisciplinary Awareness and Communication Skills:</p>
	<ul style="list-style-type: none"> Recognize the interdisciplinary nature of chemistry and its impact on society, environment, and industry. Communicate scientific ideas and findings effectively to diverse audiences, demonstrating proficiency in written, oral, and visual formats

DEPARTMENT OF COMPUTER SCIENCE

COURSE OUTCOMES OF COMPUTER SCIENCES

B.Sc. PHYSICAL SCIENCE (PHYSICS, COMPUTER SCIENCE AND MATHEMATICS)		Subject outcome
<p>Problem Solving using Computer</p> <p>COMP101TH</p>		<p>Algorithmic Thinking: Students develop strong algorithmic thinking skills, enabling them to break down complex problems into smaller, more manageable components.</p> <p>Programming Proficiency: They gain proficiency in programming languages like Python, C++, or Java, allowing them to implement efficient solutions to various computational problems.</p> <p>Problem-solving Strategies: Students learn and apply problem-solving strategies such as divide and conquer, dynamic programming, and greedy algorithms to solve a wide range of problems.</p> <p>Critical Thinking: Through practical exercises and projects, students cultivate critical thinking skills, evaluating different approaches and selecting the most suitable solution for a given problem.</p>
<p>COMP101PR:</p> <p>Software Lab using Python</p>		<p>Python Proficiency: Students achieve proficiency in Python programming language, mastering its syntax, data structures, and libraries.</p> <p>Problem-solving Skills: They develop problem-solving skills by applying Python to solve real-world computational problems and challenges.</p> <p>Software Development Practices: Students learn software development best practices, including code organization, documentation, and version control using tools like Git.</p> <p>Hands-on Experience: Through practical lab exercises and projects, students gain hands-on experience in developing</p>

		software applications using Python, preparing them for future programming endeavors.
COMP102TH: Office Automation Tools		<p>Efficiency Boost: Students master advanced features of office tools, enhancing productivity through automation and streamlining workflows.</p> <p>Effective Communication: They learn to create compelling documents and presentations, honing skills in data visualization and persuasive communication.</p> <p>Collaborative Skills: Students adeptly utilize collaboration features, fostering seamless teamwork and coordination in both physical and remote environments.</p> <p>Problem-Solving Proficiency: Through practical exercises, they develop critical thinking skills, creatively applying office automation tools to solve real-world challenges.</p>
COMP102PR: Office Automation Tools Lab		<p>Proficiency: Students gain proficiency in using office automation tools like Microsoft Office or Google Workspace.</p> <p>Efficiency: They learn to optimize workflows, automate tasks, and increase productivity using advanced features of office tools.</p> <p>Collaboration: Students develop collaborative skills, working effectively with team members on documents and projects.</p> <p>Problem-solving: They enhance problem-solving abilities by creatively applying office automation tools to real-world scenarios.</p>
COMP201TH: Computer System Architecture		<p>Understanding Hardware: Students grasp the fundamental components and organization of computer systems, including CPU, memory, and input/output devices.</p> <p>Architecture Design: They learn principles of computer architecture design, including instruction sets, processor architecture, and memory hierarchy.</p> <p>Performance Optimization: Students acquire skills to optimize system performance by understanding how hardware components interact and affect overall system speed and efficiency.</p> <p>Problem-solving Skills: Through practical exercises, students develop problem-solving abilities in designing and analyzing</p>

		computer architectures to meet specific performance and functionality requirements.
COMP202TH: Database Management System		<p>Data Organization: Students understand how to organize and manage data efficiently within a database system.</p> <p>Querying Skills: They develop proficiency in writing complex SQL queries to retrieve, manipulate, and analyze data stored in databases.</p> <p>Database Design: Students learn principles of database design, including entity-relationship modeling, normalization, and indexing, to create efficient and scalable databases.</p> <p>Data Security: They gain knowledge of database security principles and techniques to protect sensitive data from unauthorized access or manipulation.</p>
COMP202PR: Database Management System Lab		<p>Practical Proficiency: Students gain practical proficiency in implementing and managing databases using industry-standard tools and technologies.</p> <p>Query Optimization: They learn to write efficient SQL queries to retrieve and manipulate data, optimizing database performance.</p> <p>Database Design Skills: Students develop skills in designing relational databases, including schema design, normalization, and indexing, to ensure data integrity and efficiency.</p> <p>Problem-solving Abilities: Through hands-on exercises and projects, students enhance their problem-solving abilities by applying database management concepts to real-world scenarios.</p>
COMP203TH: PHP Programming		<p>Proficient PHP Skills: Students achieve proficiency in PHP programming language, mastering syntax, functions, and object-oriented programming concepts.</p> <p>Dynamic Web Development: They learn to create dynamic and interactive web applications using PHP, integrating server-side scripting with HTML, CSS, and JavaScript.</p> <p>Database Integration: Students gain skills in integrating PHP with databases like MySQL, allowing them to perform data manipulation and retrieval in web applications.</p> <p>Security Awareness: They understand security best practices for PHP development, including data validation, sanitization,</p>

		and protection against common vulnerabilities like SQL injection and cross-site scripting (XSS).
COMP301TH: Operating System		<p>Understanding OS Concepts: Students grasp fundamental concepts of operating systems, including process management, memory management, file systems, and concurrency.</p> <p>System Performance Optimization: They learn techniques to optimize system performance and resource utilization through efficient scheduling, memory allocation, and I/O management.</p> <p>Troubleshooting Skills: Students develop troubleshooting skills to diagnose and resolve common issues related to operating systems, enhancing system reliability and stability.</p> <p>Security Awareness: They gain an understanding of OS security principles and techniques to protect against threats such as malware, unauthorized access, and data breaches.</p>
COMP302TH: Data Structure and File Processing		<p>Data Structure Mastery: Students attain proficiency in implementing and manipulating fundamental data structures such as arrays, linked lists, stacks, queues, trees, and graphs.</p> <p>File Processing Skills: They learn techniques for reading from and writing to files efficiently, including text files, binary files, and structured files like CSV and JSON.</p> <p>Algorithmic Problem-Solving: Students develop algorithmic problem-solving skills by applying data structures and file processing techniques to solve real-world problems efficiently.</p> <p>Performance Optimization: They understand strategies to optimize data structure operations and file processing algorithms for improved performance and scalability.</p>
COMP302PR: Data Structure and File Processing Lab		<p>Hands-on Implementation: Students gain practical experience in implementing and manipulating data structures such as arrays, linked lists, trees, and graphs.</p> <p>File Handling Proficiency: They develop proficiency in reading from and writing to files using various techniques, including text and binary file processing.</p>

		<p>Algorithmic Problem-Solving Skills: Students enhance their algorithmic problem-solving skills by applying data structures and file processing techniques to solve real-world problems efficiently.</p> <p>Critical Thinking: Through lab exercises and projects, students cultivate critical thinking skills in designing and implementing solutions, considering factors like performance, scalability, and error handling.</p>
COMP303TH: Software Engineering		<p>Methodical Approach: Students adopt a methodical approach to software development, learning industry-standard methodologies like Agile or Waterfall.</p> <p>Project Management Skills: They gain project management skills, including requirement gathering, planning, scheduling, and team coordination.</p> <p>Quality Assurance: Students understand the importance of software quality assurance and learn techniques for testing, debugging, and ensuring reliability.</p> <p>Collaborative Development: They cultivate collaborative development skills, working effectively in teams, utilizing version control systems, and conducting code reviews.</p>
		Program Outcome
B.Sc. PHYSICAL SCIENCE (PHYSICS, COMPUTER SCIENCE AND MATHEMATICS)		<p>Interdisciplinary Knowledge: Graduates gain a strong interdisciplinary understanding of physics, computer science, and mathematics, allowing them to approach complex problems from multiple perspectives.</p> <p>Analytical Skills: They develop advanced analytical skills through rigorous training in mathematical modeling, data analysis, and problem-solving techniques.</p> <p>Computational Proficiency: Students become proficient in programming languages such as Python, C++, or Java, enabling them to apply computational methods to solve scientific problems.</p> <p>Experimental Skills: Through laboratory experiments in physics, students acquire practical skills in experimental design, data collection, and analysis.</p>

		<p>Quantitative Reasoning: Graduates enhance their quantitative reasoning abilities, applying mathematical concepts to analyze physical phenomena and formulate scientific theories.</p> <p>Problem-solving Abilities: They cultivate strong problem-solving abilities, utilizing mathematical and computational tools to address complex scientific challenges.</p> <p>Research Aptitude: Students develop a research-oriented mindset, gaining experience in conducting independent research projects and contributing to scientific advancements.</p> <p>Critical Thinking: Graduates hone their critical thinking skills, evaluating scientific theories and experimental results with skepticism and intellectual rigor.</p> <p>Communication Skills: They enhance their communication skills through scientific writing, presentations, and discussions, effectively conveying complex ideas to diverse audiences.</p> <p>Career Readiness: With a comprehensive skill set spanning physics, computer science, and mathematics, graduates are well-prepared for diverse career paths in academia, research institutions, technology companies, finance, and other industries.</p>
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DEPARTMENT OF COMMERCE

Course contents and outcomes of B.Com				
Course Title	Course Code	Nature of the course and year	COs	Course Outcome
Financial accounting	BC1.1	Core Course-1	CO1	<p>This course is designed to provide basic understanding of the concepts of accounting such as (a) Theoretical Framework.</p> <p>ii. The nature of financial accounting principles – Basic concepts and conventions:</p> <p>iii. Financial accounting standards:</p>

				iv. Inventories: Meaning. Significance of inventory valuation.
			CO2	The students learn some basic of advanced accounting (b) Final Accounts Capital and revenue expenditures and receipts: Hire Purchase and Installment Systems, Consignment, and Joint Venture Accounting for Inland Branches and Accounting for Dissolution of Partnership Firm
			CO3	It gives the foundation for understanding application part of accounting in Business and non business world Practical/ Live Projects Computerized Accounting Systems Computerized Accounting Systems:
Business organisation and Management	BC1.2	Core Course-2	CO1	This course is designed to provide basic understanding of the concepts Foundation of Indian Business Manufacturing and service sectors; The students learn some basic of Business Enterprises Forms of

				Business Organisation:
				It gives the foundation for understanding the Management and Organisation
				It introduces a framework for teach Leadership, Motivation and Control skills.
BUSINESS LAW	BC1.3	Core Course-3	CO1	This course is designed to provide basic understanding of the concepts of the Indian Contract Act, 1872: General Principles of Contract
			CO2	The students learn some basic of the Indian Contract Act,1872: Specific Contracts
			CO3	It gives the foundation for understanding application part the Sale of Goods Act, 1930
			CO4	It introduces a framework for teach The Negotiable Instruments Act, 1881

			CO5	<p>The students learn some basic of Partnership Laws</p> <p>A) The Partnership Act, 1932</p> <p>B) The Limited Liability Partnership Act, 2008</p>
BUSINESS STATISTICS AND MATHEMATICS	BC1.4	Core Course-4	CO1	<p>This course is designed to provide basic understanding of the concepts of Univariate Analysis: Measures of Central Tendency including arithmetic mean, geometric mean and harmonic mean: properties and applications; mode and Median. Partition values - quartiles, deciles, and percentiles. Measures of Variation: absolute and relative. Range, quartile deviation and mean Deviation; Variance and Standard deviation: calculation and properties.</p>
			CO2	<p>This course is designed to provide basic understanding of Bi-variate Analysis Simple Linear Correlation Analysis: Meaning, and measurement. Karl Pearson's co-efficient and Spearman's rank correlation Simple Linear Regression Analysis: Regression equations and estimation.</p>

				Relationship between correlation and regression coefficients.
			CO3	The students learn some basic of Index Numbers Meaning and uses of index numbers; Construction of index numbers: Aggregative and average of relatives – simple and weighted, Tests of Adequacy of index numbers, Construction of consumer price indices.
			CO4	It gives the foundation for understanding application of time Series Analysis Components of time series; additive and multiplicative models; Trend analysis: Finding trend by moving average method and Fitting of linear trend line using principle of least squares.
			CO5	It gives the foundation for understanding application part the Business Mathematics Differential Calculus Definition of a matrix. Basic Mathematics of Finance
COMPANY LAW	BC2.1	Core Course-7	CO1	The students learn the Introduction Administration of Company Law [including

				National Company Law Tribunal (NCLT), National Company Law Appellate Tribunal (NCLAT),
			CO2	It gives the foundation for understanding of the documents such as Memorandum of association, Articles of association
			CO3	It gives the foundation for understanding application Management Classification of directors, women directors, independent director, small shareholder's director; Disqualifications, director identity number (DIN); Appointment; Legal positions, powers and duties; removal of directors; Key managerial personnel, managing director, manager. Meetings of shareholders and board; Types of meeting, convening and conduct of meetings, postal ballot, meeting through video conferencing, e-voting; Committees of Board of Directors- Audit Committee, Nomination and Remuneration Committee, Stakeholders Relationship Committee,

				Corporate Social Responsibility Committee.
			CO4	The students learn about the Dividends, Accounts, Audit Provisions relating to payment of Dividend, Provisions relating to Books of Account, Provisions relating to Audit, Auditors' Appointment, Rotation of Auditors, Auditors' Report, and Secretarial Audit.
			CO5	It gives the foundation for understanding application part of the Winding Up, Insider Trading, Whistle Blowing Concept and modes of Winding Up. Insider-Trading; meaning and legal provisions; Whistle blowing: - Concept and Mechanism.
INCOME TAX LAW AND PRACTICE	BC2.2	Core Course-8	CO1	This course is designed to provide basic understanding of the concepts of the Introduction Basic concepts: Income, agricultural income, person, assesses, assessment year, previous year, gross total income, total income, maximum marginal rate of tax; Permanent Account Number (PAN) Residential

				status;
			CO2	<p>This course is designed to provide basic understanding of the concepts of the Computation of Income under different heads, Income from Salaries</p> <p>Income from house property</p>
			CO3	<p>This course is designed to provide basic understanding of the concepts of the Computation of Income under different heads-2</p> <p>Profits and gains of business or profession</p> <p>Capital gains Income from other sources</p>
			CO4	<p>This course is designed to provide basic understanding of the concepts of the Computation of Total Income and Tax Liability Income of other persons included in assessor's total income; Aggregation of income and set-off and carry forward of losses; Deductions from gross total income; Rebates and reliefs. Computation of total income of individuals and firms; Tax liability of an individual and a firm; Five leading cases decided by the</p>

				Supreme Court
			CO5	It gives the foundation for understanding application part of the Practical/ Live Projects Preparation of Return of Income Filing of returns: Manually, On-line filing of Returns of Income & TDS; Provision & Procedures of Compulsory On-Line filing of returns for specified assesses.
COMPUTER APPLICATIONS IN BUSINESS	BC 2.3	SEC-1	CO1	It gives the foundation for understanding application part of the Word Processing Creating Business Documents using the above facilities
			CO2	It gives the foundation for understanding application part of the Preparing Presentations Creating Business Presentations using above facilities
			CO3	It gives the foundation for understanding application part of the Spreadsheet and its Business Applications Generally used Spreadsheet functions: Mathematical, Statistical, Financial, Logical, Date and Time, Lookup and reference,

				Database,
			CO4	It gives the foundation for understanding application part of the Creating Business Spreadsheet Creating spreadsheet in the area of: Loan and Lease statement; Ratio Analysis; Payroll statements; Capital Budgeting; Depreciation Accounting; Graphical representation of data; Frequency distribution and its statistical parameters; Correlation and Regression
CORPORATE ACCOUNTING	BC 2.4	Core Course-11	CO1	The students learn some basic of the Accounting for Share Capital & Debentures
			CO2	The students learn some basic of the Final Accounts, Valuation of Goodwill and Valuation of Shares Preparation of profit and loss account and balance sheet of corporate entities, excluding calculation of managerial remuneration, Disposal of company profits. Concepts and calculation of valuation of goodwill and shares
			CO3	The students learn some basic of the Amalgamation of Companies Concepts and

				<p>accounting treatment as per Accounting Standard: 14 (ICAI) (Excluding intercompany holdings).</p> <p>Internal reconstruction: concepts and accounting treatment</p>
			CO4	<p>The students learn some basic of the Accounting of Holding Companies Preparation of consolidated balance sheet with one subsidiary company; Relevant provisions of Accounting Standard: 21 (ICAI).</p>
			CO5	<p>The students learn some basic of the Accounting of Banking Companies and Cash Flow Statement Difference between balance sheet of banking and non-banking companies; Prudential norms; Asset structure of a commercial bank; Non-performing assets (NPA). Concept of funds, Preparation of cash flow statement as per Indian Accounting Standard (Ind-AS): 7.</p>
COST ACCOUNTING	BC2.5	Core Course-12	CO1	<p>It gives the foundation for understanding application part of the Introduction Meaning, objectives and advantages of cost</p>

				<p>accounting; Relationship between cost accounting and financial accounting; Cost concepts</p> <p>and classifications; Elements of cost; Cost Sheet, Installation of a</p> <p>Standard Cost. Treatment of Material Losses.</p>
			CO2	<p>It gives the foundation for understanding application part of the Elements of Cost: Material/inventory control techniques. Accounting and control of Purchases, storage and issue of materials. Methods of pricing of materials issues — FIFO, LIFO, Simple Average, Weighted Average, Replacement,</p>
			CO3	<p>It gives the foundation for understanding application part of the Elements of Cost: Labour Accounting and Control of labour cost. Time keeping and time</p> <p>Booking. Concept and treatment of idle time, over time, labour fringe benefits. Methods of wage payment and the Incentive schemes-</p>

				Halsey, Rowan, Taylor's Differential piece wage
			CO4	<p>It gives the foundation for understanding application part of the Elements of Cost: Overheads. In Cost Accounting Classification, allocation, apportionment and absorption of overheads; Under- and over-absorption; Capacity Levels and Costs; Treatments of certain items in costing like interest on capital,</p> <p>Packing expenses, bad debts, research and development expenses; Activity based Costing & Service Costing (brief overview). Reconciliation of cost and financial accounts</p>
			CO5	<p>It gives the foundation for understanding application part of the Methods of Costing, Contract costing, Process costing (process losses, valuation of work-in-progress, joint and by-products)</p>
E-COMMERCE	BC 2.6:	SEC-2	CO1	<p>It gives the foundation for understanding application part of the Introduction Meaning, nature, concepts, advantages, disadvantages and reasons for transacting online, types of E-Commerce, e-commerce</p>

				<p>business</p> <p>Models (introduction, key elements of a business model and Categorizing major E-commerce business models), forces behind ecommerce.</p> <p>Technology used in E-commerce: The dynamics of world wide web and internet(meaning, evolution and features) ; Designing, building and launching e-commerce website (A systematic approach</p> <p>involving decisions regarding selection of hardware, software, outsourcing vs. in-house development of a website)</p> <p>Hypertext Links, Tables, Images, Lists, Forms, Frames, Cascading Style</p> <p>Sheets/ E-payment system and online business transactions.</p>
			CO2	<p>It gives the foundation for understanding application part of the Security and Encryption & IT Act 2000 and Cyber</p> <p>Crimes Need and concepts, the e-commerce security environment (dimensions, definition and scope of e-</p>

				<p>security), IT Act 2000: Definitions, Digital signature, Electronic governance, Attribution, acknowledgement and dispatch of electronic records, Regulation of certifying authorities, Digital signatures certificates,</p> <p>Duties of subscribers, Penalties and adjudication, Appellate Tribunal, Offences and Cyber-crimes</p>
			CO3	<p>It gives the foundation for understanding application part of the E-payment System Models and methods of e-payments (Debit Card, Credit Card, Smart Cards, e-money), digital signatures (procedure, working and legal position), payment gateways, online banking (meaning, concepts, importance, electronic fund transfer, automated clearing house, Automated ledger posting), risks involved in e-payments.</p>
			CO4	<p>It gives the foundation for understanding application part of the On-line Business Transactions advantages</p>

				<p>and disadvantages of transacting online, E-commerce applications in various industries like {banking, insurance, payment of utility bills, online marketing, e-tailing(popularity, benefits, problems and features), online services(financial, travel and career), auctions, online portal, online learning, publishing and entertainment} Online shopping (amazon, snapdeal, 34 alibaba, flipkart, etc.)</p>
			CO5	<p>It gives the foundation for understanding application part of the Practical Website designing /E-business Management Introduction to HTML; tags and attributes: Text Formatting, Fonts,</p>
CORPORATE GOVERNANCE AND AUDITING	BC 3.1(c)	DSE-1	CO1	<p>This course is designed to provide basic understanding of the concepts of Corporate Governance Evolution of Corporate Governance; Developments in India, Regulatory Framework of Corporate Governance in India, SEBI Guidelines on Corporate</p>

				Governance; Reforms in Companies Act,
			CO2	This course is designed to provide basic understanding of the concepts of Business Ethics Introduction to Business Ethics: The concept, nature and growing significance of Ethics in Business, Ethical principles in Business, Ethics in Management, Theories of Business Ethics. Codes of ethics, Ethics committee Morality and ethics, business values and ethics. Ethical Issues in Business: Ethics in various Functional Areas of Business: Ethics in Finance, Ethics in HRM, Ethics in Marketing, Environmental Ethics.
			CO3	This course is designed to provide basic understanding of the concepts of Corporate Social Responsibility (CSR) Concept of CSR, Corporate Philanthropy, CSR and Corporate Sustainability; CSR and Business Ethics, CSR provisions under the Companies Act 2013; CSR Committee; CSR Models, Codes, and Standards on CSR. Rating Agencies; Green Governance;

				Concept of Whistle blower.
			CO4	<p>This course is designed to provide basic understanding of the concepts of Introduction to Auditing Introduction, Meaning, Objectives, Basic Principles and Techniques;</p> <p>Classification of Audit, Audit Planning, Internal Control – Internal Check and Internal Audit; Audit Procedure – Vouching and verification of Assets & Liabilities.</p>
			CO5	<p>This course is designed to provide basic understanding of the concepts of Company Audit & Special Areas of Audit of Limited Companies: - Company Auditor- Qualifications and disqualifications, Appointment, Rotation, Removal, Remuneration, Rights and Duties Auditor’s Report- Contents and Types. Liabilities of Statutory Auditors under the Companies Act 2013. Special Areas of Audit: - Special features of Cost audit, Tax audit, and Management audit; Auditing Standards.</p>

				Relevant case Studies/problems.
FUNDAMENTALS OF FINANCIAL MANAGEMENT	BC 3.2(a)	DSE-2	CO1	This course is designed to provide basic understanding of the concepts of Introduction Nature, scope and objective of Financial Management, Time value of money, Risk and return (including Capital Asset Pricing Model), Valuation of securities – Bonds and Equities.
			CO2	This course is designed to provide basic understanding of the concepts of Investment Decisions The Capital Budgeting Process, Cash flow Estimation, Payback Period Method, Accounting Rate of Return, Net Present Value (NPV), Net Terminal Value, Internal Rate of Return (IRR), Profitability Index, Capital budgeting under Risk – Certainty Equivalent Approach and Risk-Adjusted Discount Rate.
			CO3	This course is designed to provide basic understanding of the concepts of Financing Decisions Cost of Capital and Financing Decision: Sources of long-term

				<p>Financing Estimation of components of cost of capital. Methods for</p> <p>Calculating cost of equity capital, Cost of Retained Earnings, Cost of Debt and Cost of Preference Capital, Weighted Average cost of capital (WACC) and Marginal cost of capital. Leverage- Operating, Financial & Degree of Leverage. Capital structure –Theories of Capital Structure (Net Income, Net Operating Income, Traditional Approach and MM Hypothesis). Determinants of capital structure.</p>
			CO4	<p>This course is designed to provide basic understanding of the concepts of Dividend Decisions Theories for Relevance and irrelevance of dividend decision for corporate valuation; Cash and stock dividends; Dividend policies in practice.</p>

			CO5	This course is designed to provide basic understanding of the concepts of Working Capital Decisions Concepts of working capital, the risk-return trade off, sources of short-term finance, working capital estimation, cash management, receivables management, inventory management and payables management.
ENTREPRENEURSHIP	BC 3.3	SEC-3	CO1	It gives the foundation for understanding Introduction Meaning, elements, determinants and importance of entrepreneurship and creative behavior; Entrepreneurship and creative response to the society' problems and at work; Dimensions of entrepreneurship: intrapreneurship, technopreneurship, cultural entrepreneurship, international entrepreneurship, netpreneurship, ecopreneurship and social entrepreneurship
			CO2	It gives the foundation for understanding Entrepreneurship and Micro, Small and Medium

				<p>Enterprises Concept of business groups and role of business houses and family business in India; The contemporary role models in Indian business:</p> <p>their values, business philosophy and behavioral orientations; Conflict in family business and its resolution</p>
			CO3	<p>It gives the foundation for understanding Public and private system of stimulation, support and sustainability of entrepreneurship.</p> <p>Requirement, availability and access to finance, marketing assistance, technology, and industrial accommodation, Role of industries/entrepreneur's associations and self-help groups, The concept, role and functions of business incubators, angel investors, venture capital and private equity fund.</p>
			CO4	<p>It gives the foundation for understanding Sources of business ideas and tests of feasibility</p> <p>Significance of writing the</p>

				<p>business plan/ project proposal; Contents of business plan/ project proposal; Designing business processes, location, layout, operation, planning & control; preparation of</p> <p>project report (various aspects of the project report such as size of investment, nature of product, market potential may be covered); Project submission/ presentation and appraisal thereof by external</p> <p>agencies, such as financial/non-financial institutions</p>
			CO5	<p>It gives the foundation for understanding Mobilizing Resources, resources for start-up. Accommodation and utilities; Preliminary contracts with the vendors, suppliers, bankers, principal</p> <p>customers; Contract management: Basic start-up problems</p>
Economy of Himachal Pradesh	ECONA303	GE-1	CO1	This course is designed to provide basic understanding of the Features of Himachal Pradesh Economy
			CO2	This course is designed to provide basic understanding of the Agriculture and

				horticulture of Himachal Pradesh
			CO3	This course is designed to provide basic understanding of the Industrial and Power sector of Himachal Pradesh
			CO4	This course is designed to provide basic understanding of the Infrastructure and tourism of Himachal Pradesh
MANAGEMENT ACCOUNTING	BC 3.5 (c)	DSE-3	CO1	<p>This course is designed to provide basic understanding of the concepts of the Meaning, Objectives, Nature and Scope of management accounting, Difference between cost accounting and management accounting,</p> <p>Cost control and Cost reduction, Cost management.</p> <p>Financial Statement Analysis – Common Size Statement, Comparative Statements, Trend Analysis and Ratio Analysis.</p>
			CO2	This course is designed to provide basic understanding of the concepts of the Absorption versus Variable Costing: Distinctive features and income determination. Cost-Volume-Profit Analysis,

				<p>Profit / Volume ratio. Break-even analysis- algebraic and graphic methods. Angle of</p> <p>Incidence, margin of safety, Key factor, determination of cost indifference point.</p>
			CO3	<p>This course is designed to provide basic understanding of the concepts of the Steps in Decision Making Process, Concept of Relevant Costs and Benefits, Various short term decision making situations – profitable product mix, Acceptance or Rejection of special/ export offers, Make Or buy, Addition or Elimination of a product line, sell or process further, operate or shut down. Pricing Decisions: Major factors influencing pricing decisions, various methods of pricing.</p>
			CO4	<p>This course is designed to provide basic understanding of the concepts of the Budgeting and Budgetary Control: Concept of budget, budgeting and budgetary control, objectives, merits, and limitations. Budget administration. Functional</p>

				budgets. Fixed and flexible budgets. Zero base budgeting. Programme and performance budgeting. Responsibility Accounting- Concepts and Significance.
			CO5	This course is designed to provide basic understanding of the concepts of the Standard Costing and Variance Analysis: Meaning of standard cost and standard costing, advantages, limitations and applications. Variance Analysis – material, labour, overheads and sales variances. Disposition of Variances, Control Ratios.
FUNDAMENTALS OF INVESTMENT	BC 3.6 (c)	DSE-4	CO1	The students learn the investment decision process, Types of Investments –Commodities, Real Estate and Financial Assets, the Indian securities market, the market participants and trading of securities, security market indices, sources of financial information, Concept of return and risk, Impact of Taxes and Inflation on return.
			CO2	The students learn the Bond

				features, types of bonds, estimating bond yields, Bond Valuation types of bond risks, default risk and credit rating
			CO3	The students learn the Introductions to Fundamental Analysis, Technical Analysis and Efficient Market Hypothesis, dividend capitalization models, and price-earnings multiple approach to equity valuation.
			CO4	The students learn the Portfolio and Diversification, Portfolio Risk and Return; Mutual Funds; Introduction to Financial Derivatives; Financial Derivatives Markets in India
			CO5	The students learn the Role of SEBI and stock exchanges in investor protection; Investor grievances and their redressal system, insider trading, investors' awareness and activism
PERSONAL SELLING AND SALESMANSHIP	BC 3.7	SEC-4	CO1	This course is designed to provide basic understanding of the Nature and importance of personal selling, myths of selling,

				Difference between Personal Selling, Salesmanship and Sales Management, Characteristics of a good salesman, types of selling situations, types of salespersons, Career opportunities in selling, Measures for making selling an attractive career.
			CO2	This course is designed to provide basic understanding of the Concept of motivation, Maslow's theory of need hierarchy; Dynamic nature of motivation; Buying motives and their uses in personal selling
			CO3	This course is designed to provide basic understanding of the Prospecting and qualifying; Pre-approach; Presentation and demonstration; handling of objections; Closing the sale; Post sales activities.
			CO4	This course is designed to provide basic understanding of the reports and documents; sales manual, Order Book, Cash Memo; Tour Diary, Daily and Periodical Reports; Ethical aspects of Selling
			CO5	This course is designed to provide basic understanding

				of the AIDA Model of selling, Distribution Networks relationship, Advertisement and Personal Selling
INDIAN ECONOMY	BC 3.8	GE-2	CO1	This course is designed to provide basic understanding of the concept and Measures of Development and Underdevelopment; Human Development; Composition of national income and occupational structure
			CO2	This course is designed to provide basic understanding of the evolution of planning and import substituting industrialization. Economic Reforms since 1991. Monetary and Fiscal policies with their implications on economy
			CO3	This course is designed to provide basic understanding of the experience of Growth, Development and Structural Change in different phases of growth and policy regimes across sectors and regions. The Institutional Framework: Patterns of assets ownership in agriculture and industry;

				<p>Policies for restructuring agrarian relations and for regulating concentration of economic power; Changes in policy perspectives on the role of institutional Framework after 1991.</p> <p>Growth and Distribution; Unemployment and Poverty; Human Development; Environmental concerns. Demographic Constraints: Interaction between population change and economic development.</p>
			CO4	<p>This course is designed to provide basic understanding of the Sectoral Trends and Issues Agriculture Sector Industry and Services Sector Financial Sector.</p>
			CO5	<p>This course is designed to provide basic understanding of the Inflation: Causes of rising and falling inflation, inflation and interest rates, social costs of inflation; Unemployment – natural rate of unemployment, frictional and wait unemployment. Labour market and its interaction with production system; Phillips curve, the tradeoff between inflation and unemployment, sacrifice</p>

				ratio, role of expectations adaptive and rational.
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UNDER GRADUATE ANNUAL PROGRAM

Bachelor of Arts (B.A.) ECONOMICS

Program Outcomes of B.A. Economics:

1. Microeconomics:

Outcome: Students will understand the behaviour of individuals and firms in making decisions regarding the allocation of scarce resources and the interactions among these individuals and firms.

Topics: Demand and supply, market mechanisms, theory of the firm, consumer behaviour, production and costs.

2. Macroeconomics:

Outcome: Students will gain insight into the broader economic factors affecting entire economies. This includes national income accounting, economic growth, inflation, unemployment, and monetary and fiscal policy.

Topics: National income, business cycles, monetary and fiscal policies, economic growth models, unemployment and inflation dynamics.

3. Indian Economy:

Outcome: An understanding of the structure and functioning of the Indian economy. Historical context and contemporary issues will be explored.

Topics: Post-independence economic development, liberalization, privatization and globalization impacts, current economic trends and challenges.

4. Quantitative Techniques in Economics:

Outcome: Students will acquire skills in quantitative analysis essential for economic modelling and research.

Topics: Statistics for economics, introductory econometrics, mathematical economics.

5. Development Economics:

Outcome: Insight into the economics of developing countries and the various strategies for economic development.

Topics: Development policies, planning and economic reforms, poverty, inequality, and development metrics.

6. Public Finance:

Outcome: Understanding of government impact on the economy, including taxation and expenditure, public goods, and welfare economics.

Topics: Fiscal policy, budget deficits and debts, public goods, tax systems.

7. International Economics:

Outcome: Students will learn about trade theories, balance of payments, exchange rate systems, and the impact of globalization.

Topics: Trade theories, trade policy, exchange rates, international trade organizations.

8. Optional Papers (vary by university):

Topics could include the economy of Himachal Pradesh , Environmental economics , Basic Econometrics, Economics of Rural Development, Demography, Money & Banking, economics, labour economics, agricultural economics, Project work etc.

Course Outcomes of B.A. Economics				
Course Title	Course Code	Nature of Course and Year	COs	Course Outcome
Principles of Micro	ECONA101	Discipline Specific Core		This Course is designed to provide basic understanding of the behaviour of individual

Economics–I		(DSC) First Year	CO1	economic agents – Consumer, Producer.
			CO2	The students learn some basic principles of microeconomics, interactions of supply and demand, and the basic forces that determine equilibrium in a market economy.
			CO3	It will introduce the students to the basic ideas and tools that will be utilized throughout other courses of the degree programme.
			CO4	It introduces a framework for learning about consumer behaviour and analysing consumer decisions.
			CO5	It gives the foundation for economic analysis and problem solving.
			CO6	A thorough understanding on firm's production processes and optimal production decisions.
Principles of Micro Economics–II	ECONA102	Discipline Specific Core (DSC) First Year	CO1	To apply the principles Micro economic analysis to the decision making of firms and market.
			CO2	Students are also exposed to business environment where there is competition among firms.
			CO3	It helps the students to develop skills in formulating business strategy in the context of market imperfections.

			CO4	The students can understand the basic theory of distribution and the source of income generation.
			CO5	Students are provided with the working and performance of firms in the market.
Principles of Macro Economics-I	ECONA201	Discipline Specific Core (DSC) Second Year	CO1	This course aims to develop the broad conceptual frameworks which will enable students to understand and comment upon real economic issues like inflation, money supply, GDP and their interlinkages.
			CO2	It will also allow them to critically evaluate various macroeconomic policies in terms of a coherent logical structure.
			CO3	This course is intended to provide students with the basic ideas in classical and Keynesian macroeconomics.

Master of Arts in Economics w.e.f Academic Session 2022-23

Course Outcomes M.A. Economics

M.A. Economics 1st Semester Micro-Economics

COs	Course Outcomes
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CO1	Comprehend consumer behaviour in all its ramifications.
CO2	Locate optimum products and factors combinations.
CO3	Describe different market conditions so as to understand equilibrium in price and output combinations.
CO4	Examine various factors of production and their price determination. discuss welfare economics and various criteria to determine the society's welfare

DSC/ MEC-11

M.A. Economics 1st Semester Elementary Mathematics for Economics

DSC/ MEC-12

COs	Course Outcomes
CO1	Understand the basic rules of matrix algebra and apply the same to solve mathematical models containing systems of simultaneous equations.
CO2	Understand and extend the techniques of differential calculus to compute values of variables etc.
CO3	Solve the differential and difference equations along with their economic applications to economic models.
CO4	Compute the consumer's surplus and producer's surplus by utilizing the tools of integral calculus.
CO5	Apply linear programming and input-output model to analyse behaviour of economic agents.

International Economics DSC/ MEC-13

COs	Course Outcomes
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CO1	Explain theories of international trade and their applications.
CO2	Outline the impact of dynamic factors on international trade.
CO3	Analyze various policies and role of international organizations to international trade.
CO4	Illustrate balance of payment and explain determination of exchange rates
CO5	Identify long and short run capital requirements of developing countries.
CO6	Discuss the role of financial institutions like IMF, ADB, IFC and IDA.

M.A. Economics 1st Semester Labour Economics

DSC/ MEC-14

COs	Course Outcomes
CO1	Examine various factors affecting demand and supply of labour
CO2	Explain unemployment as a source of human capital.
CO3	Illustrate wage rate determination in different sectors of the econom
CO4	Classify various methods of the settlement of industrial disputes.
CO5	Evaluate the govt. labour policies for the socio-economic upliftment of labour.
CO6	Discuss the role of financial institutions like IMF, ADB, IFC and IDA.

DSC/MEC-21

Basic Statistics DSC/MEC-22

Cos	Course Outcomes
CO1	Acquire and apply statistical techniques in the empirical analysis of economic relationships.
CO2	Understand and infer from the process of data collection and various sampling methods.
CO3	Construct and interpret index numbers for economic variables. Measure and evaluate components of time series
CO4	Apply, solve and prove various probability theorems using appropriate probability distributions.
CO5	Understand, explain, solve and apply hypothesis testing and selection of appropriate techniques for testing hypotheses.

Money and Banking DSC/MEC-23

COs	Course Outcomes
CO1	Understand the concept of money and various approaches related to money.
CO2	Explain the functioning of money and capital markets, process of credit creation, role of NBFCs etc.
CO3	Interpret demand and supply of money, money multiplier and its determinants and role of RBI.
CO4	Analyze the working of monetary policy.
CO5	Summarize the role of national and international financial institutions.

M.A. Economics 2nd Semester History of Economic Thought

DSC/MEC-24

COs	Course Outcomes
CO1	Trace the evolution of the subject matter of economics starting with mercantilists.
CO2	Draw inferences about the relevance of classical economics, socialist economic thoughts, historical critiques and Marx in the present context.
CO3	Demonstrate the relevance of neo-classical economics and identify contribution of Austrian School.
CO4	Explain and interpret Keynesian and Post Keynesian Economics
CO5	Understand basic Indian economic thought

M.A. Economics 2nd Semester Basic Statistics DSC/MEC-22

COs	Course Outcomes
CO1	Acquire and apply statistical techniques in the empirical analysis of economic relationships.
CO2	Understand and infer from the process of data collection and various sampling methods.
CO3	Construct and interpret index numbers for economic variables. Measure and evaluate components of time series
CO4	Apply, solve and prove various probability theorems using appropriate probability distributions.
CO5	Understand, explain, solve and apply hypothesis testing and selection of appropriate techniques for testing hypotheses.

Evaluating Contemporary Economic Issues DSC/MEA-25

The course proposes to develop the capacity of students to analyze and appreciate contemporary economic issues and policy pronouncements. The course will start with an introduction to the

basic principles of report writing. Subsequent modules will involve inter-active lectures, group discussions, and group presentations. By the end of the course student will be able to present their analysis in the form of a written report.

M.A. Economics 3rd Semester Agricultural Economics

DSC/MEC-31

COs	Course Outcomes
CO1	Develop the understanding of the interdependence between agriculture and industrial development.
CO2	Make use of agriculture production functions, identify and solve risk and uncertainty in agriculture.
CO3	Understand and build models for India's agricultural development

CO4	Evaluate Agricultural policies in lieu of their effectiveness.
CO5	Compare and contrast the traditional and modern sources of agricultural finance.

Course Outcomes M.A. Economics

Research Methodology DSC/MEC-33

COs	Course Outcomes
CO1	Understand the scientific methods of research, research process and research design.
CO2	Understand the sampling techniques and sampling procedures.
CO3	Know the various methods of data collection, tools and techniques.
CO4	Know the reliability and validity of measurement of scaling.
CO5	Know the purpose of project proposal and project report.

M.A. Economics 3rd Semester Economics of Population

DSE-I/MEE-34(i)

COs	Course Outcomes
CO1	Apply general awareness of the relationship between economics and population
CO2	Take part in analytical insights and knowledge population processes, structure and distribution
CO3	Examine and analyze gross and per capital output.
CO4	Identify plans development, policies and strategies of economic development.
CO5	Identify facts of economic push and pulls in the causation of population growth.
CO6	Analyze deep insights into economic inequalities.

Course Outcomes M.A. Economics

M.A. Economics 3rd Semester Econometrics

DSE-II/MEE-34(ii)

COs	Course Outcomes
CO1	Estimate and interpret linear regression models
CO2	Examine the problems that arise when the assumptions of linear regression model are not valid
CO3	Solve problems that results from violating the assumptions of linear regression model.
CO4	Dissect various concepts of econometrics such as autocorrelation, homoscedasticity, multicollinearity etc., which have very wide significance in economic relations.
CO5	Analyze tools of econometrics, econometric models and applying them in practice.

Course Outcomes M.A. Economics

M.A. Economics 3rd Semester Fundamental Concepts in Economics

GE-I/MEG-35(i)

COs	Course Outcomes
CO1	Understand basic concepts of economics.
CO2	Understand the budget document
CO3	Evaluate the performance of the Indian economy.
CO4	Identify and discuss national and global economic issues.

M.A. Economics 4th Semester Indian Economy DSC/MEC-41

COs	Course Outcomes
CO1	Evaluate the evolution of Indian economy and identify key issues in development of Indian economy.
CO2	Dissect and examine sectoral development specifically agricultural and industrial development.
CO3	Interpret and elaborate financial sector and related policies.
CO4	Inspect and explain Indian economy in the context of India's foreign trade.
CO5	Evaluate the performance of Indian economy's development trajectory.

M.A. Economics 4th Semester Public Finance DSC/MEC-42

COs	Course Outcomes
CO1	Examine the concept of maximum social advantage, keeping in view market failure and free riders' problem.
CO2	Understand and make use of taxation system of India.
CO3	Outline the theories, concepts and meaning of public debt and public expenditure in India.
CO4	Interpret and elaborate classification of budget and fiscal policy for stability, growth and economic development
CO5	Evaluate the growth and composition of statutory and non- statutory financial resources in India.

M.A. Economics 4th Semester

Economics of Development and Planning DSC/MEC-43

COs	Course Outcomes
CO1	Explain the concepts of economic growth, structural change and economic development.
CO2	Compare and contrast Classical, Marxian, Schumpeterian and other theories of economic development.
CO3	Analyze state intervention under LPG and evaluate and construct development plans using appropriate techniques.
CO4	Understand and evaluate development models.
CO5	Critically examine the policy debate around India's development trajectory.

M.A. Economics 4th Semester PG Dissertation

DSE-III/MEE-44(i)

COs	Course Outcomes
CO1	Develop the ability to critically examine economic issues.
CO2	Use basic analytical tools.
CO3	Present arguments/findings logically
CO4	Evaluate policies and strategies of economic development

M.A. Economics 4th Semester Industrial Economics DSE-IV/MEE-44(

COs	Course Outcomes
CO1	Have the knowledge of different theories of international trade and their applications.
CO2	To know about impact of dynamic factors on international trade.
CO3	Have the knowledge of various policies related to international trade besides, role of International trade organizations.
CO4	Attain the knowledge of balance of payment and determination of exchange rates.
CO5	Have the knowledge of capital requirements of developing countries both in short and long run.
CO6	Have the knowledge of Financial institutions like IMF, ADB, IFC and IDA

M.A. Economics 4th Semester Economy of Himachal Pradesh

GE-II/MEG-45

COs	Course Outcomes
CO1	To understand the various socio-economic issues of the economy of Himachal Pradesh
CO2	To examine the problems and prospects of agricultural and horticultural activities of Himachal Pradesh.
CO3	To know the industrial, power, labour welfare and skill development issues related to the Himachal Economy.
CO4	To analyze the role infrastructural and tourism in the economic development of the Himachal Pradesh

Programme & Course Outcomes

PROGRAMME OUTCOMES B.A. ENGLISH	
POS	B.A. ENGLISH Specific Outcomes
PO1	The course is designed in a way which introduces the student to not only love for literature but a critical sensibility.
PO2	Students must develop an ability to understand and accept a composite view of multiculturalism.
PO3	The programme inculcates in the students a knack for a deeper pursuit of knowledge and equipping oneself with advanced skills in the English language.
PO4	To develop basic skills and ability to listen, speak, read and write English.
PO5	Students acquire the necessary Communication Skills (verbal and non-verbal) to meet the global and local needs and enhance their employability.
PO6	To develop a taste for critical approach and awareness to latest trends in both language and literature.
PO7	To help students discover universality in themes, theories, literary movements between the East and the West, the Classical and Modern, the Original and the Translation.
PO8	To build vocabulary and practice rhetoric.
PO9	To polish creativity and professional aptitude.
PO10	The holistic plan is to make the learner not to follow the bandwagon but be in command of shaping his life as a whole.
PO11	An insight into world literature helps them acquire scholarly outlook and promises a satisfactory vocational opportunity.
PO12	Graduates will become sensitive towards gender issues, equality, environmental issues and sustainable development.
PO13	Nurture problem solving skills, thinking, and creativity through assignments.
PO14	Students learn about the tradition and culture of Himachal Pradesh.

Course Outcomes of B.A. English				
Course Title	Course Code	Nature of Course and Year	COs	Course Outcome
English-1 Core English (Compulsory)	ENG CE 101	(Compulsory) BA/B.COM IST YEAR	CO1	The literary pieces incorporated in the course are to be used as tools to teach language through literature with emphasis on reading, listening, comprehension, summarizing, inference and discussion.
			CO2	Interdisciplinary Knowledge, Diverse Issues, and Global Consciousness
			CO3	To equip them to write stories and poems in different modes and promote critical thinking.
			CO4	To strengthen their knowledge of grammar topics included in course, to inculcate a habit to learn new concepts and strengthen vocabulary.
Literature-1 (Essays, Stories and Poems)	ENG DSC 102	BA IST YEAR DSC-1A English	CO1	Demonstrate, through discussion and writing, an understanding of significant cultural and societal issues presented in Indian & English literature.
			CO2	Students will be able to compare Indian issues of partition, migration, identity, dalit movements, Diaspora and gender with other nations
			CO3	Specify the figurative language used in poems, stories and essays.
			CO4	The course broadens the comprehension of the reader about social set-up and caste, race, gender discrimination prevalent in it. It discusses the place of an individual in such a social fabric.
			CO5	The student acquires an ability to analyse the variety of literary forms in term of styles, language, conventions, themes and social cultural diversities.

Literature-2 (Poems, Short-Stories and Essays)	ENG DSC 103/	BA IST YEAR DSC-1B English	CO1	The Student learns to identify the key features of Sufi and Bhakti traditions in India through prescribed Works By Bulleh Shah, Mahadeviyakka and Baul songs.
			CO2	The student learns about the development of Hindi language and its subsequent diversification into Hindi and Urdu. He also reads literary works in Hindi and Urdu in Translation.
			CO3	The students learns about the tribal traditions and tribal literature, its key features and also studies a few tribal poems to understand the concept better
			CO4	The student learn about Dalit literature and also understands social inequality through works by Dalit writers
			CO5	The student learns about feministic ideals in the Indian context through prescribed literary works.
			CO6	The student learns about literature written in English by Indian writers and the difference between regional Indian literature and Indian writing in English
Writing Skills	ENG AECC 104	AECC-2 B.SC/B.COM IST YEAR	CO1	To equip them to write paragraph/reports/reviews in different modes and promote critical thinking.
			CO2	To develop and improve their analytical abilities and vocabulary.
			CO3	To make them able to think and write coherently and clearly.
			CO4	Should be able to use exact, correct, and proper words or terms along with error free writing skills.
English-2 Core English	ENG CE 201	(Compulsory)B.A./ B.COM II YEAR	CO1	Introduce students to genre of essays from both the east and the west, opening two worlds of different civilisation and

				establishing universality in them.
			CO2	Introduce students to genre of poetry dealing with human values, environmental consciousness and about the ultimate goal of human life.
			CO3	The Grammar section focusses on composition aspect as a step ahead in their learning.
British Literature (Play and Novel)	ENG DSC 202	DSC- 1C B.A. II YEAR	CO1	When students study Literature, they learn to appreciate words and their power. They travel to other realms and times through the texts they read. They understand about their own culture and others'. They learn to empathise with characters, to feel their joys and pain.
			CO2	To facilitate exploration of values attitude and behaviour and creation of roles and relationships so that the learner gains a profound understanding through Imaginative experience.
			CO3	It broadens their horizons
			CO4	It enables them to develop transferable skills.
Literary Cross Currents	ENG DSC 203	DSC-1D B.A. II YEAR	CO1	Poetry helps the students in understanding different perspectives. Teaching and learning from poetry can help students respect and understand the viewpoints of people across the globe.
			CO2	Introduces students to genre of poetry dealing with human values, environmental consciousness, gender sensitization and moral righteousness.
			CO3	To sensitize the students towards the various perspectives and plight of the underprivileged in Indian society and to clarify the concept of gender, class, caste and identity prevalent in the society

				through the autobiography "Joothan"
			CO4	Gender sensitization through the play "Silence:The Court Is In Session".
AEEC/SEC - 1: Creative Writing, Book and Media Reviews	ENG AEEC/ SEC 204	B.A. II YEAR	CO1	To enable the student to build vocabulary and knowledge of literary terminology
			CO2	Poem, story and novel revolve around the theme of Nature, human emotions and feminism/ gender sensitization.
			CO3	To develop an ability to recognize text's elements such as style, form, images, figure of speeches, connotations and references.
			CO4	To make the students able to write Book, Film and TV Programme Reviews
Translation Studies and Principles of Translation	ENG AEEC/ SEC 205	AEEC/SEC-2 B.A. II YEAR	CO1	The student learns and understands the basic process of translation and the key terms associated with translation along with the purpose of translation.
			CO2	The students understands the different ways in which translators approach the text to be translated.
			CO3	The students learns about the methods of translation based on difference and equivalence.He also understands the difference between translation, interpretation and adaption.
			CO4	The students learn about the problems which translators face while translating literary works.
			CO5	Through study of translated works, the student understands the principles of translation and how they actually work.
			CO6	The student gets a basic idea about translation theories in India which have been an ancient practice. He also understands key terms like Rasa,Dhwani, Auchitya, Anuwad,Bhashantar and

				Rupantar.
Technical Writing	ENG AEEC/ SEC 301	AEEC/SEC-3 B. A. III YEAR	CO1	Students learn about the Basic Research Methodology.
			CO2	To make the students able to analyse the data (quantitative and qualitative)
			CO3	Students learn to read and interpret the pie charts and Bar Graphs.
			CO4	Demonstrate an understanding and practice of research ethics and responsible conduct in research.
Business Communication	ENG AEEC/ SEC 302	AEEC/SEC-4 B. A. III YEAR	CO1	To be able to use proper format for different kinds of written business communications
			CO2	To be able to write coherent, clear, logical and correct letters, memo, reports etc.
			CO3	The students strengthen their knowledge in differentiating miscommunication from effective communication.
Soft Skills	ENG DSE 303	DSE –1A B. A. III YEAR	CO1	Students develop and improve their soft skills such as they should be able to communicate their ideas, suggestions, views and opinions clearly and logically.
			CO2	Students learn about the listening skills, team work, and emotional intelligence.
			CO3	Students learn the Interview skills, self-evaluation through SWOT, non-verbal communications and etiquettes.
			CO4	It also teaches professional ethics
			CO5	Soft skills brazens and sharpens students according to the needs of the work environment. It provides them that extra edge which makes them strong competitors in the business as well as service sector.
			CO6	Nurture problem solving skills, thinking,

				and creativity through assignments.
Academic Writing and Composition	ENG DSE 304	DSE-1B B. A. III YEAR	CO1	The students learn about the four types of academic writing.
			CO2	The student Learns about the features and conventions of academic writing.
			CO3	The student learns about general mistakes which writers encounter and commit while attempting research papers etc. and learn how to avoid them.
			CO4	They learn and practice exercises in proper punctuation, subject-verb agreement, use of apostrophe, common abbreviations, common grammatical mistakes and Learns to rectify them while writing academic papers.
			CO5	The students Learn about the process of academic writing step- by- step. They learn to draft and edit.
			CO6	The student Learns to employ critical thinking in their everyday writing and to write proper academic research papers, proposals, reports etc.
Literature from Himachal	ENG GE 305	GE-1 B. A. III YEAR	CO1	Students get an opportunity to study literature from Himachal Pradesh.
			CO2	Students get to know about the concept of administrative existence of Himachal Pradesh, tradition and culture alongwith economic and social know how of people of Himachal.
			CO3	Students get familiar with the general knowledge of Himachal Pradesh, customs, dresses, foods across the state.
Contemporary India: Women and Empowerment	ENG GE 306	GE-1 B. A. III YEAR	CO1	Understanding of the key Concepts: Sex and Gender, Socialization, Discrimination - Gendered and Sexual, Stereotyping, Feminism, Patriarchy, Femininities and Masculinities and Transgender.

			CO2	Students study Women's Role in social affairs.
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PROGRAM OUTCOMES Ba Geography

- Graduates will demonstrate a thorough understanding of fundamental geography and environmental concepts, including physical and human geography, environmental hazards, sustainability, and disaster risk reduction.
- Students will have the ability to use Geographic Information Systems (GIS) and other spatial analysis tools to analyze and interpret geographic data, apply georeferencing techniques, and create thematic maps for various applications.
- Graduates will be able to conduct field work using appropriate techniques, collect and analyze data, design field reports, and use field observations to draw conclusions about geographic and environmental phenomena.
- Degree-holding program completers will demonstrate the ability to think critically, identify problems, and propose effective solutions related to geography, environmental issues, and disaster management.
- students will have a deep understanding of global sustainability goals, including the Millennium Development Goals and policies such as Rio+20, and be able to relate these to national strategies for sustainable development.
- Graduates will understand the concepts of hazards, risks, vulnerabilities, and disasters. They will be able to assess disaster causes, impacts, and response strategies, including the role of organizations like the National Disaster Management Authority (NDMA).
- Students will be able to use various data collection methods, including surveys, interviews, and observation, and analyze data for geographic and environmental studies, emphasizing both qualitative and quantitative approaches.

- Graduates will have a thorough understanding of major environmental problems such as pollution and biodiversity loss, along with the tools and strategies for addressing these issues in a sustainable manner.
- Students will understand the complex relationships between human activity and the environment, including the impact of human-induced disasters and the role of community-based disaster management in mitigating risks.
- Graduates will be able to effectively communicate geographic information, whether through written reports, visualizations, or presentations, to diverse audiences and stakeholders.
- Degree-holding program completers will understand the role of inclusive development in sustainability, focusing on key sectors such as education and health. They will be able to analyze how policies and global cooperation contribute to achieving sustainability goals.

1. PHYSICAL GEOGRAPHY (GEOGP101CC)

- Students will be able to describe the origin of the Earth, including the Tidal Theory of Jeans and Jeffreys and the Big Bang Theory.
- They will be able to classify different types of rocks and explain their characteristics.
- Students will demonstrate knowledge of Earth's internal structure and explain the Theory of Plate Tectonics. They will be able to discuss the process of weathering, including its factors and types, and understand the Fluvial Cycle of Erosion as explained by Davis.
- Students will be able to outline the structure and composition of the atmosphere and explain key atmospheric processes like heat balance, pressure, wind systems, tropical cyclones, and the monsoon. They will also be able to categorize climates using the Koppen classification system.
- Students will demonstrate an understanding of the hydrological cycle and identify key bottom relief features of the Pacific Ocean. They will be able to describe the formation and patterns of tides and ocean currents.

2. GENERAL CARTOGRAPHY-PRACTICAL (GEOGP102CC)

- Students will understand the role of cartography as a science of communication, including the basic principles of map reading. They will be able to define a map, classify different types of maps, and explain their significance in various contexts.
- Students will be able to define scale and discuss its importance in map-making and map-reading. They will understand and apply different types of scales (plain, comparative, diagonal) in practical exercises.
- Students will demonstrate their ability to represent data visually using various methods, including line graphs, bar diagrams, isopleth and choropleth maps, dot method, climographs, and hythergraphs.

- Students will develop the skills to critically analyze and interpret maps, considering aspects like scale, projection, and data representation. They will be able to make informed conclusions from different types of maps.
- Students will be able to utilize cartographic tools and techniques to create and modify maps. This includes creating accurate and effective visual representations of data through various graphing methods and understanding the practical use of different map projections.

3. HUMAN GEOGRAPHY (GEOGP201CC)

- Students will be able to define human geography, explain its nature, identify its major subfields, and discuss its contemporary relevance, emphasizing its significance in understanding human-environment interactions and societal developments.
- Students will understand and explain global population distribution, density, and growth patterns. They will be able to articulate the Demographic Transition Theory and apply it to analyze demographic changes in different parts of the world.
- Students will understand the trends and patterns of world urbanization, analyzing the factors that drive urbanization, its impact on society, and the challenges and opportunities it presents. They will be able to relate these trends to contemporary issues such as urban sprawl, sustainable development, and the growth of mega-cities.
- Students will demonstrate the ability to apply concepts from human geography to interpret and analyze real-world scenarios, exploring the interplay between population dynamics, societal structures, cultural practices, and settlement patterns. They will be able to use this knowledge to understand and address contemporary social, cultural, and environmental challenges.

4. ENVIRONMENTAL GEOGRAPHY (GEOGP 202CC)

- Students will be able to define environmental geography and explain its scope. They will understand the meaning and components of the environment, as well as the concept, components, and functions of ecosystems.
- Students will be able to compare and contrast the concepts of environmental determinism and possibilism, providing examples of how human activities and environmental factors influence each other. They will also be able to define biomes and describe the characteristics of mountain and desert regions.
- Students will be able to identify and discuss major environmental problems such as air and water pollution, explaining their causes, impacts, and potential management strategies. They will understand the significance of biodiversity and the consequences of its loss.
- Students will demonstrate knowledge of environmental management initiatives in India, including key legislation such as the Environmental Protection Act of 1982 and the

Environmental Policy of India (2006). They will be able to describe the Chipko Movement and other grassroots environmental movements in India.

- Students will develop the ability to propose and evaluate solutions for environmental challenges, integrating knowledge of environmental geography, human-environment relationships, and environmental management initiatives. They will be able to suggest practical approaches to address pollution, biodiversity loss, and other environmental issues.
- Students will be able to apply concepts from environmental geography to analyze real-world scenarios, demonstrating a holistic understanding of the environment and its components. They will be able to critically assess environmental issues and propose sustainable solutions in the context of broader human and ecological relationships.

5. REGIONAL PLANNING AND DEVELOPMENT (GEOGP 203SEC)

- Students will be able to define the concept of regional planning, articulate the need for it, and classify the different types of regional planning. They will understand why planning at a regional level is critical and how it can impact both economic and social development.
- Students will be able to describe the key characteristics of planning regions and explain the process of delineating planning regions. They will understand how geographical, economic, and cultural factors contribute to defining these regions.
- Students will comprehend the concept of regionalization and be able to discuss its implications. They will study the physical and cultural aspects of the Hill Region through the case study of Himachal Pradesh, examining how regionalization shapes local development.
- Students will be able to describe and apply models for regional planning, specifically focusing on the Growth Pole Theory and the Core Periphery Model. They will understand how these models influence regional development and planning strategies.
- Students will demonstrate knowledge of regional development initiatives through case studies. They will analyze the Integrated Tribal Development Programme (ITDP) and the Damodar Valley Corporation (DVC), assessing their goals, methodologies, and impacts on regional growth.
- Students will be able to apply regional planning concepts to real-world scenarios, suggesting strategies for addressing regional disparities and promoting sustainable development. They will be able to use case studies to illustrate successful approaches to regional development and identify factors that contribute to their success.

6. REMOTE SENSING AND GPS (GEOGP 204SEC)

- Students will be able to define remote sensing and trace its development over time. They will identify various platforms used in remote sensing, such as satellites and aerial vehicles, and understand the different types of remote sensing based on sensor technology and data collection methods.

- Students will understand the fundamentals of aerial photography, including its definitions, underlying principles, and types. They will be able to explain the geometry involved in aerial photography and describe how it is used in remote sensing applications.
- Students will gain knowledge of the principles of satellite remote sensing, focusing on the interaction between electromagnetic radiation (EMR) and the Earth's atmosphere and surface. They will be able to describe the key features of prominent remote sensing satellites, such as Landsat and IRS, along with the sensors they employ.
- Students will be able to explain the basic principles of visual interpretation of remote sensing images. They will understand how to identify different land use and land cover patterns from remote sensing data and will be able to apply this knowledge to analyze geographic information.
- Students will comprehend the fundamentals of the Global Positioning System (GPS), including its principles and uses. They will be able to explain how GPS technology works and describe its applications in conjunction with remote sensing for accurate geographic location and data analysis.
- Students will be able to apply their knowledge of remote sensing and GPS to real-world situations. They will demonstrate how remote sensing can be used for environmental monitoring, urban planning, resource management, and other practical applications, using both aerial photography and satellite data.

7. GEOGRAPHIC INFORMATION SYSTEM (GEOGP 301SEC)

- Students will be able to explain the meaning and scope of Geographic Information Systems (GIS). They will understand the core components that make up GIS and describe its historical development, acknowledging the key milestones and technological advancements that have shaped its evolution.
- Students will understand the different types of data used in GIS, distinguishing between spatial and non-spatial data. They will also be able to differentiate between raster and vector data structures, explaining their unique characteristics and applications in GIS.
- Students will learn the concept of georeferencing and understand its importance in GIS. They will also be able to explain how attribute data can be integrated with spatial data, enhancing the utility and functionality of GIS applications.
- Students will be able to perform various GIS-based exercises, including georeferencing, subsetting, and extracting land use/land cover layers for a given area. They will understand the practical steps involved in these tasks and be able to apply them effectively.
- Students will be able to create thematic maps using GIS tools and techniques. They will demonstrate how to extract and visualize specific data layers to represent different themes, such as land use, population density, or environmental characteristics, using appropriate GIS software.
- Students will be able to apply GIS knowledge to real-world scenarios, demonstrating its practical utility across various fields such as urban planning, environmental monitoring, resource management, and public health. They will be able to develop GIS-based solutions to

address specific challenges and make informed decisions based on GIS analysis and thematic mapping.

8. FIELD TECHNIQUES & SURVEY BASED PROJECT REPORT

(GEOGP 302SEC)

- Students will understand the role and value of field work in geographical studies. They will be able to define what constitutes a field and how to identify appropriate case studies in various contexts such as rural, urban, physical, human, or environmental.
- Students will be able to describe different field techniques used in geographical studies, explaining their merits and demerits.
- They will understand how to tailor questions to gather relevant data for field studies and use these techniques to collect information efficiently.
- Students will be able to conduct interviews and focused group discussions, understanding their role in field studies. They will learn how to structure interviews to gather meaningful data and discuss how to manage and analyze information obtained from group discussions.
- Students will understand how to design a comprehensive field report, incorporating aims and objectives, methodology, analysis, interpretation, and proper report writing techniques.

9. GEOGRAPHY OF INDIA (GEOGP 303-1DSE)

- Students will be able to describe the location of India within a global context and identify its major physiographic regions. They will understand the unique characteristics of these regions, including mountains, plateaus, plains, and coastal areas.
- Students will understand the factors influencing India's climate, such as monsoons and geographical diversity. They will describe the key climatic characteristics across different regions and be able to identify various soil types found in India.
- Students will be able to discuss India's population size and growth trends since 1901. They will understand population distribution and density across different states and regions.
- Students will be able to identify and explain the types and patterns of rural settlements in India, focusing on their formation and characteristics.
- Students will understand India's resource base, focusing on power sources such as coal and hydroelectricity, and minerals like iron ore and bauxite. They will discuss how these resources contribute to India's economy and how they are distributed across the country.
- Students will be able to discuss the role of agriculture in India's economy, focusing on major crops like rice and wheat. They will also understand the significance of industries such as cotton textiles and iron-steel manufacturing, analyzing their geographic distribution and contribution to India's economic growth and development.

10. DISASTER MANAGEMENT (GEOGP 304-1DSE)

- Students will understand the relationships among concepts of hazards, risk, vulnerability, and disasters and how they contribute to the disaster risk framework.
- Students will be able to identify and describe the major natural disasters in India, including landslides, earthquakes, and cyclones. They will understand the causes of these disasters, analyze their impacts on human life and property, and map their geographic distribution across the country.
- Students will understand the causes, impacts, and distribution of human-induced disasters, such as forest fires and road accidents. They will discuss how human activities contribute to these disasters and examine the potential risks they pose to communities and infrastructure.
- Students will learn the importance of community-based disaster management. They will understand how local communities can prepare for, respond to, and recover from disasters, and the benefits of involving community members in disaster risk reduction strategies.
- Students will be able to explain the recommended "Do's and Don'ts" during various types of disasters. They will understand the best practices for safety and survival in different disaster scenarios and be able to communicate these practices to others to promote disaster resilience and preparedness.

11. DISASTER RISK REDUCTION (GEOGP 305-GE1)

- Students will be able to define and explain the concepts of hazards, risks, vulnerabilities, and disasters. They will comprehend how these terms relate to one another and form the basis of disaster risk analysis.
- Students will gain knowledge of major disasters in India, focusing on floods, flash floods, earthquakes, and cyclones. They will understand the causes of these disasters, assess their impacts on human life, property, and infrastructure, and recognize their geographic distribution across India.
- Students will be able to identify the causes and impacts of human-induced disasters such as industrial accidents, chemical spills, or nuclear incidents.
- Students will learn about disaster risk reduction (DRR), including strategies for mitigation and preparedness. They will explore the roles of the National Disaster Management Authority (NDMA) and the National Institute of Disaster Management (NIDM) in India's DRR framework.
- Students will be able to explain the "Do's and Don'ts" for various types of disasters, such as floods, earthquakes, and cyclones. They will understand best practices for safety and survival and be able to convey this information effectively to others to improve community preparedness and resilience in disaster situations.

12. SUSTAINABILITY AND DEVELOPMENT (GEOGP 306-GE2)

- Students will be able to define and explain the concept of sustainability, discussing its key components—economic, environmental, and social.

- Students will be able to describe the Millennium Development Goals and assess their impact at national and international levels
- Students will understand the need for sustainable development in the Indian context and analyze how it is being realized through various national initiatives and policies. They will examine India's progress toward sustainability and identify areas for improvement.
- Students will understand the concept of inclusive development, focusing on the importance of education and health. They will discuss the role of higher education in achieving sustainability and explore how inclusive policies contribute to broader sustainability goals.
- Students will learn about international policies and agreements aimed at addressing climate change. They will explore the role of global cooperation in promoting sustainability and understand the significance of collective action in achieving climate-related goals.
- Students will gain knowledge of key sustainable development policies and programmes, including Rio+20, Financing for Sustainable Development, and India's National Environmental Policy. They will be able to explain the objectives of these initiatives and discuss their role in advancing global sustainability.

Program outcomes of B.A. Hindi:

S.No.	Course Title	Course Code	Nature of Course and Year	Co's	Course Outcome
1	Prayojanmulak Hindi (compulsory)	HIND101	B.A/B.Com 1st Year	CO1	To understand the basic concepts of Hindi grammar and various forms of functional Hindi.
				CO2	Understanding the meaning, concept and importance of Functional Hindi.
				CO3	Understanding various forms of Functional Hindi according to its area of application.
2	Hindi sahitya ka Etihaas	HIND102	Discipline Specific Core (DSC)-1A B.A 1st Year	CO1	Understanding the origin of Hindi language and its literature.
				CO2	Identifying the dialects of Hindi language family.
				CO3	Analysing the development of Khariboli Hindi.
3	Madhyakalin Hindi kavita	HIND103	Discipline Specific Core (DSC)-1B B.A 1st Year	CO1	Understanding the role played by the poets of Bhakti cult in literature and society.
				CO2	Describing the progressive nature of sant Kabir and his writings.
				CO3	Understanding the vision of Mira in context of her Krishna Bhakti poetry.

4	Hindi bhasha or sampreshan	HIND104	B.A/B.Com 1st Year	CO1	Students will be well versed in hindi grammar use of noun, pronoun, verb, proverb, tenses, adjectives, antonyms, synonyms, sentence formation.
				CO2	Students is capable to write etters and essays in Hindi by using various grammatical tools they studied.
				CO3	Students will be Improve the reading power of language.
5	Rachnapunj 201 (Compulsory)	HIND201	B.A/B.Com 2nd Year	CO1	Students will be familiar with the history of devnagri lipi the various dialects ,originated from devnagri lipi.
				CO2	The scientific and psychological improvements in the language, students will also be competent in typing in hindi by using various fonts and styles available in MS worlds.
				CO3	Through prose and poetry students learn the human values and practice it in day to day life.
6	Aadhunik Hindi Kavita	HIND202	Discipline Specific Core (DSC)-1C	CO1	Students will be able to understand and identify the alankaar raas, chhand and language.
			B.A 2nd Year	CO2	students will be familiar with modern hindi poets.
				CO3	To describe the poem of “Chayawadi writers”: Agey, Maithli Sharan Gupt ,

					Nirala and Nagarjun.
7	Karyalyi Hindi	HIND204	Skill Enhancement Courses (SEC)-1 B.A 2nd Year	CO1	Students will come to know about the use of Hindi in official work.
				CO2	Students will identify the official hindi and will be familiar with drafting noting in hindi language.
				CO3	Students will come to know about the use of Hindi in official work.
8	Hindi Bhasha Shikshan	HIND205	Skill Enhancement Courses (SEC)-1 B.A 2nd Year	CO1	Students will be able to understand languge skills.
				CO2	Students will able to know understand the science of languge.
				CO3	Students will able to understand the importance of languges in this era.
9	Anuvad Vigyan	HIND206	Skill Enhancement Courses (SEC)-2 B.A 2nd Year	CO1	Students will come to know the Indian concept of translation.
				CO2	Students will learn and understand the translation.
				CO3	Role of translation, principle, methods types of translation.
				CO4	Students will come to know the Indian concept of translation.
10	Sambhashan Kala	HIND207	Skill Enhancement Courses (SEC)-2 B.A 2nd Year	CO1	Students will be able know the pronunciation of the languge.
				CO2	Students will be able to develop languge fluency.
11	Rang Aalekh	HIND301	Skill Enhancement	CO1	To equip students with the concept of drama and acting.
				CO2	Student will be familiar with Indian plays written by Indian writers, able

			Courses (SEC)-3 B.A 3rd Year		to understand and identify the writing styles of these playwrights.
12	Bhasha Computing	HIND302	Skill Enhancement Courses (SEC)-3 B.A 3rd Year	CO1	Students will be able to high light the importance of Computer.
				CO2	Students will be able to understand the skills of computer use.
13	Chalchitra Lekhan	HIND303	Skill Enhancement Courses (SEC)-4	CO1	Students will be able to understand the history of Indian cinema.

DEPARTMENT OF HISTORY

Program Specific outcomes

- Understand the basic themes, concepts, chronology and the scope of Indian History.
- Acquaint with range of issues related to Indian History that span distinct eras.
- Understand the history of countries other than India with comparative approach
- To understand background of our religion, customs institutions, administration and so on.
- Understand the present existing social, political and economic conditions of the people
- Analyze relationship between the past and the present in history.
- Think and argue historically and critically in writing and discussion.
- Develop practical skills helpful in the study and understanding of historical events.
- Develop interests in the study of historical activities relating to history for example collect ancient art, participation in historical dramas, visit historical places, write historical articles etc.
- Prepare for various types of Competitive Examinations
- Critically recognize the social, political, economic and cultural aspects of history

Course specific outcomes

Sr. No.	Subject Code	Title of the paper	Subject Category	Course Outcome
1.	HIST (A)101	History of India from the Earliest Times up to c.300CE	DSC-1A	<i>Perceive various sources to study Ancient History, know about the development & achievements of man in the Stone Age; Compare the history of Vedic period; understand the philosophy of Jainism & Buddhism; Understand the rise of Magadhan empire & Mauryan empire.</i>
2.	HIST (A) 102	History of India, c.300-1206	DSC-1B	<i>Review significant socio-cultural developments during post Mauryan period; Trace the early history of south India during this period;</i>

Examine the general dynamism of cultural developments in ancient

India

Sr. No.	Subject Code	Title of the paper	Sub ject Cat egor y	Course Outcome
1.	HIST1(A)203	History of India, c.1206- 1707	DSC-1C	<i>Understanding of Delhi Sultanate: analyze Mughal rule, administration, art & architecture; identify cultural synthesis; analyze Medieval South India</i>
2.	HIST (A)204	History of India	DSC-1D	<i>Absorb fully each of the events that shaped Modern Indian History during the early phase of its modern times; Gather data on triggering factors that led to the coming of the European Nations to India; Observe the pattern of events that led to the uprising of individual states and the rise of Indian Nationalism ;Discern deeply how the Indian people struggled to attain freedom from Britain; Prove that Gandhi's principle of nonviolence was effective force that led to the granting of India's independence</i>

3.	HIST(A)213	Historical Tourism	SEC-1	<p><i>To develop an understanding of Historical tourism among students; to introduce the students to new trends in historical tourism; to prepare the students for careers in</i></p> <p><i>tourism industry. enable students to understand the different facets of heritage and their significance. It highlights the legal and institutional frameworks for heritage protection in India as also the challenges facing it. The implications of the rapidly</i></p>
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B.A. II

changing interface between heritage and history will also be examined

4.	HIST(A)216	Crafts and Artisans: Living Traditions	SEC-2	<p><i>To introduce students to Indian art,</i></p> <p><i>from ancient to contemporary times, in order to understand and appreciate its diversity and its aesthetic richness. The course will equip students with the abilities to understand art as a medium of cultural expression. It will give students direct exposure to Indian art through</i></p> <p><i>visuals, and visits to sites and</i></p> <p><i>museums</i></p>
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BA III

Sr.No.	Subject Code	Title of the paper	Subject Category	Course Outcome
1.	HIST 305	Modern and Contemporary World History I:1871-1919	DCE-1A	<p><i>good understanding of the term Imperialism and why did the European countries succeeded in establishing their colonies in Asia,</i></p> <p><i>Africa & Latin America ;good understanding of the concept of industrialization and capitalism understanding of as to how imperialism led to national rivalries and conflicts ; good understanding and knowledge of the developments that made the outbreak of the world war I inevitable ;Possess good understanding of the causes, events & results of Russian Revolution ; Understand as to</i></p> <p><i>why Russia's participation in the First World War contributed to the Russian Revolution of 1917; type of warfare was used, and the peace settlements.</i></p>
2.	HIST(A)3 07	Modern and	DSE-1B	<p><i>Understanding the peace settlements after the end of first world war ;Understanding the</i></p>

		Contemporary World History I:1919-1992			<i>rise of Fascism, the rise of Hitler, and the Nazi Germany</i> <i>;Understanding the coming of World War II, the Axis victories and the allied victory</i>
2.	HIST(A)31 7	Indian History and Culture	SEC-3		<i>To familiarize learner with various aspects of the culture and heritage of India ; To acquaint learners with the contributions of our ancestors in the areas of religion, philosophy ,science arts education, language and literature To enable learners to appreciate the underlying unity amidst diversity in all aspects of India’s culture; To enable learners to appreciate the composite nature of Indian culture ;To develop among learners a feeling of love and a sense of belonging towards the nation</i>
3.	HIST (A)319	Introduction to Indian Art	SEC-4		<i>Students will be able examine the origin of Indian art in pre historic paintings; Will be able to trace the development of art t& architecture in subsequent periods till early medieval period; Critically examine the case studies of north & south Temples; Critically evaluate functions of art& architecture</i>

Course Outcomes and Programme Outcomes (B. Sc. Mathematics)

Course outcomes (BSc. First year Mathematics)

Course outcomes (BSc First Year Mathematics)

1. Differential Calculus (MATH101TH)

By the end of this course, students will be able to

- Rigorously analyse limits and continuity using the epsilon-delta definition, classify and understand different types of discontinuities.
- Apply the concept of differentiability to functions, perform successive differentiation, and utilize Leibniz's theorem for computing derivatives of products of functions.
- Proficient in analysing and solving problems involving indeterminate forms.
- Students will have the ability to apply Taylor and Maclaurin series expansions to evaluate functions such as sine, cosine, exponential, logarithmic, and power functions.
- Learn to compute curvature and interpret its geometric significance.
- Study asymptotes and identify singular points of curves.
- Gain proficiency in representing curves parametrically and tracing them in parametric form.
- Utilize polar coordinates to represent and analyse curves, including tracing curves in polar form
- Learn to compute and interpret Jacobian matrices, which play a crucial role in determining transformations and changes of variables in multivariable calculus contexts.

2. Differential equations (MATH102TH)

Upon completing this course students will be able to -

- Understand first-order exact differential equations and techniques like integrating factors, including rules to identify and apply them effectively.
- Learn methods for solving first-order differential equations of higher degrees, including those solvable for x , y , z , p .
- Develop proficiency in solving higher-order differential equations using various methods tailored to the specific characteristics of the equations, such as substitution, reduction of order, and method of undetermined coefficients.
- Learn methods for solving differential equations by reducing their order.
- Study linear homogeneous equations with constant coefficients and linear non-homogeneous equations, and apply techniques such as variation of parameters to solve them effectively.
- Learn about the order and degree of partial differential equations (PDEs) and differentiate between linear and nonlinear PDEs.

Course Outcomes (B.SC. 2nd Year Mathematics)

1. Real Analysis (MATH - 201TH)

Co1- By the end of the course students will be able use these concepts to determine whether a given sequence or diverges or converges conditionally.

Co2. Students should be able to distinguish between different types of series namely, convergent, divergent, conditionally convergent.

Co3. Students will be able to construct logical ideas write clear and concise proofs and apply these skills to real analysis concept through the course.

2. Algebra (MATH – 202TH)

Co1. By the end of the course, students should be able to define and identify groups, recognize normal subgroups, cyclic groups etc. apply their properties to solve problems.

Co2. Students will be able to identify group homomorphism, classify isomorphic groups.

Co3. By the end of the course, students will be able to define rings, distinguish rings from fields, integral domains, field of fractions.

3. Integral Calculus (MATH – 309TH)

Co1. By the end of the course students are able to compute the definite integrals as the limit of the Riemann sums, representing the required area under the curve.

Co2. Students are able to apply the fundamental theorem of calculus to compute definite integrals once the corresponding indefinite integral is known.

Co3. Students are able to compute the double integral representing the volume under a surface defined by two variables and triple integrals the volume of a solid region in three dimensions.

CO4. Students are able to apply double integrals to real word problems involving area, mass, center of mass, and other, applications in two dimensions.

4. Vector Calculus (MATH – 310TH)

Co1. Students will be able to determine the direction and magnitude of a vector, able to compute the scalar and vector product of two or more vectors.

Co2. Students will be able to differentiate vector functions and able to study rates of change and motion along curves.

Co3. Students will be able know the applications of Gauss Theorem, Divergence Theorem in the real word problems.

Course Outcomes(B.Sc. 3rd Year Mathematics)

1. Complex Analysis (MATH 305).

On completion of this course the students shall be able to

1. Have the idea of arithmetical and geometrical properties of complex numbers and linear fractional transformations.
2. Have the basic concepts of the limit, continuity and derivative of the complex valued functions of a complex variable.
3. Have the knowledge of convergence and divergence of the sequences, series and power series.
4. Have the general concept of the complex integration and many important properties of analytic functions which follow from the complex integration.

2. Matrices (MATH301TH)

After the successful completion of this course, it is indented that a student will be able to

1. Solve systems of linear equations using matrix methods, including Gaussian elimination, LU decomposition, and matrix inversion.
2. Analyze the properties of matrices, including determinants, rank, eigenvalues, and eigenvectors, and apply them to solve related problems.
3. Understand and utilize matrix transformations, including rotations, reflections, and scaling, in both two-dimensional and three-dimensional spaces.

3. Probability and Statistics(MATH317TH)

After the successful completion of this course, it is indented that a student will be able to:

1. Use the basic probability rules, including additive and multiplicative law by using the concept of probability set function, random variable, the probability density function, distribution function and use these concepts for calculating probabilities and drive the marginal/conditional distribution and their respective mean, variance and standard deviation.
2. Use discrete and continuous probabilities distributions and identify the characteristics of different discrete and continuous distributions.
3. Define binomial, trinomial, multinomial and normal distribution and solve theoretical problems by using these distributions. Also use of property of normal distribution curve in calculating the probability of standard normal variate.

4. Transportation and game theory (MATH313TH)

1. Transportation Problem (TP): Mathematical formulation, Basic feasible solutions of TPs by North–West corner method, leastCost-Method, Vogel’s approximation method. Unbalanced TP, Optimality test of Basic Feasible Solution (BFS) by U-V method, Degeneracy in TP.

2. Assignment Problem (AP): Mathematical formulation, assignment methods, Hungarian method, Unbalanced AP; Rule to draw minimum numbers of lines, illustrative problems, Traveling Salesman Problem.

Programme Outcomes (Having Maths as one Course in B.SC. as Mathematics)

Po1. By the end of the Programme students are able apply mathematical knowledge to solve problems in other disciplines like physics, economics, or computer science etc.

Po2. By the end of the programme students will have the knowledge of calculus, Linear algebra, Algebra, Differential equations. Real Analysis.

Po3. Students will able to formulate and solve mathematical problems independently using proper technique.

Course Outcomes and Programme Outcomes M.Sc. Mathematics

PROGRAMME OUTCOMES (PO) (M.Sc. Mathematics a 4 Semester Programme)

PO1: Critical Thinking: To develop critical thinking and prepare them to carry out scientific investigation objectively. Critically evaluate practices and theories by following mathematical approaches.

PO2: Knowledge Skill: To develop skills among the students to formulate hypothesis, modeling, solutions and validate, and draw conclusions.

PO3: Communication Skills: To inculcate the communication skills to express mathematical ideas.

PO4: Social Responsibility: To enlightened the students to serve the society by helping them by using mathematical knowledge in their life.

PO5: Analytical Reasoning: To equip the students for demonstration of quantitative and analytical reasoning skills.

PO6: Lifelong Learning: To inculcate the habit of self-learning through self-directed learning and through peer discussion and adapting to the changing academic environment and demands.

PO7: Leadership Qualities: To develop the team spirit and leadership quality to work effectively as an individual and as a leader in diverse situations.

PO8: Research Skills: Prepare students for pursuing research in various fields of mathematics and research-oriented career.

PO9: Ethics: The students are educated to follow the moral and ethical values in their behavior and professional life.

COURSE OUTCOMES (CO) (M.Sc. Mathematics a 4 Semester Programme)

Semester I

1. Real Analysis (M -101)

Co1. By the end of course students have the knowledge of methods to examine uniform convergence of sequences and series of real valued functions such as Cauchy criteria, Weierstrass M-test, Abel and Dirichlet's test for uniform convergence with idea about the uniform convergence of sequence and series of functions. **Co2.**

Have the knowledge of the concepts of complete metric space, perfect set and connected set.

2, Advanced Algebra (M – 102)

Co1. Students are able to describe the normal series, solvable groups, nilpotent groups and their applications to characterize some classes of groups.

Co2. Have the broad idea about direct sum and direct product of groups.

Co3. Have knowledge of the concept of Modules, free modules, completely reducible modules and Quotient modules.

3. Ordinary Differential Equations (M-103)

CO1. Assure the existence and uniqueness of the solution of an initial value problem in order to save the time and energy.

CO2. Handle the Sturm-Liouville Boundary Value Problems and to construct the orthonormal functions which can be used to expand any function as infinite series of these functions.

CO3. Investigate the nonlinear differential equations and the corresponding nonlinear autonomous systems and their critical points which are helpful in predicting the nature of the solution of the nonlinear differential equations.

4. Operations Research (M – 104)

CO1. Understand the history and applications and uses of OR techniques in decision making.

CO2. Understand the convex set theory to find the optimal Basic feasible solution of LPP. Modelled the real-world problems as linear programming problems (LPP) and solve them by different OR

techniques and tools.

CO3. Solve the LPP graphically, and use of Simplex Method, Big-M Method, Dual Simplex method. Learn Duality Theory and solution of LPP by duality theory.

CO4 . Formulate the Integer Programming, Assignment and Transportation problems models and their solutions by different methods or algorithms.

5. Fluid Dynamics (M – 105)

CO1. Define types of fluids, Lagrangian and Eulerian method of describing fluid motion. Motion of the fluid element: Translation, rotation and deformation Stream lines path lines and streak lines, Material derivative, Acceleration Components of fluid particle in Cartesian.

CO2. Tell about Cylindrical and Spherical polar coordinates (without proof). Vorticity vector, Vortex Lines, rotational and irrotational motion. Velocity, Potential boundary surface, Boundary condition. Irrotational Motion in two-dimensional.

CO3. Describe Stream function, Physical significance of stream function, Complex velocity potential, Sources, sinks, doublets, and their images in two dimensional.

CO4. Understand about Continuum hypothesis, Newton's Law of Viscosity, Some Cartesian Tensor Notations, Thermal Conductivity, Generalized Heat conduction.

CO5. Derive and analyse Equation of State, Equation of Continuity, Navier – Stokes (NS) Equations, Equation of Energy. Vorticity and Circulation (Kelvin's Circulation Theorem).

CO6. Know about Dynamical Similarity (Reynold's Law), Inspection Analysis- Dimensional Analysis, Buckingham – π - Theorem, and its Applications π –products and coefficients, Nondimensional parameters and their physical importance.

Semester II

1. Measure Theory and Integration (M-201)

CO1. Have the understanding about the importance of outer measure on measure of sets, real-valued functions, positive and negative parts of a function, Characteristic function of a set, limit superior and inferior of sequence of measurable functions.

CO2. Provide the comprehensive understanding of three principles of Littlewood, Egoroff, Lusin and Frechet theorems.

CO3. Define the Lebesgue integral of a bounded function over a set and to prove the linearity, additivity.

2. Field Theory (M – 202)

CO1. Identify the relations of one field to another (known as the concept of field extension).

CO2. Have the knowledge of field extensions, Algebraic extensions, Normal extensions, algebraically closed fields and Splitting fields.

CO3. Have a broad idea of some special types of fields such as Prime fields, finite fields, roots of unity and cyclotomic polynomials. In particular, the representation of elements of finite fields.

3. Partial Differential Equations (M – 203)

CO1. By the end of the course will be able to Derive Laplace equation/Poisson equation/ heat equation/wave equations from basic concepts and their basic properties.

CO2. Solve the Laplace equation (elliptic equation), Heat equation (Parabolic equation) and Wave equation (hyperbolic equation) by variable separable method and solve some boundary value problems by some standard methods.

CO3. Derive the Laplace, heat and Wave equations in various coordinate systems and solve them. Learn the use of theory and solutions/tools in solving the dynamical problems arising in engineering and physical sciences.

4. Linear Algebra and Matrix Analysis (M- 204)

CO1. Have the basic idea of operators on finite dimensional vector spaces and the basic properties of Normal operators in the context of spectral theory.

CO2. Characterize the diagonalizable matrices and have the basic properties of these matrices.

CO3. Have the basic concept of matrix norms, their examples and the unitarily invariant norm.

CO4. Characterize the positive definite matrices and have the basic properties of Positive definite matrices.

CO5. Have the working knowledge of inequalities involving positive definite matrices.

5. Mathematical Statistics (M -205)

CO1. Use the basic probability rules, including additive and multiplicative law by using the concept of probability set function, random variable, the probability density function, distribution function and use these concept for calculating probabilities and drive the marginal/conditional distribution and their respective mean, variance and standard deviation.

CO2. Use discrete and continuous probabilities distributions and identify the characteristics of different discrete and continuous distributions.

CO3. Define binomial, trinomial, multinomial and normal distribution and solve theoretical problems by using these distributions. Also use of property of normal distribution curve in calculating the probability of standard normal variate.

CO4. Learn t , F , limiting distributions etc and learn basic properties as well as the concept of central limit theorem on limiting distributions and its applications.

Semester III

1. Complex Analysis (M-301)

CO1. Have the idea of arithmetical and geometrical properties of complex numbers and linear fractional transformations.

CO2. Have the basic concepts of the limit, continuity and derivative of the complex valued functions of a complex variable.

CO3. Have the knowledge of convergence and divergence of the sequences, series and power series.

CO4. Have the general concept of the complex integration and many important properties of analytic functions which follow from the complex integration.

2. Classical Mechanics (M-302)

CO1. State and derive the conservation principle involving momentum, angular momentum and energy as well as understand that they follow the fundamental equation of motion.

CO2. Learn about the generalized coordinates, Lagrangian, Hamiltonian and Hamilton-Jacobi's formulation of Classical mechanics and develop their understanding about equivalence of these formulation with the Newton's Law of motion.

CO3. Derive and use the Lagrange's, Hamilton's and Hamilton-Jacobi's equation of motion for finding the solution of a dynamical problem.

CO4. Derive the Hamilton's principle and the principle of least action by applying the concept of variational calculus.

3. Topology (M -303)

CO1. Identify the open sets, closed sets, convergence and continuity in metric/topological spaces.

CO2. Have a broad idea of compactness and various separation axioms in a topological space using some remarkable theorems such as Tychonoff's theorem, the Urysohn imbedding theorem, Ascoli's theorem, Urysohn's lemma and Tietze's theorem.

CO3. Understand connectedness in topological spaces, connected components, locally connected spaces and totally disconnected spaces.

CO4. Have a knowledge of The Weierstrass approximation theorem used to approximate a real valued continuous function by a real polynomial.

4. Magneto Fluid Dynamics(M-304(A))

CO1. Derive the Fundamental equations, Maxwell's electromagnetic field equation and Magnetic induction equation.

CO2. Acquire knowledge about Magnetic Reynold's number. Alfven's Theorem and its consequences. Magnetic energy equation. Mechanical equations and effects. Magneto hydrostatic, Force Free magnetic fluids.

CO3. Understand about Steady States, Pressure balanced magneto hydrostatic configurations. Toroidal magnetic field. Steady laminar motion. General solution of a vector wave equation.

CO4. Know about Magneto hydrodynamic, Waves Alfven waves, Magneto hydrodynamic waves in compressible fluid. Reflection and refraction of Alfven waves. Dissipative effects.

CO5. Understand the Linear Pinch. Method of small Oscillations. Energy principle.

5. Analytical Number Theory (M 305(A))

CO1. Understand the divisibility theory in the Integers, the Fundamental Theorem of Arithmetic, the Sieve of Eratosthenes and the Goldbach Conjecture.

CO2. Study the theory of congruences and basic properties of congruences.

CO3. Analyse Fermat's Theorem, Fermat's Factorization Method, the Little Theorem and the Wilson's Theorem. CO4

CO4. Acquire knowledge of the Theoretic Functions: The function τ and σ , the Mobius inversion formula, the Greatest Integer Function and its Application to the Calendar.

CO5. Attain mastery to solve problems using Euler's Phi Function, Euler's Theorem, some properties of Phi Function and their applications to Cryptography.

Semester IV

1. Functional Analysis(M- 401)

CO1. Develop the understanding about the Normed linear spaces and Banach spaces.

CO2. Have the knowledge of continuous linear transformations between normed linear spaces and the concept of dual spaces, double dual and reflexive spaces.

CO3. Have a broad idea of some important results such as The Hahn-Banach theorem, the open mapping theorem, the closed graph theorem and the Uniform Boundedness theorem.

CO4. Understand Hilbert spaces, its conjugate space, adjoint of an operator, self-adjoint, normal and unitary operators and projections.

CO5. Describe the spectral theory in normed spaces, spectral properties of Bounded linear operators, Banach algebra and its properties.

2. Integral Equations and Calculus of Variations (M – 402)

CO1. Understand the methods to reduce Initial value problems associated with linear differential equations to various integral equations.

CO2. Categorize and solve different integral equations using various techniques.

CO3. Solve the singular integral equations and derivation of Hilbert-Schmidt theorem.

CO4. Know the variational problems, extremum of a functional and necessary conditions for the extremum of a functional

3. Advanced Discrete Mathematics (M- 403)

CO1. Understand the Boolean Algebras Logic, Propositional Equivalences, Predicates and Quantifiers and study in detail the Partial Ordered Set, Lattices, Distributive and Complemented Lattices.

CO2. Analyse the Boolean Lattices and Boolean Algebras, Boolean Functions and Boolean Expressions and apply Boolean Algebra to switching theory.

CO3. Acquire knowledge of the Pigeonhole Principle and A Theorem of Ramsey.

CO4. Assimilate the concept of Permutations and Combinations, the Binomial Theorem, the Multinomial Theorem and the Newton's Binomial Theorem.

4. Differential Geometry (M - 404(A))

CO1. Understand the basic concepts and results related to curves in spaces, tangents, principal normal, curvature , binormal and torsion.

CO2. Derive the Serret- Frenet formulae and its applications in solving various problems.

CO3. Acquire knowledge of locus of center of curvature, spherical curvature , locus of center of spherical curvature and derive the results related to them.

CO4. Identify the curves determined by intrinsic equations, Helices, Involutives and evolutes.

5. Solid Mechanics (M – 405(A))

CO1. Understand the concept of the analysis of the strain, infinitesimal affine transformation, general infinitesimal deformation, finite deformation.

CO2. Understand the concept of stress analysis, equations of equilibrium, to calculate maximum normal and shear stresses acting on a body mathematically as well as graphically.

CO3. Understand the concept of generalized Hooke’s law and modified Hooke’s law derived by using one plane elastic symmetry, three plane symmetry and isotropy of the homogeneous media

DEPARTMENT OF MUSIC

Course outcome of MUSIC VOCAL & INSTRUMENT

S.No.	Course Title	Course Code	Class	Course Outcome's
1	Basic Principles of Indian Music & Biographies of musicians Composers & Musicologists. Paper-1 Theory (unit1)	MUSA101TH	B.A1 st Year	C01 The students understand the basic principles and terminologies of Indian music. They will be better able to understand rich Indian of performing Arts.
2	Stage Performance Paper-2	MUSA102PR	B.A1 st Year	C01 The students is able to give a practical

	1practical(unit-2)				demonstration of the prescribed ragas and is able to demonstrate various aspects of ragas and their differentiation.
3	Theory of Indian music(general)& Biographies of musician's composers & musicologists Paper-2(unit-1)	MUSA10 3TH	B.A1 st Year	C O1	They will come to know about the hard work and contribution of great musicians.
4	Viva Voce Paper-2(unit-2)	MUSA10 4PR	B.A1 st Year	C O1	Student's aptitude and skills in the field of Indian classical music will be Enhanced.
5	Theory of Indian Music, Ancient, Grant has & contributing Musicologists Paper-3(unit-1)	MUSA20 1TH	Discipline Specific Core (DS C) B.A2 nd Year	C O1	Students will gain vast knowledge of Granthas, Natya Shastra, Sangeet Ratnakar, and contribution of the following musicians – Pt V.D Paluskar, Swami tyagaraja, Pt Sharangdev.
6	Stage Performance Paper 2 Practical(unit-2)	MUSA20 2PR	Discipline Specific Core (DS C) B.A2 nd Year	C O1	To aware students about the Ragas of the syllabus.
7	Theory of Indian music, Medieval Granthas & Contribution Of musicians of musicologists. Paper-4 Theory(unit-1)	MUSA20 3TH	B.A2 nd Year	C O1	Course exposes the students to the Granthas and study of following some talas and ragas write in notation system.
8	Viva Voce Paper 4 Practical(Unit-2)	MUSA20 4PR	Discipline Specific Core (DS C) B.A2 nd Year	C O1	Course Familiarizes students with the different Ragas & Talas.

9	(Hindustani Music) Presentation & Documentation-I	MUSA205PR	B.A2ndYear	C O1	Students will gain vast knowledge of various parts of Sitar & Tanpura and the technique of tonight. Motivate to student for presentation of Vocal & Inst. Music in group such as a high music, classical & folk music.
10	(Hindustani Music) Presentation & Documentation-II	MUSA206PR	B.A2ndYear	C O1	To aware students about some talas, Teen Tal & kehrra Tal students, Give to knowledge of operating sound system.
11	Presentation and Documentation-3	MUSA301PR	Skill Enhancement Courses (SEC)-3 B.A3 rd Year	C O1	Students are introduced to power point of presentation & performance of Indian music in Vol. & Ints.
12	Presentation and Documentation-4	MUSA302PR	Skill Enhancement Courses (SEC)-4 B.A3 rd Year	C O1	Their performing skills with improve.
13	Theory of Indian music and study of ancient granthas and Ragor. (Unit-1)	MUSA303TH	Discipline Specific Core (DSC)-A B.A3 rd Year	C O1	It will lead to better understanding of rich Indian Culture and introduced to students with different instruments like sitar Tabla, Tanpura, Harmonium & Dholak and folk instruments.
14	Practical (unit-2)	MUSA304PR	Discipline Specific Core (DSC)-1A B.A3 rd Year	C O1	To aware students about ragas & talas & comparative study of previous ragas and talas.

15	Theory of Indian Music and gharana tradition. Theory(Unit-1)	MUSA30 5TH	DisciplineSpecificCore(DSC)-1B B.A3 rd Year	C O1	Course Familiarizes students with Gharana parampara of India Music.That's & Music & Astheties.
16	Practical,Practical(unit-2)	MUSA30 6PR	DisciplineSpecificCore(DSC)-1B B.A3 rd Year	C O1	It will improve students understanding of ragas&talas.
17	Theory of Indian Music and Folk Music of H.P.	MUSA30 7TH	GENERICSELECTIVECOURSES(GEC)-1 B.A3 rd Year	C O1	Students are introduced with folk music of H.P. and folk instruments & basic techniques of sitar & tanpura & table.
18	Practical	MUSA30 8PR	GENERICSELECTIVECOURSES(GEC)-2 B.A3 rd Year	C O1	Will also improve their performing skills.

Physical Education Under-Graduate

Course and Program Outcomes

B.A. (1st, 2nd & 3rd Year)

Program outcomes of BA in Physical Education

Program Name	Outcomes
BA Physical Education	<p>Himachal Pradesh, the outcomes for undergraduate (UG) physical education programs can vary depending on the specific curriculum and objectives set by the institution. However, here are ten common outcomes that such programs may aim to achieve:</p> <p>Knowledge of Physical Education Principles: Understand the foundational principles, theories, and concepts of physical education.</p> <p>Skill Development: Acquire proficiency in various sports and physical activities,</p>

including both individual and team sports.

Health and Fitness Awareness: Develop an understanding of the importance of physical fitness and its relationship to overall health and well-being.

Motor Skill Development: Enhance motor skills such as agility, coordination, balance, and flexibility through practical training and exercises.

Teaching and Coaching Skills: Gain the ability to effectively teach and coach others in physical education and sports settings.

Sports Psychology: Understand the psychological aspects of sports performance, including motivation, confidence, and concentration.

Sports Nutrition and Injury Prevention: Learn about proper nutrition for athletes and strategies for preventing and managing sports-related injuries.

Ethical and Social Responsibility: Recognize the ethical issues and responsibilities associated with sports participation, coaching, and administration.

Adapted Physical Education: Understand how to modify physical activities and programs to accommodate individuals with disabilities or special needs.

Professional Development: Develop the skills necessary for professional growth and advancement in the field of physical education, including communication,

	<p>leadership, and teamwork.</p> <p>These outcomes aim to equip students with a comprehensive understanding of physical education principles, practical skills, and ethical considerations to prepare them for various roles in the field, including teaching, coaching, fitness training, and sports administration.</p>
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BA 1st YEAR COURSE OUTCOMES

Course name	OUTCOMES
<p>1. Introduction to Physical Education</p>	<p>In an introductory course to Physical Education (PE), there are typically five main outcomes or goals that educators aim to achieve:</p> <p>Physical Fitness: Students should develop an understanding of the importance of physical fitness and acquire basic fitness skills. This includes activities that improve cardiovascular endurance, muscular strength, flexibility, and overall body composition.</p> <p>Motor Skills Development: PE introduces students to a variety of motor skills such as running, jumping, throwing, catching, and striking. The goal is to enhance coordination, balance, and agility, which are fundamental for participating in various sports and physical activities.</p> <p>Health Awareness and Knowledge: Students learn about the principles of health and wellness, including the benefits of regular physical activity, proper nutrition, injury prevention, and the risks associated</p>

	<p>with sedentary lifestyles. They develop an awareness of how physical activity contributes to overall health and well-being.</p> <p>Social and Emotional Development: PE provides opportunities for students to work collaboratively, communicate effectively, and demonstrate good sportsmanship. Through team sports, group activities, and cooperative games, students learn important social skills such as teamwork, leadership, empathy, and resilience. Physical activity also promotes stress relief and improves mood, contributing to emotional well-being.</p> <p>Lifelong Participation in Physical Activity: The ultimate goal of PE is to instill a lifelong appreciation for physical activity and a commitment to maintaining a healthy and active lifestyle. By exposing students to a variety of sports and fitness activities, PE encourages them to find enjoyable ways to stay active beyond the classroom, whether through recreational sports, exercise classes, outdoor pursuits, or other forms of physical recreation.</p> <p>These outcomes collectively aim to empower students with the knowledge, skills, and attitudes necessary to lead physically active and healthy lives both now and in the future.</p>
<p>2. Olympic movement and organization of tournaments</p>	<p>Here are five potential course outcomes for a course focusing on the Olympic movement and the organization of tournaments:</p> <p>Understanding the Olympic Movement: Students will gain a comprehensive understanding of the history, principles, and values of the Olympic Movement, including</p>

its origins, evolution, and significance in the modern world.

Knowledge of Olympic Governance

Structures: Students will acquire knowledge of the organizational structures and governance systems of the International Olympic Committee (IOC), National Olympic Committees (NOCs), and International Federations (IFs), and how these entities collaborate to organize and manage Olympic events.

Tournament Planning and Management:

Students will develop the skills necessary to plan, organize, and manage sports tournaments at various levels, from local to international, including venue selection, scheduling, logistics, and resource allocation.

Event Marketing and Promotion:

Students will learn strategies for effectively marketing and promoting sports events, with a focus on leveraging traditional and digital media platforms, engaging sponsors and stakeholders, and maximizing audience reach and engagement.

Ethical and Social Considerations:

Students will explore the ethical, social, and cultural dimensions of sports tournaments and the Olympic Movement, including issues related to fair play, athlete welfare, diversity and inclusion, and the role of sports in society.

These outcomes aim to provide students with a well-rounded understanding of the Olympic Movement and equip them with the knowledge and skills needed to contribute to the successful organization and management of sports tournaments.

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BA 2ND YEAR COURSE OUTCOMES

COURSE NAME	OUTCOMES
<p>1. Human anatomy and physiology</p>	<p>Outcomes for a Human Anatomy and Physiology course typically encompass a range of knowledge and skills that students are expected to acquire by the end of the course. Here are five common outcomes:</p> <p>Understanding of Basic Anatomy: Students should be able to demonstrate a solid understanding of the structure and organization of the human body, including major organs, tissues, and systems.</p> <p>Knowledge of Physiological Processes: Students should comprehend the fundamental physiological processes that occur within the human body, such as cellular respiration, circulation, digestion, and nervous system function.</p> <p>Application of Concepts: Students should be able to apply anatomical and physiological concepts to analyze and interpret various scenarios, such as understanding the effects of exercise on the cardiovascular system or the impact of diet on digestion.</p> <p>Critical Thinking and Problem-Solving: Students should develop critical thinking skills necessary for analyzing complex physiological phenomena and solving problems related to human health and</p>

	<p>disease.</p> <p>Effective Communication: Students should be able to effectively communicate scientific information related to human anatomy and physiology using appropriate terminology, both orally and in writing.</p> <p>These outcomes aim to ensure that students not only acquire a strong foundation in the principles of human anatomy and physiology but also develop critical thinking skills and the ability to communicate their understanding effectively.</p>
<p>2. Sports psychology</p>	<p>A sports psychology course typically aims to achieve several outcomes to enhance understanding and application of psychological principles in sports and exercise settings. Here are five common outcomes for such a course:</p> <p>Understanding Psychological Factors in Sports Performance: Students should gain an understanding of how psychological factors such as motivation, confidence, anxiety, and concentration impact athletic performance. They should be able to analyze and apply these concepts to real-world sporting scenarios.</p> <p>Enhancing Mental Skills Training: Students should learn various mental skills and techniques used to enhance performance, such as goal setting, imagery, self-talk, relaxation techniques, and attention control. They should be able to apply these skills effectively to help athletes optimize their performance.</p> <p>Psychological Strategies for Injury Rehabilitation: Students should understand</p>

	<p>the psychological aspects of injury and rehabilitation, including the psychological impact of injury on athletes, psychological interventions to facilitate recovery, and strategies for coping with the psychological challenges of rehabilitation.</p> <p>Team Dynamics and Leadership: Students should explore the role of psychology in team dynamics, including communication, cohesion, leadership, and group decision-making. They should understand how these factors influence team performance and be able to apply psychological strategies to enhance team functioning.</p> <p>Ethical and Professional Issues: Students should develop an awareness of ethical and professional issues in sports psychology, including confidentiality, dual relationships, informed consent, and cultural competence. They should understand the importance of ethical conduct in their work with athletes and coaches.</p> <p>These outcomes provide a foundation for students to apply psychological principles effectively in sports and exercise settings, whether as practitioners, coaches, or researchers.</p>
<p>3. Sports Medicine, Physiotherapy and Rehabilitation</p>	<p>Certainly! Here are five potential learning outcomes for a course in Sports Medicine, Physiotherapy, and Rehabilitation:</p> <p>Comprehensive Understanding of Anatomy and Physiology: Students will gain a deep understanding of human anatomy and physiology, with a focus on musculoskeletal, cardiovascular, and neurological systems, enabling them to identify, diagnose, and treat sports-related</p>

injuries effectively.

Proficiency in Injury Assessment and Rehabilitation Techniques: Students will develop the skills necessary to assess sports injuries accurately, utilizing a variety of diagnostic tools such as physical examinations, imaging techniques, and functional assessments. They will also learn a range of rehabilitation techniques, including therapeutic exercises, manual therapy, and modalities like ultrasound and electrical stimulation.

Application of Evidence-Based Practices: Students will learn to critically evaluate and apply current research findings and evidence-based practices in sports medicine and rehabilitation. This includes understanding the latest advancements in treatment modalities, injury prevention strategies, and rehabilitation protocols, ensuring they deliver the most effective care to athletes and individuals recovering from injuries.

Interdisciplinary Collaboration Skills: Students will develop the ability to collaborate effectively with other healthcare professionals, such as physicians, athletic trainers, nutritionists, and psychologists, to provide comprehensive care for athletes and individuals undergoing rehabilitation. They will learn the importance of interdisciplinary communication and teamwork in optimizing patient outcomes and promoting holistic wellness.

Ethical and Professional Conduct: Students will be introduced to the ethical and legal considerations inherent in sports medicine, physiotherapy, and rehabilitation practice. They will learn about patient

	<p>confidentiality, informed consent, professional boundaries, and the importance of maintaining high standards of professionalism and integrity in their interactions with patients, colleagues, and the broader community.</p>
<p>4. Sports training</p>	<p>A sports training course could aim to achieve various outcomes depending on its focus and target audience. Here are five possible outcomes:</p> <p>Improved Physical Fitness: Participants will enhance their physical fitness levels through targeted exercises, drills, and conditioning routines tailored to their sport. This outcome might include gains in strength, endurance, speed, agility, and flexibility.</p> <p>Enhanced Skill Development: Athletes will develop and refine specific skills relevant to their sport, such as shooting accuracy in basketball, ball control in soccer, or stroke technique in swimming. The course may employ drills, practice sessions, and feedback mechanisms to facilitate skill improvement.</p> <p>Injury Prevention and Management: Participants will learn about injury prevention strategies, proper warm-up and cool-down techniques, and how to recognize and respond to common sports-related injuries. This outcome aims to reduce the risk of injury and promote safe participation in physical activity.</p> <p>Sports Psychology and Mental Toughness: The course may incorporate elements of sports psychology to help athlete’s developmental resilience, focus, confidence,</p>

	<p>and motivation. Participants might learn techniques for managing performance anxiety, setting goals, and maintaining a positive mindset during competition.</p> <p>Nutrition and Performance Optimization: Athletes will gain knowledge about the role of nutrition in sports performance, including optimal pre- and post-workout meals, hydration strategies, and dietary supplements. This outcome aims to support athletes in fueling their bodies effectively for training and competition, as well as promoting overall health and well-being.</p>
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BA 3RD YEAR COURSE OUTCOMES

COURSE NAME	OUTCOMES
<p>1. Recreation</p>	<p>The outcomes of a recreation course can vary depending on the specific objectives and focus of the course, but here are five common outcomes that such a course might aim to achieve:</p> <p>Enhanced Knowledge and Understanding: Participants should gain a deeper understanding of various recreational activities, including their history, rules, techniques, and benefits. This outcome may involve both theoretical knowledge and practical skills related to recreation.</p> <p>Improved Physical Fitness and Skills: Participants should develop their physical fitness and proficiency in specific recreational activities. This might include improving coordination, strength, flexibility, and endurance through regular participation in activities such as sports, fitness classes, or</p>

outdoor pursuits.

Increased Social Interaction and Communication Skills: Recreation courses often involve group activities, which can help participants develop their social skills, teamwork abilities, and communication techniques. This outcome may involve learning how to effectively communicate with peers, collaborate on tasks, resolve conflicts, and provide support to others.

Stress Reduction and Mental Well-being: Engaging in recreational activities can have significant mental health benefits, such as reducing stress, anxiety, and depression, and enhancing overall well-being. Participants may learn strategies for managing stress, finding enjoyment in leisure activities, and maintaining a healthy work-life balance.

Cultural Appreciation and Environmental Awareness: Some recreation courses may focus on activities that promote cultural appreciation or environmental stewardship. Participants might learn about the cultural significance of certain recreational practices, explore different traditions and customs, or develop an understanding of environmental conservation principles while engaging in outdoor activities.

These outcomes are not exhaustive, and the specific goals of a recreation course may vary depending on factors such as the target audience, course duration, and instructional approach. However, they provide a general framework for understanding the potential benefits that such a course could offer to participants.

2. Methods of Teaching in Physical Education

Teaching methods in a Physical Education (PE) course can vary widely based on the objectives and desired outcomes of the curriculum. Here are five common outcomes and corresponding teaching methods:

Skill Acquisition and Development:

Demonstration: Teachers can demonstrate proper techniques for various skills such as throwing, catching, kicking, etc. This can be followed by student practice and feedback.

Drills and Practice: Structured drills and repetitive practice can help students refine their skills.

Peer Teaching: Students can teach each other under the guidance of the teacher, reinforcing their own understanding while helping their peers.

Physical Fitness Improvement:

Circuit Training: Set up stations for different exercises targeting various muscle groups or cardiovascular fitness.

Interval Training: Alternating between periods of intense exercise and rest to improve endurance.

Fitness Testing: Regular assessments such as timed runs, push-up tests, or flexibility assessments can help track progress and motivate students.

Health and Wellness Education:

Class Discussions: Engage students in discussions about nutrition, the importance of physical activity, stress management, etc.

Guest Speakers: Invite health professionals

or athletes to speak to the class about topics related to health and wellness.

Interactive Activities: Games or simulations that demonstrate the effects of healthy habits versus unhealthy habits.

Teamwork and Cooperation:

Team Sports: Organize team sports such as basketball, soccer, or volleyball, where students must work together to achieve a common goal.

Group Challenges: Set up group challenges or obstacle courses that require collaboration and communication.

Problem-Based Learning: Present students with scenarios that require teamwork to solve, fostering cooperation and critical thinking.

Personal and Social Development:

Reflection Journals: Encourage students to keep journals where they reflect on their progress, challenges, and personal growth throughout the course.

Leadership Opportunities: Assign roles such as team captains or group leaders to give students opportunities to develop leadership skills.

Inclusive Activities: Plan activities that promote inclusivity and respect for individual differences, fostering empathy and social awareness.

Department Of Physics

Program Outcomes (B.Sc. Physics)

- To explain various theories behind various phenomenon of nature and universe.
- To make students understand working, working principle of various devices, electric circuits, electronic circuits used in today's world.
- To inculcate scientific temper and encourage contribution in scientific development.
- To impart basic training through practical on various electric, electronic, digital and mechanical devices.
- To encourage Innovative ideas through Projects based on theories, concepts and practical by students.
- To encourage students for research in Physics and take up career in Scientific research of national and International importance.

Department of Physics

Course Learning Outcomes

B.Sc. First Year

Sr.No	Course Title	Course Code	Course Outcomes
1	Mechanics	PHYS101	1.To articulate and apply fundamental concepts of mechanics. 2. To acquire practical skills in designing and conducting experiments to investigate various mechanical phenomena. 3.To analyse and solve problems using appropriate mathematical techniques.
2	Electricity, Magnetism & EMT	PHYS102	1.To explain concepts about static electricity with applications in science. 2.To describe various principles of current electricity and its applications. 3.To explain Magnetic effects of current and applying it to science. 4.To develop interest in concept of em waves . role of em waves in science today.

B.Sc. Second Year

Sr.No	Course Title	Course Code	Course Outcomes
1	Statistical and Thermal Physics	PHYS201	<ol style="list-style-type: none"> To understand the fundamental principles of statistical mechanics. To apply statistical methods to analyze and predict the behavior of physical systems. To describe the behavior of various thermodynamic processes.
.2	Waves and Optics	PHYS202	<ol style="list-style-type: none"> To explain various concepts related to SHO including Damped SHO. To understand forced and coupled oscillators. To explain various concepts of wave optics such as diffraction, interference and polarization.
3	Physics Workshop Skills	PHYS203	<ol style="list-style-type: none"> To develop practical skills in using basic physics laboratory equipments and techniques. To understand the concepts of workshop practices and various manufacturing methods. To explain the mechanism involved in using different kinds of prime movers.
4	Electrical Circuits and Network Skills	PHYS205	<ol style="list-style-type: none"> To understand the fundamental principles and laws governing electrical circuits, including Ohm's Law, Kirchhoff's Laws, and network theorems. To analyze and solve simple to complex electrical circuits using various methods such as nodal analysis, mesh analysis, and superposition. Demonstrate proficiency in using laboratory equipment for measuring voltage, current, and resistance, as well as constructing and testing circuits to validate theoretical concepts.

B.Sc. Third Year

Sr.No	Course Title	Course	Course Outcomes
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		Code	
1	Elements of Modern Physics	PHYS301	<p>1 To demonstrate a comprehensive understanding of the fundamental principles of modern physics, including quantum mechanics and nuclear physics</p> <p>2. To analyze and solve problems related to atomic and molecular structures, as well as the behavior of matter at the subatomic level.</p> <p>3. To apply mathematical techniques such as linear algebra and differential equations to model and interpret physical phenomena encountered in modern physics</p> <p>4. Students will be able to critically evaluate experimental evidence and theoretical frameworks within the realm of modern physics, and effectively communicate their findings through written reports and oral presentations.</p>
2	Nuclear and particle Physics	PHYS304	<p>1. To explain nucleus and its constituents and models to explain nucleus.</p> <p>2. To understand the fundamental principles of nuclear structure and properties, including nuclear forces and decay mechanisms.</p> <p>3. Describe the interactions of particles with matter, including scattering processes and particle detection techniques.</p> <p>4. To understand and discuss about elementary particle and its applications to unfold mysteries of universe.</p>
3	Solid State Physics and Electronics	PHYS302	<p>1. To Explain the fundamental principles of solid-state physics, including crystal structure, lattice vibrations, and electronic band theory.</p> <p>2. To analyze the behavior of semiconductors, including intrinsic and extrinsic properties, doping,</p>

			<p>and carrier transport mechanisms.</p> <p>3. To demonstrate proficiency in the application of semiconductor devices, such as diodes, transistors, and integrated circuits, in electronic circuits and systems.</p> <p>4. To tell students about various solid state devices and their role in development in science and applications</p>
4	Radiation Safety	PHYS307	<p>1. To understand the fundamental principles of radiation physics, including the types of radiation, their properties, and their interactions with matter.</p> <p>2. Identify and assess potential radiation hazards in different contexts, such as industrial settings, medical facilities, and environmental situations.</p> <p>3. To apply appropriate safety protocols and procedures to mitigate radiation risks, including the use of shielding, personal protective equipment, and radiation dose management.</p> <p>4. To explain ill-effects of radiation exposure and radiation safety procedures and techniques.</p>
5	Renewable Energy and Energy Harvesting	PHYS310	<p>1. To understand the fundamentals of renewable energy resources including solar, wind, ocean, hydroelectric and geothermal.</p> <p>2.To distinguish between renewable and non-renewable energy recourses.</p> <p>3.To describe importance of renewable energy resources.</p> <p>4.To enable students develop better Energy harvesting methods for betterment of society.</p>

Political Science Under Graduate

B.A. (1st, 2nd & 3rd Year)

Program outcomes of BA Political Science

Program name	Outcomes
BA Political science	<p>A Bachelor of Arts (BA) in Political Science is designed to provide students with a robust understanding of political dynamics both within the country and globally. Here are ten key learning outcomes for students pursuing this degree:</p> <ol style="list-style-type: none">1. **Foundational Knowledge of Political Theories**: Students will gain comprehensive insights into various political theories and ideologies that shape governance and political behavior worldwide.2. **Understanding of Indian Political Structure**: Learners will explore the structure and functioning of the Indian political system, including the Constitution, central and state governments, and administrative machinery.3. **Analytical Skills**: Students will develop critical thinking and analytical skills to evaluate political situations, policies, and theories effectively.4. **Research Proficiency**: The program equips students with the skills to conduct

detailed political research, employing both qualitative and quantitative methods.

5. **Comparative Politics:** Students will compare the political systems, policies, and governance of India with those of other countries, fostering a deeper global perspective.

6. **Policy Analysis and Development:** Learners will be taught how to analyze public policies, assess their impacts, and understand the processes involved in policy-making.

7. **International Relations and Global Politics:** Students will study major concepts and issues in international relations, including diplomacy, international conflict, and peace studies.

8. **Political Communication:** The course will enhance students' abilities to communicate political ideas clearly and effectively, both in writing and orally.

9. **Civic Engagement and Leadership:** The program encourages students to engage with civic issues, participate in governance, and develop leadership skills applicable in political or community settings.

	<p>10. **Ethical and Legal Considerations**: Students will understand the ethical and legal frameworks that guide political actions and policies, focusing on integrity, accountability, and the rule of law.</p> <p>These outcomes not only prepare graduates for careers in politics, public administration, law, and diplomacy but also equip them to be informed citizens and leaders who can contribute positively to society.</p>
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BA 1st YEAR COURSE OUTCOMES

Course name	OUTCOMES
<p>3. Introduction to Political Theory</p>	<p>An Introduction to Political Theory course typically aims to achieve the following five outcomes:</p> <p>1. **Foundational Knowledge**: Students gain an understanding of key political concepts such as justice, rights, freedom, power, and governance.</p> <p>2. **Historical Perspectives**: The course explores the evolution of political thought from classical to modern times through major theorists like Plato, Locke, Marx, and others.</p> <p>3. **Critical Analysis Skills**: Students develop the ability to critically analyze and debate political theories and concepts.</p>

	<p>4. **Comparative Views**: Learners compare different political theories to understand diverse viewpoints.</p> <p>5. **Application to Contemporary Issues**: Students apply theoretical frameworks to analyze and interpret current political issues and ideologies, enhancing their practical understanding of political dynamics.</p>
<p>4. Indian Government and Politics</p>	<p>A course on Indian Government and Politics typically aims to achieve the following five outcomes:</p> <p>1. **Constitutional Framework**: Students gain a deep understanding of the Indian Constitution, its principles, structures, and functions.</p> <p>2. **Political Institutions**: Learners analyze the roles and functions of key institutions like the Parliament, Judiciary, and Executive.</p> <p>3. **Electoral Processes**: The course covers the dynamics of electoral politics, party systems, and voting behavior in India.</p>

	<p>4. **Policy and Governance**: Students understand policy-making processes and governance issues, including public administration and service delivery.</p> <p>5. **Contemporary Issues**: The course encourages critical analysis of current socio-political challenges, such as communalism, corruption, and regional disparities.</p>
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BA 2ND YEAR COURSE OUTCOMES

COURSE NAME	OUTCOMES
5. Comparative Government and Politics	<p>A course on Comparative Government and Politics aims to achieve the following outcomes:</p> <p>1. **Understanding Political Systems**: Students will gain insights into different political systems worldwide, including democracies, authoritarian regimes, and hybrids, understanding their structures and operational dynamics.</p> <p>2. **Analyzing Government Structures**: Students will learn to analyze and compare the structures of government across countries, focusing on the executive, legislature, and judiciary.</p>

	<p>3. **Political Behavior and Participation**: The course will explore how cultural, social, and media influences shape political behavior and public participation in various countries.</p> <p>4. **Policy Making and Implementation**: Students will compare how different nations formulate and implement policies, considering the roles of governmental and non-governmental actors.</p> <p>5. **Development of Analytical Skills**: Students will enhance their critical thinking and comparative analysis skills, enabling them to identify and assess political trends and patterns globally.</p> <p>These outcomes equip students with the skills to critically evaluate and engage with complex political environments, fostering a deeper understanding of global political dynamics.</p>
<p>6. Introduction to International Relations</p>	<p>An Introduction to International Relations course typically aims to achieve the following outcomes:</p> <p>1. **Understanding of Key Theories**: Students will grasp core theories of international relations, including realism, liberalism, and constructivism, and how they apply to global affairs.</p>

	<p>2. **Global Systems and Institutions**: The course will explore the roles and functions of major international organizations like the UN, NATO, and the World Bank, and their impact on international politics.</p> <p>3. **Foreign Policy Analysis**: Students will learn how states formulate and implement foreign policy, understanding the influences behind these decisions.</p> <p>4. **International Conflict and Cooperation**: The course examines causes and resolutions of international conflicts, and the dynamics of global cooperation.</p> <p>5. **Critical Thinking and Global Awareness**: Students will develop skills to critically analyze international events and issues, enhancing their global awareness and understanding of complex interdependencies.</p> <p>These outcomes provide students with a foundational understanding of international relations, preparing them for more advanced studies or careers in global affairs.</p>
<p>7. Legislative Support</p>	<p>A course or training program on Legislative Support is designed to equip students or</p>

professionals with skills and knowledge for effective legislative assistance. Here are five key outcomes:

1. **Understanding Legislative Processes:** Participants will learn about the procedural steps of how legislation is drafted, debated, and passed, including committee reviews and floor proceedings.

2. **Research and Analysis Skills:** This outcome focuses on developing strong research and analytical abilities to support lawmakers by preparing briefs, reports, and providing data-driven insights.

3. **Communication and Advocacy:** Trainees will enhance their ability to communicate effectively with various stakeholders, including legislators, lobbyists, and constituents.

4. **Policy Formulation and Evaluation:** Participants will gain skills in crafting policy proposals and evaluating their impacts, understanding policy cycles from inception to implementation.

5. **Ethical and Legal Compliance:** A crucial outcome is understanding the legal frameworks and ethical considerations in legislative environments, ensuring

	<p>compliance and integrity in all legislative support activities.</p> <p>These outcomes prepare individuals to effectively support and influence legislative processes, making them valuable assets in governmental and non-governmental organizations.</p>
<p>8. Public Opinion and Survey Research</p>	<p>A course in Public Opinion and Survey Research is designed to equip students with the tools and knowledge necessary for designing, conducting, and analyzing surveys and understanding public opinion. Here are five key outcomes:</p> <ol style="list-style-type: none"> <li data-bbox="716 926 1312 1171"> <p>1. **Understanding of Survey Methodology**: Students will learn about different survey methodologies, sampling techniques, and the principles of questionnaire design to ensure accuracy and reliability in data collection.</p> <li data-bbox="716 1293 1312 1497"> <p>2. **Data Collection and Management**: Participants will gain skills in managing data collection processes, including face-to-face interviews, phone surveys, and online questionnaires.</p> <li data-bbox="716 1619 1312 1780"> <p>3. **Statistical Analysis**: The course will provide knowledge of statistical tools and techniques to analyze survey data and interpret results effectively.</p>

	<p>4. **Insight into Public Opinion Trends**: Students will learn how to track and interpret shifts in public opinion, understanding its impact on politics, policy, and public relations.</p> <p>5. **Ethical Considerations**: An essential outcome is understanding the ethical issues in survey research, including privacy concerns and the importance of informed consent.</p> <p>These outcomes ensure that graduates are prepared to conduct robust public opinion research, crucial for data-driven decision-making in political, social, and commercial fields.</p>
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BA 3RD YEAR COURSE OUTCOMES

COURSE NAME	OUTCOMES
3. Themes in Comparative Political Theory	<p>A course on Themes in Comparative Political Theory typically aims to achieve the following outcomes:</p> <p>1. **Theoretical Frameworks**: Students will understand diverse political theories across different cultures and historical contexts, comparing Western and non-Western approaches to political thought.</p> <p>2. **Cross-Cultural Analysis**: Learners</p>

	<p>will develop skills to analyze and interpret political ideas within their cultural and historical settings, recognizing the influence of cultural factors on political theory.</p> <p>3. **Global Perspectives**: The course encourages the exploration of global political issues through various theoretical lenses, enhancing students' ability to engage with international political debates.</p> <p>4. **Critical Thinking**: Students will cultivate critical thinking skills, challenging ethnocentric interpretations and appreciating the complexity of different political ideas.</p> <p>5. **Synthesis of Ideas**: Learners will be able to synthesize comparative insights, contributing to a deeper understanding of global political dynamics and the potential for theoretical innovation in addressing contemporary challenges.</p> <p>These outcomes prepare students for advanced studies in political theory and careers that require nuanced understanding of global political ideologies.</p>
<p>4. Democracy and Governance</p>	<p>A course on Democracy and Governance is structured to provide deep insights and practical knowledge about democratic systems and their administration. Here are five key learning outcomes expected from such a course:</p>

1. **Understanding Democratic Principles:**

Students will grasp core principles of democracy such as representation, participation, accountability, and transparency. They will explore different democratic theories and models, understanding how these principles are applied in various governance systems worldwide.

2. **Roles of Institutions:**

Learners will critically analyze the structure and function of major democratic institutions including the legislature, executive, and judiciary. This includes examining the checks and balances system, the role of independent bodies, and the importance of institutional integrity in upholding democratic norms.

3. **Mechanisms of Participation:**

The course delves into the mechanisms that facilitate public participation in democracies, such as voting, public consultations, and the role of civil society. Students will study how these mechanisms enhance or sometimes hinder democratic governance.

4. **Governance and Policy Making:**

Students will understand the process of policy formulation and implementation in democratic contexts, focusing on how policies are influenced by democratic governance. This includes a discussion on

	<p>how governance structures can be made more responsive and effective through policy innovation and reform.</p> <p>5. **Contemporary Challenges and Solutions**: The course addresses modern challenges to democracy, including political polarization, misinformation, threats to press freedom, and the rise of authoritarian tendencies. Students will explore strategies for strengthening democratic governance and ensuring its resilience against such threats.</p> <p>These outcomes equip students with a nuanced understanding of how democracies function and falter, preparing them for roles in policy-making, public administration, or further academic research in political science.</p>
<p>5. Democratic Awareness Through Legal Literacy</p>	<p>A course on Democratic Awareness Through Legal Literacy aims to achieve the following five outcomes:</p> <p>1. **Understanding of Legal Rights**: Students learn about their legal rights and duties as enshrined in national laws and international human rights standards.</p> <p>2. **Judicial System Familiarity**: Learners gain an understanding of how the judicial system operates, emphasizing its role in upholding democracy and justice.</p>

	<p>3. **Role of Law in Democracy**: The course explores how laws shape democratic processes and protect freedoms.</p> <p>4. **Informed Citizenship**: Students develop the skills to critically analyze laws and legal reforms, enhancing their effectiveness as informed citizens.</p> <p>5. **Engagement and Advocacy**: Participants are encouraged to engage in legal and civic processes, using their knowledge to advocate for rights and democratic principles.</p> <p>These outcomes help foster a legally literate populace that actively participates in and sustains democratic governance.</p>
<p>6. Conflict and Peace Building</p>	<p>A course on Conflict and Peace Building is designed to achieve the following five outcomes:</p> <p>1. **Conflict Analysis Skills**: Students learn to identify and analyze underlying causes of conflicts, from local to global scales.</p> <p>2. **Negotiation Techniques**: Learners acquire skills in negotiation and mediation, essential for conflict resolution.</p> <p>3. **Understanding Peace Theories**: The course explores various peace theories</p>

	<p>and strategies for sustainable peace.</p> <p>4. **Implementation of Peace Processes**: Students study how peace processes are developed and implemented effectively.</p> <p>5. **Post-Conflict Reconstruction**: Learners gain insights into the challenges and strategies of post-conflict reconstruction and reconciliation.</p> <p>These outcomes equip students to effectively contribute to building and sustaining peace in various contexts.</p>
<p>7. Society economy and Politics in Himachal Pradesh</p>	<p>A course on Society, Economy, and Politics in Himachal Pradesh aims to achieve the following five outcomes:</p> <p>1. **Regional Historical Insight**: Students gain an understanding of Himachal Pradesh's unique historical developments and their impact on its society and politics.</p> <p>2. **Economic Dynamics**: Learners analyze the region's economic structures, including tourism, agriculture, and emerging industries.</p> <p>3. **Political Structures**: The course explores the political framework and governance mechanisms specific to Himachal Pradesh.</p> <p>4. **Social Issues**: Students examine key social issues and demographic changes affecting the region.</p>

	<p>5. **Sustainable Development**: Learners assess strategies for sustainable development in the context of Himachal Pradesh’s environment and resources.</p> <p>These outcomes provide students with a comprehensive understanding of the interplay between society, economy, and politics in Himachal Pradesh, preparing them for informed citizenship or professional roles in the region.</p>
<p>8. Human Rights, Gender, and Environment</p>	<p>A course on Human Rights, Gender, and Environment aims to achieve the following five outcomes:</p> <ol style="list-style-type: none"> 1. **Foundational Understanding**: Students explore core concepts and legal frameworks related to human rights, gender equality, and environmental justice. 2. **Intersectional Analysis**: Learners examine how human rights, gender issues, and environmental concerns intersect and influence one another. 3. **Advocacy Skills**: The course develops skills in advocacy and activism to address and promote rights and sustainability. 4. **Policy Impact**: Students analyze how policies can be designed or reformed to better protect human rights, promote gender equality, and ensure environmental sustainability. 5. **Global and Local Perspectives**:

	<p>Learners gain a balanced view of global challenges and local applications, preparing them to act effectively in diverse contexts.</p> <p>These outcomes prepare students to contribute meaningfully to debates and solutions at the intersection of human rights, gender, and environmental issues.</p>
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SKT-DSC-101 संस्कृत काव्य

सीखने के परिणाम (*LEARNING OUTCOMES*)

- संस्कृत काव्य के ऐतिहासिक और सांस्कृतिक संदर्भ को समझना।
- संस्कृत काव्य में प्रयुक्त विभिन्न काव्य रूपों और छंदों का विश्लेषण।
- संस्कृत काव्य में प्रयुक्त विषयों, प्रतीकों और साहित्यिक उपकरणों की व्याख्या करना।
- संस्कृत काव्य पढ़ने और सुनाने में दक्षता विकसित करना।
- संस्कृत साहित्य के सौन्दर्यपरक एवं दार्शनिक आयामों की सराहना करना।
- संस्कृत काव्य ग्रंथों पर आलोचनात्मक चर्चा और बहस में संलग्न रहना।
- जटिल संस्कृत छंदों और रचनाओं के अध्ययन के माध्यम से भाषा कौशल को बढ़ाना।
- संस्कृत काव्य के ज्ञान को साहित्य और सांस्कृतिक अध्ययन के अन्य क्षेत्रों में लागू करना।

SKT-DSC-102 संस्कृत गद्य काव्य

सीखने के परिणाम (*LEARNING OUTCOMES*)

- भाषा प्रवीणता: व्याकरण, शब्दावली और वाक्यविन्यास सहित संस्कृत भाषा की बेहतर समझ और उपयोग।

साहित्यिक प्रशंसा: इसकी संरचना, कल्पना और विषयों सहित संस्कृत गद्य कविता के सौंदर्य और साहित्यिक गुणों के लिए बढ़ी हुई सराहना।

आलोचनात्मक सोच: जटिल साहित्यिक ग्रंथों के विश्लेषण और व्याख्या के माध्यम से आलोचनात्मक सोच कौशल का विकास।

सांस्कृतिक समझ: सांस्कृतिक और ऐतिहासिक संदर्भ की गहरी समझ जिसमें संस्कृत गद्य काव्य लिखा गया था, जिसमें प्राचीन भारतीय साहित्य में इसका महत्व भी शामिल था।

रचनात्मक अभिव्यक्ति: मौलिक गद्य काव्य रचनाएँ लिखने और रचने के माध्यम से रचनात्मक अभिव्यक्ति को प्रोत्साहित करना।

अनुसंधान कौशल: प्राथमिक ग्रंथों, माध्यमिक स्रोतों और विद्वतापूर्ण विश्लेषण के अध्ययन के माध्यम से बेहतर अनुसंधान कौशल।

संचार कौशल: गद्य काव्य से संबंधित चर्चाओं, प्रस्तुतियों और लेखन कार्यों के माध्यम से मौखिक और लिखित संचार कौशल को बढ़ाया गया।

अंतःविषय संबंध: संस्कृत साहित्य, दर्शन, धर्म और अध्ययन के अन्य क्षेत्रों के बीच अंतःविषय संबंधों की खोज।

संज्ञानात्मक विकास: जटिल साहित्यिक रूपों, प्रतीकवाद और दार्शनिक विचारों के साथ जुड़ाव के माध्यम से संज्ञानात्मक विकास को प्रेरित किया।

सांस्कृतिक विरासत संरक्षण: गद्य काव्य ग्रंथों के अध्ययन और प्रशंसा के माध्यम से संस्कृत साहित्यिक विरासत के संरक्षण और प्रचार में योगदान।

SKT-DSC-103 नीति साहित्य

सीखने के परिणाम (LEARNING OUTCOMES)

नीति साहित्य (नैतिक साहित्य) पाठ्यक्रम में, सीखने के परिणामों में संस्कृत साहित्य में चित्रित शास्त्रीय भारतीय नैतिक सिद्धांतों की समझ, नीति साहित्य की शैली में प्रमुख कार्यों और लेखकों के साथ परिचित होना, नैतिक दुविधाओं और प्रस्तुत नैतिक शिक्षाओं का विश्लेषण और व्याख्या करने की क्षमता शामिल हो सकती है। संस्कृत ग्रंथ, समसामयिक मुद्दों पर नैतिक अवधारणाओं को लागू करने में दक्षता, और भारतीय समाज में नीति साहित्य के सांस्कृतिक और दार्शनिक महत्व की सराहना।

SKT-AECC-104 उपनिषद्, श्रीमद्भगवद्गीता तथा पाणिनीय शिक्षा

सीखने के परिणाम (LEARNING OUTCOMES)

उपनिषदों और भगवद् गीता में प्रस्तुत दार्शनिक अवधारणाओं और शिक्षाओं को समझना।

आत्मा, ब्रह्म, कर्म, धर्म और मोक्ष जैसे प्रमुख विषयों के महत्व का विश्लेषण करना।

उन ऐतिहासिक और सांस्कृतिक संदर्भों की खोज करना जिनमें इन ग्रंथों की रचना की गई थी।

समकालीन समाज और व्यक्तिगत जीवन में इन शिक्षाओं की प्रासंगिकता का मूल्यांकन करना।

पाठ्य विश्लेषण और व्याख्या के माध्यम से आलोचनात्मक सोच कौशल विकसित करना।

हिंदू धर्म की आध्यात्मिक और दार्शनिक विरासत के प्रति सराहना पैदा करना।

शिक्षाओं की समझ और अनुप्रयोग को गहरा करने के लिए चर्चाओं और चिंतन में संलग्न होना।

शिक्षाओं के नैतिक निहितार्थों और व्यक्तिगत मान्यताओं और मूल्यों पर उनके प्रभाव पर विचार करना।

SKT-DSC-201 संस्कृत नाटक

सीखने के परिणाम (LEARNING OUTCOMES)

संस्कृत नाटक पाठ्यक्रम में सीखने के विभिन्न परिणाम हो सकते हैं, जिनमें संस्कृत भाषा में दक्षता, शास्त्रीय संस्कृत नाटक सम्मेलनों की समझ, प्रमुख संस्कृत नाटककारों और उनके कार्यों का ज्ञान, संस्कृत नाटकीय ग्रंथों का विश्लेषण और व्याख्या करने की क्षमता और संस्कृत के सांस्कृतिक और साहित्यिक महत्व की सराहना शामिल है।

SKT-DSC-202 संस्कृत व्याकरण

सीखने के परिणाम (LEARNING OUTCOMES)

संस्कृत व्याकरण नियमों की गहरी समझ और अनुप्रयोग, संस्कृत में जटिल वाक्यों और ग्रंथों की रचना करने में दक्षता, शास्त्रीय संस्कृत साहित्य में जटिल व्याकरणिक संरचनाओं का विश्लेषण और व्याख्या करने की क्षमता, व्याकरणिक शब्दावली, वाक्य निर्माण और अवधारणाओं की महारत शामिल हो सकती है और संस्कृत व्याकरण और भाषा विज्ञान पर विद्वानों की चर्चा में शामिल होने की क्षमता।

SKT-DSC-203 व्याकरण एवं संयोजन

सीखने के परिणाम (LEARNING OUTCOMES)

व्याकरण और रचना: पाठ्यक्रम में उन्नत संस्कृत व्याकरण अवधारणाओं में महारत हासिल करना, मूल संस्कृत ग्रंथों की रचना करने में दक्षता, संस्कृत साहित्य में शैलीगत तत्वों और अलंकारिक उपकरणों की समझ, रचनात्मक लेखन में व्याकरणिक सिद्धांतों को प्रभावी ढंग से लागू करने की क्षमता और सौंदर्य और भाषाई पहलुओं की सराहना शामिल हो सकती है। संस्कृत रचना के मूल विषयों की समझ।

SKT-AEEC/SEC-205 आयुर्वेद के मूल सिद्धांत

सीखने के परिणाम (LEARNING OUTCOMES)

(आयुर्वेद के मौलिक सिद्धांत) संभवतः आयुर्वेद के मूल सिद्धांतों और अवधारणाओं की गहरी समझ को शामिल करेंगे, जैसे कि त्रिदोष सिद्धांत (वात, पित्त, कफ), अग्नि (पाचन अग्नि), धातु (ऊतक), और मलास की अवधारणा। (अपशिष्ट उत्पादों)। छात्र हर्बल चिकित्सा, आहार, जीवन शैली और उपचारों सहित आयुर्वेदिक निदान और उपचार के तौर-तरीकों के सिद्धांतों के बारे में भी सीखेंगे। इसके अतिरिक्त, वे नैदानिक और व्यावहारिक सेटिंग्स में आयुर्वेदिक सिद्धांतों के महत्वपूर्ण विश्लेषण और अनुप्रयोग में कौशल विकसित कर सकते हैं।

SKT-AEEC/SEC-206 संस्कृत छन्द एवं गायन

सीखने के परिणाम (LEARNING OUTCOMES)

विभिन्न छन्दों का अध्ययन, उनके वर्गीकरण और शब्दांश उच्चारण, गति, तनाव और लय को नियंत्रित करने वाले नियमों सहित संस्कृत छन्दों में समझ।

छन्दों और काव्य उपकरणों के संदर्भ में संस्कृत काव्य रचनाओं का विश्लेषण करने में प्रवीणता, और संस्कृत कविता के सौंदर्य संबंधी पहलुओं की सराहना।

संस्कृत छन्दों के ऐतिहासिक विकास की समझ, जिसमें इसके विकास, विचार के प्रमुख विद्यालय और प्रमुख विद्वान शामिल हैं।

संस्कृत छंद और संगीत के बीच संबंध का ज्ञान, जिसमें संस्कृत कविता में संगीत तत्वों जैसे माधुर्य, लय और तानवाला पैटर्न का अध्ययन शामिल है।

सही उच्चारण, स्वर और लय के साथ संस्कृत श्लोकों के पाठ और जप में कौशल का विकास, संस्कृत साहित्य की मौखिक परंपरा की सराहना को बढ़ावा देना।

संस्कृत कविता और संगीत रचनाओं की रचना और प्रदर्शन में संस्कृत छन्दों के सिद्धांतों का अनुप्रयोग।

सांस्कृतिक और कलात्मक प्रथाओं में संस्कृत छन्द और संगीत का एकीकरण, संस्कृत परंपरा में भाषा, लय और ध्वनि के अंतर्संबंध की गहरी समझ को बढ़ावा देना।

SKT-DSE-301 व्यक्तित्व विकास का भारतीय दृष्टिकोण

सीखने के परिणाम (LEARNING OUTCOMES)

वेदांत, योग और आयुर्वेद जैसे दार्शनिक, आध्यात्मिक और सांस्कृतिक दृष्टिकोण से चित्रण करते हुए, व्यक्तित्व विकास की पारंपरिक भारतीय अवधारणाओं को समझना।

भारतीय परंपराओं में व्यक्तित्व विकास के समग्र दृष्टिकोण की अंतर्दृष्टि, जो शारीरिक, मानसिक, भावनात्मक और आध्यात्मिक आयामों को एकीकृत करती है।

ध्यान, सचेतनता, आत्म-अनुशासन और नैतिक जीवन सहित व्यक्तिगत कल्याण और आत्म-जागरूकता को बढ़ाने के लिए प्रमुख सिद्धांतों और प्रथाओं का ज्ञान।

भारतीय दृष्टिकोण की तुलना में व्यक्तित्व विकास के समकालीन सिद्धांतों और मॉडलों का आलोचनात्मक मूल्यांकन करने, समानताएं, अंतर और अभिसरण के क्षेत्रों की पहचान करने की क्षमता।

व्यक्तिगत विकास, पारस्परिक संबंधों और व्यावसायिक विकास में भारतीय मनोवैज्ञानिक अवधारणाओं और तकनीकों का अनुप्रयोग।

व्यक्तियों में सकारात्मक गुणों के पोषण और लचीलेपन को बढ़ावा देने में भारतीय सांस्कृतिक प्रथाओं, अनुष्ठानों और परंपराओं की भूमिका की सराहना।

आंतरिक सद्भाव, पूर्ति और सामाजिक जिम्मेदारी को बढ़ावा देने पर ध्यान देने के साथ व्यक्तिगत और व्यावसायिक जीवन में व्यक्तित्व विकास पर भारतीय दृष्टिकोण का एकीकरण।

SKT-DSE-302 साहित्यिक समालोचना

सीखने के परिणाम (LEARNING OUTCOMES)

संस्कृत साहित्य के विश्लेषण और व्याख्या में प्रयुक्त विभिन्न साहित्यिक सिद्धांतों, दृष्टिकोणों और पद्धतियों की समझ।

संस्कृत साहित्यिक ग्रंथों का उनके ऐतिहासिक, सांस्कृतिक और सामाजिक-राजनीतिक संदर्भों में आलोचनात्मक मूल्यांकन करने, विषयों, रूपांकनों और शैलीगत विशेषताओं की खोज करने की क्षमता।

संस्कृत साहित्य की विभिन्न शैलियों, जैसे कविता, नाटक, गद्य और महाकाव्यों की पहचान और विश्लेषण करने और उनकी अनूठी विशेषताओं और योगदान की सराहना करने में दक्षता।

साहित्यिक उपकरणों, प्रतीकवाद और कथा तकनीकों की पहचान सहित, पाठ्य विश्लेषण, बारीकी से पढ़ने और संस्कृत साहित्यिक कार्यों की व्याख्या में कौशल का विकास।

प्रमुख संस्कृत साहित्यिक आलोचकों, उनके सिद्धांतों और संस्कृत साहित्य की व्याख्या और सराहना पर उनके प्रभाव का ज्ञान।

मौखिक और लिखित दोनों तरह से, संस्कृत ग्रंथों की व्यावहारिक और मौलिक व्याख्याएँ उत्पन्न करने के लिए साहित्यिक आलोचना उपकरणों और तकनीकों का अनुप्रयोग।

साहित्यिक विश्लेषणों, चर्चाओं और प्रस्तुतियों की प्रभावी अभिव्यक्ति के माध्यम से संचार कौशल में वृद्धि, संस्कृत साहित्यिक परंपराओं के साथ गहरे जुड़ाव को बढ़ावा देना।

SKT-GE-303 पातञ्जल योगसूत्र

सीखने के परिणाम (LEARNING OUTCOMES)

संभवतः इसमें पतंजलि के योग सूत्र में उल्लिखित योग के दार्शनिक और व्यावहारिक पहलुओं की व्यापक समझ शामिल होगी। इसमें योग के आठ अंगों (अष्टांग योग) के बारे में जानकारी प्राप्त करना शामिल हो सकता है, जैसे यम (नैतिक संयम), नियम (पालन), आसन (आसन), प्राणायाम (सांस पर नियंत्रण), प्रत्याहार (इंद्रियों को वापस लेना), धारणा (एकाग्रता), ध्यान (ध्यान), और समाधि (अवशोषण)। इसके अतिरिक्त, छात्र शारीरिक, मानसिक और आध्यात्मिक कल्याण को बढ़ाने के लिए योग सिद्धांतों को लागू करने और ध्यान प्रथाओं के माध्यम से दिमागीपन और आत्म-जागरूकता पैदा करने में कौशल विकसित कर सकते हैं।

SKT-GE-304 भाषा विज्ञान के मूलभूत सिद्धांत

सीखने के परिणाम (LEARNING OUTCOMES)

भाषा विज्ञान के मूल सिद्धांत की समझ: विद्यार्थियों को भाषा विज्ञान के मूल सिद्धांत की समझ होती है।

भाषाओं की तुलना और अध्ययन: भाषाओं की तुलना और अध्ययन के मूल तत्व, जैसे व्याकरण, शब्दों की विशेषताएँ और भाषाओं के व्यावहारिक शब्दों के प्रयोग को समझना।

भाषाओं की संपर्क सामग्री: भाषाओं की संपर्क सामग्री, जैसे की अक्षर, शब्दों का अर्थ, वाक्य रचना, और व्याकरण के मूल तत्व को समझना।

भाषाओं के इतिहास और विकास का अध्ययन: भाषाओं के इतिहास और विकास, उनके प्रमुख स्रोत और उनके विकास के कारणों को समझना।

भाषाओं का व्यावहारिक प्रयोग: भाषाओं के व्यावहारिक प्रयोग को समझना और उन्हें सही समय पर सही तरीके से प्रोत्साहित करना।

SKT-AEEC/SEC-305 भारतीय रंगशाला

सीखने के परिणाम (LEARNING OUTCOMES)

इसमें संभवतः भारतीय रंगमंच के इतिहास, परंपराओं और तकनीकों की व्यापक समझ शामिल होगी। छात्र भारतीय नाट्य रूपों जैसे कि संस्कृत नाटक, लोक रंगमंच (जैसे यक्षगान, भवई, आदि), क्षेत्रीय रंगमंच शैलियों और आधुनिक भारतीय रंगमंच के संदर्भ में पटकथा लेखन, अभिनय, निर्देशन, रंगमंच और उत्पादन प्रबंधन में कौशल विकसित कर सकते हैं। इसके अतिरिक्त, वे भारतीय रंगमंच के सामाजिक-सांस्कृतिक महत्व और सांस्कृतिक विरासत को संरक्षित करने और सामाजिक परिवर्तन को बढ़ावा देने में इसकी भूमिका के बारे में जानकारी प्राप्त कर सकते हैं।

SKT-AEEC/SEC-306 भारतीय वास्तुशास्त्र

सीखने के परिणाम (LEARNING OUTCOMES)

पारंपरिक सिद्धांतों की समझ: आप भारत में वास्तुकला के पारंपरिक सिद्धांतों और प्रथाओं में अंतर्दृष्टि प्राप्त करेंगे, जिसमें स्थान, अभिविन्यास और अनुपात का उपयोग शामिल है।

प्रकृति के साथ सामंजस्य: वास्तुशास्त्र सीखना अक्सर ऐसे स्थान बनाने पर जोर देता है जो प्रकृति के साथ सामंजस्य स्थापित करते हैं, संतुलन और कल्याण को बढ़ावा देते हैं।

वास्तुशिल्प डिजाइन: आप वास्तुशिल्प डिजाइन तत्वों जैसे लेआउट, कमरों, दरवाजों और खिड़कियों के स्थान के साथ-साथ विभिन्न वास्तुशिल्प सुविधाओं के महत्व के बारे में जानेंगे।

सांस्कृतिक प्रशंसा: वास्तुशास्त्र का अध्ययन भारतीय संस्कृति और विरासत के लिए गहरी सराहना प्रदान करता है, क्योंकि यह भारतीय परंपराओं और मान्यताओं में गहराई से निहित है।

व्यावहारिक अनुप्रयोग: वास्तु सिद्धांतों का सम्मान करते हुए व्यावहारिक ज्ञान प्राप्त करें जिसे वास्तविक दुनिया की वास्तुशिल्प परियोजनाओं में लागू किया जा सकता है, चाहे घरों, मंदिरों या सार्वजनिक भवनों को डिजाइन करना हो।

समस्या-समाधान कौशल: वास्तुशास्त्र में अक्सर समस्या-समाधान शामिल होता है, क्योंकि चिकित्सक ऐसे स्थान बनाने का प्रयास करते हैं जो पारंपरिक सिद्धांतों का पालन करते हुए सद्भाव और कल्याण को बढ़ावा देते हैं।

Program Outcome of Ba Tour & Travel

When students finish the BA Tour and Travel programme, they will have a deep understanding of the tourist industry's many aspects. They will have learned about the different parts and people who have a stake in the travel and tourist industry, as well as the basic rules of management. They will have learned about the country's many cultural, historical, and natural resources through classes like "Tourism Resources of India." They will also know how these resources help to grow tourism. Students who study travel agencies and tour operators will also learn how to plan itineraries, sell tickets, and deal with customers, all of which are important skills for working in these fields. They will also have learned about tourism marketing tactics and how to make campaigns that work to bring in tourists. By learning about the part of tourism groups and organisations, students will understand how the industry is promoted and regulated both in the United States and other countries. Students will learn directly about tourist spots and how to run them through field trips and other hands-on activities. They will also learn skills like cultural sensitivity and communication that are useful for tourist guiding and escort services. They will also learn how important transportation is for making travel easier. Students who study the effects of tourism will be able to see and deal with the negative effects on society, the economy, and the environment, which will encourage environmentally friendly actions. Lastly, the programme focuses on hotel and resort management and leadership development. Graduates will be ready to go into a variety of tourism-related careers, with the information, skills, and leadership abilities they need to do well in their chosen fields.

Course Outcome

CLASS	COURSE	COURSE CODE	COURSE OUTCOME
B.A. 1st Year	Introduction of Travel and Tourism Management	TTMC101 (DSC-1 A)	<ol style="list-style-type: none">1. The most important result is for students to learn about travel and tourism and to get a general understanding of these topics by defining them, understanding their meanings and historical developments, and learning about the different types and forms of tourism.2. To learn what Tourists are and how they differ from Travellers, Excursionists, Visitors, and Transients. Because tourism is mostly seasonal, it is very important to understand what Demand and Supply mean in tourism and the things that affect them.3. One of the main results is a better understanding of the tourism offering, which is an important part of any business. The focus is on explaining different aspects of tourism products, including their traits and the kinds they

			<p>come in, as well as showing how they differ from other products.</p> <p>4. Geography, nature, and tourism all have a big effect on each other. So, it is very important for students to understand how nature, tourism, and geography are connected by learning about India's Natural Tourism Resources, such as its Great Mountain Ranges, and the country's geography. To get an idea of the world's most popular tourist spots by learning about the lines of latitude and longitude, the different IATA country and city numbers, and using a world map to practise what you've learned.</p>
B.A. 1st Year	Tourism Resources of India	TTMC102(DSC-1B)	<p>(1) It's important to know more than just the idea behind the product. It's also important to know where the goods come from. It is the main goal of the course to teach students about wildlife tourism in India, which includes The Biosphere Reserves, The National Parks, and The Wildlife Sanctuaries of India. A lot of attention is also paid to desert tourism, such as the Desert Triangle of India.</p> <p>2. It is very important to the people of India that their religion shapes their life and society. Religion also has a big effect on Indian tourism. Because of this, it is very important to learn about India's main religious routes, such as the famous Char Dham Yatra and Chhota Char Dham in Uttarakhand.</p> <p>3. India has a huge and very rich history of culture. If you want to get a feel for India's rich history, this course will teach you about its UNESCO World Heritage Sites. In addition, it helps you understand the main Indian fairs and festivals better and gives you a better sense of the wealth and variety of Great Indian Heritage.</p> <p>4. The course also helps students learn how to taste and understand the different Indian cuisines, which are influenced by different parts of India and the world. There is also an emphasis on the practical side by learning the Indian food</p>

			map.
BA 2ND Year	Travel Agency and Tour Operation	TTMC201(DSC- 1C)	<ol style="list-style-type: none"> 1. Running a travel agency is one of the most professional and profitable businesses in the world today. So, the course puts a lot of emphasis on defining and knowing what a travel agency is, how it works, and the different types of agencies. The course also talks about the best Indian travel agencies and tour operators. 2. The student can explain what a tour operator is, the different kinds of tour operators, and the main difference between a tour operator and a travel agency. 3. Making a travel itinerary is one of the most important things a travel agency does. The main goal is to understand the schedule and describe the different types of itineraries. The most important thing that you should be able to do after studying the schedule is to make your own itinerary and figure out how much it will cost. 4. The training also shows how the Travel Agency industry is connected to other parts of the country.
BA 2ND Year	Tourism Marketing	TTMC202 (SEC-1)	<ol style="list-style-type: none"> 1. It is very important to understand the ideas behind Product, Production, business, and Selling, as well as the different business principles. 2. Understanding the Marketing Mix as a group of seven parts is very important for getting the main idea behind marketing. Also, the student feels like they are in touch with the Marketing Information System. 3. This course helps you understand the idea of the "Promotion Mix" in tourism marketing. It also teaches you how important it is to have good communication and leadership skills in marketing. 4. The course talks about the role of tourism groups in promoting tourism, with a focus on the

			<p>work of the Indian government and Himachal Tourism.</p> <p>Five. The training also helps students understand how important marketing is to the growth of the Indian tourism industry.</p>
BA 2ND Year	Tourism Organizations and Associations	TTMC204 (DSC-1D)	<ol style="list-style-type: none"> 1. Learn about the different tourism groups and organisations in India and around the world. A lot of attention is paid to the Ministry of Tourism, Government of India's part in building up India's tourism industry and infrastructure. 2. The main goal is to learn about the roles and responsibilities of the India Tourism Development Corporation (ITDC) and the Himachal Pradesh Tourism Development Corporation (HPTDC) in promoting tourism in the country and the state. 3. To learn about the IATA airport and city numbers of Asian countries and to learn about the roles of PATA, SAARC, and MICE tourism in Asia. 4. It's important to know what part mountaineering institutes play in the growth of the adventure tourism industry in India. This includes ABVIMAS, NIM, HMI, and IMF, which are some of the most important mountaineering institutes in the country.
BA 2ND Year	Field Tour	TTMC 205 (SEC-2)	<p>Every year, an educational tour or field trip lasting at least 10 days is planned for students to get hands-on experience with the subject. This helps them learn more about the tourism and related industries. The main goal of the course is to learn about and experience the practical side of the study, for which you will have to give a talk and write a report.</p>
BA 3rd Year	Tourism Guiding/Escort Services	TTMC 301 (DSE -1A)	<ol style="list-style-type: none"> 1. Guiding and escorting are important parts of the travel and tourism business. Tourists and travellers are always looking for professional guides and escorts. So, in order to become a professional, the course has included information about the roles, skills, and duties of

			<p>Guides and Escorts, as well as how to sign up for these jobs.</p> <p>2. There are a lot of exciting and related things to do in tourism. Specialising in adventure activities can help your adventure tourism business do very well. A lot of the course has been about learning about and knowing different kinds of adventures.</p> <p>3. The most important thing to learn about foreign tourism is how to get travel documents like a passport and visa. It is important to learn about different types of papers, visas, and travel insurance during the course.</p>
BA 3rd Year	Transport Service in Tourism	TTMC303 (SEC – 3)	<p>1. You can't have tourism without transportation, so it's very important to study transportation while you study tourism. The course tells students about the Transportation industry and goes into depth about the different types of transportation (air, water, and surface).</p> <p>2. The goal is to learn more about: air travel, including the role of air travel in boosting tourism; air carriers (scheduled and non-scheduled services); private air carriers; low-cost carriers (LCC) and their benefits; and how to book and cancel airline seats.</p> <p>-: River, lake, ocean, sea, and star cruises for water travel.</p> <p>–: Surface Transportation mainly focusing on the choices clients have, such as Car, Coach, Bus, Rent a Car Scheme, Indrail Pass, and Eurail Pass. The Indian Railways are also given extra attention because they have one of the biggest rail networks in the world and have a big impact on the tourism and travel industries. The course talks about India's luxury trains and how to book them online through the railway website. It also makes people more aware of India's Mountain Trains.</p>
BA 3rd Year	Tourism Impacts	TTMC 305 (Generic Elective -1)	<p>1. The course makes students from different academic fields more aware of how tourism affects society, culture, the economy, and most importantly, the environment. It is an elective</p>

				<p>course for all students.</p> <p>2. The main goal of the study is to find out what the good and bad effects of tourists are.</p> <p>3. After taking the course, you'll have a clear idea of how to lessen the bad effects of tourism and boost the good ones so that society, its culture, its economy, and its environment can continue to grow and improve.</p> <p>4. The course also helps students understand some important ideas that affect tourism impacts, such as the case studies of Shimla, Dharamshala, and Manali, Carrying Capacity and its different types, Pro Poor Tourism, and the role of community participation in increasing positive tourism impacts and decreasing negative ones. Most importantly, it helps students understand the biggest environmental problems of the 21st century, with a focus on Climate Change and Global Warming.</p>
BA 3rd Year	Leadership Development Program	TTMC (DSE- 2A)	306	<p>1, Students must attend a leadership development camp or programme for no more than one week at any adventure-based location in the country. Students will learn how to learn well by doing outdoor activities like camping, trekking, rock climbing, rappelling, crossing rivers, and more. Presenting and turning in reports come after the programme. Ultimately, the course aims to help students understand, share, work together, gain confidence, be more disciplined, and change their behaviour in good ways so that they are ready to face and overcome society's challenges and become leaders of the new world.</p>
BA 3rd Year	Hotel and Resort Management	TTMC (SEC-4)	308	<p>1. The accommodation sector is another important part of the tourism product, along with the transportation sector. To get a better idea of tourism, it is very important to study the lodging industry. The course gives you a basic idea of the lodging industry by talking about its history and the different types of lodging available.</p>

			<p>2. The course shows the difference between a hotel, a motel, and a resort. It also shows how hotels in India are classified and categorised.</p> <p>3. It is very important to understand the basic services of an international hotel, as well as the roles and responsibilities of the different departments, such as the Front Desk, Housekeeping, Food and Beverage, Marketing, and Sales.</p> <p>4. The study of different sections is followed by a case study of one of the world's largest hotels, both in India and elsewhere. (History and Taj Group of Hotels, etc.)</p>	
BA 3rd Year	Project Work	TTMC (Generic Elective -2)	310	<p>The project will show the culture, heritage, adventure, cuisine, or pilgrimage of Himachal Pradesh, India. It will end with a presentation and the submission of a report. Making people more aware of India's huge and varied cultural history is the main goal of the course. Another goal is to improve students' report writing and presentation skills.</p>

DEPARTMENT POF ZOOLOGY

B.Sc. in Life Sciences (Zoology)

- ❖ Programme outcomes (POs), Program Specific outcomes (PSOs) and Course outcomes (COs) of the Programmes offered by the College.

Programme outcomes (POs)

- ❖ Graduates will develop critical thinking skills to evaluate and analyze biological information, including scientific literature, research findings, and interdisciplinary perspectives, and to formulate evidence-based arguments and conclusions.
- ❖ To train students in a wide range of science-based skills that provide the learning base for future careers in disciplines of teaching, research and management such as health sciences, agriculture, fisheries, environmental management and emerging biotechnology.
- ❖ To provide quality education and inculcate the spirit of resource conservation and love for nature. To motivate the students for self-employment in various applied branches of Zoology.
- ❖ To impart value based education and make them members of civil society and provide opportunities for professional and personal development through curricular and co-curricular activities
- ❖ Students will acquire practical laboratory and field skills, including specimen collection and preservation, microscopy, molecular techniques, ecological sampling, and data analysis, to conduct scientific investigations and research projects.

Program Specific outcomes (PSOs)

- ❖ Graduates will integrate knowledge and concepts from related disciplines such as ecology, genetics, evolution, physiology, and conservation biology into their zoological research and investigations, and will be able to collaborate effectively with experts from diverse fields.
- ❖ To provide students with the specialized knowledge, skills, and competencies needed to excel in the field of zoology and pursue careers in research, conservation, education, and wildlife management.
- ❖ Graduates will recognize the importance of biodiversity conservation and habitat preservation for the long-term survival of animal species and ecosystems.
- ❖ To provide the students with the knowledge of proper ethical and professional practices relevant to Zoology.
- ❖ Students learn the practical skills and get able to use basic laboratory techniques and biological instrumentation correctly, preparing them for higher studies.

Course code	Course name	Course outcome
ZOOL101	Animal Diversity	<ul style="list-style-type: none">• Students will demonstrate a comprehensive understanding of animal taxonomy, including classification systems, and phylogenetic relationships.

		<ul style="list-style-type: none"> • Students will be able to describe the structural diversity of animals, including external and internal anatomy, and understand how anatomical features relate to function. • Students will acquire practical skills in the identification and classification of animals. • Students will grasp the principles of evolutionary biology as applied to animal diversity. • Students will recognize the diversity of animal behaviours.
ZOOL 102	Comparative Anatomy and Developmental Biology of vertebrates	<ul style="list-style-type: none"> • Students will demonstrate a comprehensive understanding of the anatomical structures and evolutionary adaptations of vertebrates, including skeletal, muscular, nervous, circulatory, respiratory, digestive, and reproductive systems. • Students will be able to compare and contrast the anatomical features of different vertebrate taxa, recognizing both similarities and differences and understanding their evolutionary significance. • Students will comprehend the processes of embryonic development in vertebrates, including gastrulation, neurulation, organogenesis, and the formation of major organ systems. • Students will appreciate the evolutionary history of vertebrates, including key transitions in vertebrate evolution, such as the transition from aquatic to terrestrial environments, the evolution of flight in birds, and the origin of mammals. • Students will recognize the plasticity of developmental processes in vertebrates.
ZOOL201	Physiology and Biochemistry	<ul style="list-style-type: none"> • Students will demonstrate a comprehensive understanding of fundamental physiological and biochemical processes occurring at the cellular, tissue, organ, and organismal levels. • Students will be able to explain the

		<p>molecular basis of physiological functions, including enzyme kinetics and metabolic pathways.</p> <ul style="list-style-type: none"> • Students will comprehend the function and regulation of major organ systems in the human body, including the nervous, muscular, cardiovascular, respiratory, digestive, endocrine, urinary, and reproductive systems. • Students will be able to describe the major metabolic pathways involved in energy production, biosynthesis, and nutrient metabolism, and understand how these pathways are regulated. • Students will effectively communicate their understanding of physiological and biochemical concepts through written reports, oral presentations, and other forms of communication, using appropriate scientific terminology and conventions.
ZOOL202	Genetics and Evolutionary Biology	<ul style="list-style-type: none"> • Students will demonstrate a comprehensive understanding of fundamental principles of genetics, including Mendelian inheritance, molecular genetics, population genetics, and genomics. • Students will be able to explain the sources and consequences of genetic variation within and between populations, including mutation, recombination, gene flow, genetic drift, and natural selection. • Students will understand the evolutionary genetics of human disease, including the genetic basis of inherited disorders. • Students will develop critical thinking skills and be able to analyse genetic and evolutionary data. • Students will recognize ethical and societal implications of genetics and evolution, including genetic testing, genetic engineering and genetically modified organisms
ZOOL203	Medical Diagnostics	<ul style="list-style-type: none"> • Students will demonstrate a comprehensive understanding of the principles and

		<p>techniques used in medical diagnostics, including laboratory tests, imaging modalities, and clinical procedures.</p> <ul style="list-style-type: none"> • Students will be able to explain the pathophysiology of common diseases and disorders. • Students will gain proficiency in interpreting medical images, including X-rays, CT scans, MRI scans and PET. • Students will be able to perform and interpret common laboratory tests used in medical diagnostics, including blood tests, and urine tests. • Students will recognize the importance of lifelong learning and professional development in the field of medical diagnostics
ZOOL204	Apiculture	<ul style="list-style-type: none"> • Students will demonstrate a comprehensive understanding of honeybee biology, including anatomy, physiology, behavior, and life cycle, as well as the social structure and organization of honeybee colonies. • Students will be able to manage honeybee colonies effectively, including hive inspection, colony health assessment, pest and disease management, swarm prevention and control. • Students will learn techniques for honey production, including honey extraction, processing, and packaging, while ensuring the quality and safety of harvested honey products. • Students will explore the production of other hive products besides honey, such as beeswax, propolis, royal jelly, pollen, and bee venom, and understand their uses and market potential. • Students will develop business and entrepreneurship skills necessary to establish and manage a successful beekeeping operation.
ZOOL301(A)	Applied Zoology	<ul style="list-style-type: none"> • Students able to enlist types of parasites, their relationship.

		<ul style="list-style-type: none"> • Students will learn the strategies for Fish Industry, Poultry industry and Animal Husbandry. • Students able to recognize the insects which harm the crops. • Students able to explain the epidemiology of diseases caused by insects and Protozoans. • Students will recognize the interdisciplinary nature of applied zoology and collaborate with professionals from other disciplines, including ecologists, veterinarians, agronomists, environmental scientists.
ZOOL302(A)	Insect, Vector and Diseases	<ul style="list-style-type: none"> • Students will able to enlist -the biology and ecology of vectors, including mosquitoes, ticks, fleas, flies, and other arthropods, and their roles in transmitting infectious diseases to humans, animals, and plants. • Students will learn about the transmission cycles of vector-borne diseases, including the pathogens involved, host-vector interactions, disease epidemiology, and factors influencing disease transmission dynamics. • Students will learn about bacterial and protozoan diseases transmitted by vectors, including plague (transmitted by fleas), typhus (transmitted by lice and fleas), and Chagas disease (transmitted by triatomine bugs), and understand their epidemiology, pathogenesis, and control measures. • Students will develop research skills in vector biology, vector control, epidemiology, and disease ecology, including experimental design and data collection. • Students get knowledge for careers and research opportunities in public health entomology, vector biology, epidemiology, disease ecology, vector control and management, medical entomology, global health, and related fields within the public and private sectors, academia, and

		international organizations.
ZOOL302(C)	Reproductive Biology	<ul style="list-style-type: none"> • Students will learn about the endocrine system's role in regulating reproductive processes, including the hypothalamic-pituitary-gonadal axis, hormone synthesis and secretion, feedback mechanisms, and hormonal control of reproductive cycles. • Students will be familiar with reproductive technologies used in human and animal reproduction, including in vitro fertilization (IVF), intracytoplasmic sperm injection (ICSI), embryo transfer, gamete cryopreservation, and surrogate motherhood. • Students will understand factors affecting reproductive health and fertility, including reproductive disorders, sexually transmitted infections (STIs), contraception, infertility, pregnancy complications, and reproductive aging. • Students able to enlist various birth control strategies. • Students will be able to found new opportunities for careers and research in reproductive biology, reproductive medicine, fertility counseling, reproductive endocrinology, assisted reproduction technologies and reproductive health care.
ZOOL303	Sericulture	<ul style="list-style-type: none"> • Students will be proficient in silkworm rearing techniques, including selection of silkworm strains, rearing environment setup, feeding management, disease and pest control, and maintenance of optimal rearing conditions. • Students will understand the process of silk production, including silk cocoon formation, cocoon harvesting, silk filament processing, silk spinning, weaving, dyeing, and finishing techniques. • Students will learn methods for assessing silk quality, including fiber diameter, tensile strength, elongation, color, luster, and texture, and understand factors influencing

		<p>silk quality and market value.</p> <ul style="list-style-type: none"> • Students will comprehend the economic aspects of sericulture, including cost analysis, market demand, pricing, profit margins, value-added products, marketing strategies, and business planning. • Students will be familiar with regulations, standards, and certifications governing the silk industry.
ZOOL304(A)	Aquarium Fish keeping	<ul style="list-style-type: none"> • Students will be proficient in setting up and maintaining aquarium systems, including tank selection, filtration, aeration, heating, lighting, water quality management, and regular maintenance routines. • Students will learn to recognize signs of fish illness and disease, understand common diseases affecting aquarium fish, and implement preventive measures and treatment protocols to maintain fish health and prevent disease outbreaks. • Students will be able to select suitable fish species for aquariums based on factors such as tank size, water parameters, temperament, and compatibility with other fish species and tank mates. • Students will develop skills in aquarium design and decoration, including selecting and arranging substrates, rocks, driftwood, and decorations, and creating visually appealing and naturalistic underwater landscapes. • Students will engage in educational activities and outreach initiatives to raise awareness about responsible aquarium fish keeping practices, promote conservation of aquatic ecosystems, and inspire interest in aquatic biodiversity and environmental stewardship.