PO, PSO and CO Book

SETH GYANIRAM BANSIDHAR PODAR COLLEGE

Programme Outcomes (PO)
Programme Specific Outcomes (PSO)
Course Outcomes (CO)

PO's, PSO's, CO's as per Bloom's Taxonomy

Seth Gyaniram Bansidhar Podar College, Nawalgarh has adopted a comprehensive framework for educational outcomes, integrating Bloom's Taxonomy to ensure a structured and effective learning experience. Bloom's Taxonomy, recently updated, categorizes learning into six levels. These levels guide the design of Programme Outcomes (PO), Programme Specific Outcomes (PSO), and Course Outcomes (CO) to enhance students' cognitive, affective, and psychomotor development.

Learning objectives discussed in the syllabus are observable, specific, and measurable as they are framed according to the recent Bloom's Taxonomy. The stepwise procedure followed is mentioned as follows:

➢ Programme outcomes (POs) for UG/PG Courses and other professional courses are discussed.

➢ Programme specific outcomes (PSOs) are briefly described.

➢ Course outcomes of offered papers are written by mentioning which particular PSOs it is addressing in learning process.

➢ Cognitive attributes, on the basis of Bloom's taxonomy, are further mentioned. These are Remember (recall facts and basic concept), Understand (explains idea or concept), Apply (use information in new situations), Analyse (draw connections among ideas), Evaluate (Justify a stand or decision), Create (produce new or original work). All are observable, specific, and measurable in terms of cognitive analysis.

Under-Graduation (U.G.): PO's, PSO's, CO's

S. No.	Under-Graduation Programme
1.	B.Sc. Mathematics
2.	B.Sc. Chemistry
3.	B.Sc. Physics
4.	B.Sc. Botany
5.	B.Sc. Zoology
6.	Bachelor of Computer Application (BCA)
7.	Bachelor of Business Administration (BBA)
8.	B.Com. Accounting and Business Statistics (ABST)
9.	B.Com. Economic Administration and Financial Management (EAFM)
10.	B.Com. Business Administration (BADM)
11.	B.A. Political Science
12.	B.A. History
13.	B.A. Sociology
14.	B.A. English Literature
15.	B.A. Hindi
16.	B.A. Geography

PO's for The Programme Bachelor of Science (Maths) (Pass Course) – 2024-25

Program Outcomes for B.Sc.(Maths)

Program Outcomes (POs)

S.No.	Program Outcomes
PO1.	Apply advanced concepts of physics and mathematical methods to analyze and solve complex physical systems.
PO2.	Critically evaluate scientific literature and identify research problems in physics and allied disciplines.
PO3.	Design and execute experiments or simulations and analyze data to validate physical theories.
PO4.	Use modern computational tools, programming techniques and advanced laboratory instruments effectively.
PO5.	Interpret experimental and theoretical data using appropriate numerical and statistical techniques
PO6.	Communicate research outcomes clearly through reports, seminars, presentations and publications.
PO7.	Demonstrate readiness for research careers, doctoral studies, teaching and lifelong professional development.

Mathematics

Programme Specific Outcomes (PSO's)

PSO No.	Programme Specific Outcomes (PSO's)
PSO-1	Conceptual Depth in Abstract Structures: Ability to analyze and work with abstract algebraic structures such as Groups, Rings, and Fields, and understand the internal logic that governs mathematical systems.
PSO-2	Rigorous Analytical Skills: Proficiency in Real and Complex Analysis, enabling students to handle limits, continuity, and convergence with ε-δ (epsilon-delta) precision, moving beyond mere computation to formal proof.
PSO-3	Competence in Differential Equations: Ability to formulate and solve ordinary and partial differential equations that model physical, biological, and chemical processes.
PSO-4	Geometric & Topological Visualization: Mastery of Coordinate Geometry (2D and 3D) and an introduction to the properties of spaces that remains invariant under continuous deformations.
PSO-5	Statistical & Probabilistic Reasoning: Skill in collecting, analyzing, and interpreting data using statistical tools and probability distributions to make informed predictions.

PSO-6	Computational Mathematics: Expertise in using numerical methods and algorithms to find approximate solutions to problems where exact analytical solutions are unavailable.
PSO-7	Applied Mathematical Modeling: Capacity to apply mathematical principles to classical mechanics, fluid dynamics, or operations research, bridging the gap between theory and the physical world.
PSO-8	Proficiency in Mathematical Software: Competence in utilizing specialized tools like LaTeX for documentation and Python/MATLAB/R for solving complex computational problems.

Semester	Course Code	Course Title	Course Outcomes on completing the course, the student will be able to:	Attributes		Cognitive levels (R/U/A/An/E/C)
				PSO addressed	PO addressed	
I	24BMT5101T	Calculus and Optimization Techniques	**CO I:** Understand and apply Taylor's and Maclaurin's theorems to approximate functions and analyze their behavior near a given point.	PSO-2, PSO-6	PO-1, PO-2	U, A, An
			CO II: Calculate and interpret derivatives of arc length, pedal equations, curvature, and center of curvature to analyze the geometric properties of curves.	PSO-4	PO-1, PO-2	R, U, An
			CO III: Apply Euler's theorem for homogeneous functions and the chain rule of partial differentiation to solve problems involving functions of several variables.	PSO-2	PO-1	U, A
			CO IV: Understand the concept of envelopes and their applications in geometry and optimization.	PSO-4, PSO-7	PO-1, PO-3	U, A

			CO V: Apply multiple integrals to calculate areas, volumes, and surface areas of solids of revolution.	PSO-4, PSO-7	PO-1, PO-2	A, E
			CO VI: Understand the concept of basic feasible solutions and their role in solving linear programming problems. Apply the simplex algorithm to solve linear programming problems. Analyze the duality principle and its applications in linear programming.	PSO-7	PO-2, PO-3 PO-4	U, A, An
II	24BMT5201T	**Discrete Mathematics & Vector Calculus**	**CO I:** Apply foundational concepts of discrete mathematics to solve problems in computer science and engineering.	PSO-7	PO-1, PO-3	U, A
			CO II: Analyze and model discrete systems using graph theory and combinatorial techniques.	PSO-7	PO-2, PO-4	U, An
			CO III: Solve recurrence relations and analyze the asymptotic behavior of discrete functions.	PSO-6	PO-1, PO-2	A, An
			CO IV: Apply logical reasoning to analyze and prove mathematical statements.	PSO-1	PO-1, PO-2	An, E

				CO V: Utilize graph algorithms to solve problems related to networks, optimization, and data structures.	PSO-7, PSO-8	PO-3, PO-5	A, C
III	24BMT5301T	Real Analysis & Numerical Analysis-I		CO I: Understand the concepts of sequences and series of real numbers and apply tests for their convergence and divergence.	PSO-2	PO-1, PO-2	R, U, A
				CO II: Comprehend the properties of continuous and differentiable functions on the real line and prove related theorems like the Mean Value Theorem.	PSO-2	PO-1, PO-2	U, An, E
				CO III: Analyze the integrability of functions using the Riemann integral and evaluate definite integrals.	PSO-2	PO-1, PO-2	An
				CO IV: Apply various numerical methods to find roots of algebraic and transcendental equations, such as the Bisection and Newton-Raphson methods.	PSO-6	PO-1, PO-5	U, A
				CO V: Use numerical techniques to solve systems of linear equations using direct methods like Gauss elimination and iterative methods like Jacobi and Gauss-Seidel.	PSO-6, PSO-8	PO-1, PO-5	A, An

				PSO	PO	
IV	24BMT5401T	**Differential Equation & Numerical Analysis-II**	**CO I:** Understand and apply methods for solving second-order linear differential equations with constant coefficients.	PSO-3	PO-1	U, A
			CO II: Understand and apply methods for solving second-order linear differential equations with variable coefficients, including the method of variation of parameters and the Cauchy-Euler equation.	PSO-3	PO-1, PO-2	U, A
			CO III: Apply numerical methods like the Runge-Kutta method and predictor-corrector methods to find approximate solutions to ordinary differential equations.	PSO-6, PSO-8	PO-1, PO-5	A, E
			CO IV: Use numerical techniques to solve systems of linear and non-linear equations, including Jacobi and Gauss-Seidel iterative methods.	PSO-6	PO-2, PO-5	A, An
			CO V: Understand and apply finite difference methods to solve boundary value problems and partial differential equations (e.g., heat and wave equations).	PSO-3, PSO-7	PO-3, PO-4	A, An, C
V	24BMT5501T	**Complex Analysis**	**CO I:** Verify the analyticity of complex functions using C-R equations.	PSO-2	PO-1, PO-2	U, A

			CO	PSO	PO	
			CO II: Evaluate complex line integrals along various paths and closed contours.	PSO-2	PO-1	A, E
			CO III: Determine the region of convergence for power series and expand functions near singular points.	PSO-2	PO-1, PO-2	U, An
			CO IV: Calculate residues at poles and use them to evaluate improper real integrals.	PSO-2	PO-1, PO-2	A, E
			CO V: Analyze mappings and bilinear transformations between the Z-plane and W-plane.	PSO-4	PO-1, PO-3	U, An
VI	24BMT5601T	**Abstract Algebra**	**CO I:** Identify and verify the properties of algebraic structures (Groups, Rings, Fields).	PSO-1	PO-1	R, U
			CO II: Construct formal proofs for key theorems, such as Lagrange's Theorem, Cayley's Theorem, and the Isomorphism Theorems.	PSO-1	PO-2	An, E
			CO III: Encode and decode messages using algebraic principles, specifically through RSA encryption or error-correction codes.	PSO-7, PSO-8	PO-3, PO-5	A, An, C

			CO IV: Determine the basis and dimension of a given vector space and compute coordinates relative to different bases.	PSO-1	PO-1, PO-2	U, A
			CO V: Map real-world linear problems into vector space models and solve them using linear transformations.	PSO-7	PO-3, PO-4	A, An, C

Chemistry
Programme Specific Outcomes (PSO's)

S.NO.	On completion of Bachelor of Science, the student will be able to:
PSO-1	Have sound knowledge, strong foundation and the ability to understand essential facts, concepts, principles, phenomena and current scientific theories in different branches of chemistry.
PSO-2	Apply the knowledge acquired to understand, interpret, analyze mathematical derivations, numerical and solve qualitative and quantitative problems.
PSO-3	Demonstrate skills in the evaluation and interpretation of chemical information and data.
PSO-4	Know the properties and behaviour of matter, elements in the periodic table, commonly used chemicals in industry and laboratories, special materials and their uses.
PSO-5	Predict the structures of compounds, separate and characterize them; understand the mechanism of reactions of chemical compounds and their synthesis.
PSO-6	Have knowledge of working of various instruments used in chemical analysis and the skills in the operation of standard instruments used in chemistry.
PSO-7	Acquire the laboratory skills needed to design and interpret chemical research in laboratories and industries.
PSO-8	Analyses the chemistry of various hydrocarbons, functional groups and their derivatives, biomolecules, natural products and their functioning and roles of biomolecules in the living system.

Semester	Course Code	Course Title	Course Outcomes on completing the course, the student will be able to:	PSO addressed	Cognitive levels
I	24BCH5101T	Paper – I Chemistry	**CO1:** Understand atomic models, dual nature of matter, uncertainty principle and significance of quantum numbers.	1,2,3,4	R, U, A
			CO2: Apply Schrödinger equation to hydrogen atom and interpret wave functions, probability distribution curves and shapes of atomic orbitals.	1,2,3,4	U, A, An
			CO3: Explain covalent bonding using VSEPR theory and hybridization; predict molecular geometries of inorganic molecules and ions.	1,2,3,4	R, U, A, An
			CO4: Analyze ionic and metallic bonding using lattice energy, Born–Haber cycle, band theory and Fajan's rules; evaluate ionic character using dipole moment.	3,4,5	An, E

			CO5: Describe electronic effects (inductive, resonance, hyperconjugation) and classify reactive intermediates and types of organic reactions.	1,2,3	U, An
			CO6: Apply Huckel's rule, stereochemical principles and CIP rules to assign R/S and E/Z configurations and distinguish isomers.	3,4,5	A, An, E
II	**24BCH5201T**	**Paper – II Chemistry**	**CO1:** Understand general characteristics, diagonal relationship and anomalous behaviour of s-block and p-block elements.	1,2,3,4	R, U
			CO2: Explain structure, bonding and properties of hydrides, oxides, oxoacids, halides, borazine, silicates and silicones.	1,2,3,4	U, An
			CO3: Describe preparation, properties and reaction mechanisms of alkanes and cycloalkanes including free radical substitution and ring strain theory.	1,2,3	R, U, An
			CO4: Analyze preparation, properties and reaction mechanisms of alkenes including electrophilic addition, regioselectivity, polymerization and industrial applications.	1,2,3,4	U, A, An

			CO5: Explain structure, reactions and mechanisms of dienes and alkynes including Diels–Alder reaction and addition reactions.	1,2,3	U, An
			CO6: Apply first law of thermodynamics and thermochemical concepts to calculate enthalpy changes, bond energies and resonance energy.	2,3,4,5	A, An
III	**24BCH6301T**	**Paper – III Chemistry**	**CO1:** Understand characteristic properties, oxidation states, coordination number and geometry of d-block elements and compare 3d, 4d and 5d series.	1,2,3,4	R, U, An
			CO2: Explain electronic configuration, oxidation states, lanthanide and actinide contraction, complex formation and general chemistry of lanthanoids and actinoids.	1,2,3,4	U, An
			CO3: Describe structure, acidity and reaction mechanisms of carboxylic acids and their derivatives including nucleophilic substitution reactions.	1,2,3	R, U, An
			CO4: Analyze electrophilic and nucleophilic aromatic substitution reactions, SN1, SN2, E1 and E2 mechanisms in alkyl and aryl halides.	1,2,3,4	U, A, An

			CO5: Explain preparation, properties and reaction mechanisms of alcohols, phenols, aldehydes, ketones, ethers and epoxides including named reactions.	1,2,3,4	U, An, E
			CO6: Apply concepts of conductance, transport number, ionic equilibrium and buffer solutions to solve numerical and conceptual problems.	2,3,4,5	A, An
			CO7: Derive and apply Nernst equation to calculate EMF and thermodynamic quantities of electrochemical cells.	2,3,4,5	A, An, E
			CO8: Explain types of electrodes, electrochemical series, concentration cells and corrosion with methods of prevention.	1,2,3,4	R, U, An
IV	**24BCH6401T**	**Paper – IV Chemistry**	**CO1:** Explain Werner's theory, crystal field theory, CFSE, magnetic properties and bonding in coordination compounds of transition metals.	1,2,3,4	R, U, An
			CO2: Classify acids and bases using Arrhenius, Bronsted–Lowry, Lewis and HSAB concepts; interpret redox potential data using Frost, Latimer and Pourbaix diagrams.	1,2,3,4	U, An, E
			CO3: Describe synthesis, properties and reaction mechanisms of aldehydes, ketones and their named reactions including nucleophilic additions and reductions.	1,2,3	R, U, An

			CO4: Analyze structure, acidity, preparation and nucleophilic acyl substitution reactions of carboxylic acids and their derivatives.	1,2,3,4	U, A, An
			CO5: Apply principles of chemical kinetics to determine order, rate constants and explain reaction mechanisms using collision and transition state theories.	2,3,4,5	A, An, E
			CO6: Explain crystallography concepts, Bragg's equation and determination of crystal structures of ionic solids.	1,2,3,4	R, U, An
V	24BCH7501T	**Metal Complexes, Spectroscopy, Organometallic Compounds and Phase Equilibrium**	**CO1:** Explain electronic spectra of transition metal complexes, spectrochemical series, Orgel diagrams and thermodynamic stability of metal complexes.	1,2,3,4	R, U, An
			CO2: Interpret UV, IR and NMR spectra for structure elucidation of simple organic compounds and solve related numerical problems.	2,3,4,5	U, A, An
			CO3: Describe preparation, properties and reaction mechanisms of nitro compounds, amines, diazonium salts and organometallic compounds including Grignard and organolithium reagents.	1,2,3	R, U, An

			CO4: Analyze organosulphur compounds and synthetic transformations involving amines and nitrogen-containing organic compounds.	1,2,3,4	U, An, E
			CO5: Apply Gibbs phase rule and explain phase equilibria of one and two component systems, partially miscible liquids and distillation processes.	2,3,4,5	A, An, E
VI	24BCH7601T	Organometallics, Group Theory, Heterocycles, bchemistry, and ntum Chemistry	**CO1:** Explain bonding, structure and applications of organometallic compounds, metal carbonyls and bioinorganic systems including haemoglobin and nitrogen fixation.	1,2,3,4	R, U, An
			CO2: Apply concepts of symmetry operations, point groups and group theory in chemical systems	2,3,4	U, A, An
			CO3: Describe synthesis, reactivity and mechanisms of heterocyclic compounds and organic synthesis via enolates	1,2,3	R, U, An
			CO4: Explain structure, properties and biological importance of carbohydrates, amino acids, proteins and nucleic acids.	1,2,3,4	U, An
			CO5: Apply principles of quantum chemistry and spectroscopy to interpret atomic and molecular spectra and solve related problems.	2,3,4,5	A, An, E

Physics

Programme Specific Outcomes (PSOs)

PSO	Description
PSO-1	Apply fundamental principles of classical and modern physics to analyse physical phenomena.
PSO-2	Use mathematical, analytical, and computational techniques to solve physics problems.
PSO-3	Understand experimental methods, instrumentation, and data analysis in physics.
PSO-4	Explain physical concepts related to mechanics, electromagnetism, optics, and thermodynamics.
PSO-5	Apply quantum mechanics, solid state physics, and spectroscopy concepts to real systems.
PSO-6	Demonstrate problem-solving skills and logical reasoning in theoretical and applied physics.
PSO-7	Develop scientific attitude, research aptitude, and readiness for higher studies or careers.

Semester	Course Title	Course Code	Course Outcomes on completing the course, the student will be able to:	Attributes		Cognitive Level
				PSOs addressed	PSOs addressed	
Semester I	Mechanics and oscillations	24BPH5101T	**CO1:**Explain inertial and non-inertial frames and Galilean transformation	PSO-1, PSO-4	PO1	R
			CO2: Analyze motion under conservative forces using potential energy curves	PSO-2, PSO-6	PO2	An
			CO3: Apply center of mass concepts to collision and variable mass systems	PSO-2, PSO-6	PO2	A
			CO4: Describe rotational dynamics and motion of rigid bodies	PSO-1, PSO-4	PO1	U
			CO5: Analyze central force motion and Kepler's laws	PSO-1, PSO-6	PO2	An
			CO6: Explain damped, driven, and coupled oscillations with applications	PSO-4, PSO-7	PO3	U
Semester II	Electromagnetism	24BPH5301T	**CO1:** Explain vector calculus tools and Maxwell's equations	PSO-1, PSO-4	PO1	U

			CO2: Analyze electrostatic fields and potentials for charge distributions	PSO-2, PSO-6	PO2	An
			CO3: Apply Laplace and Poisson equations to physical systems	PSO-2	PO2	A
			CO4: Explain dielectric and magnetic properties of materials	PSO-4, PSO-5	PO1	U
			CO5: Analyze electromagnetic waves and energy transport	PSO-1, PSO-6	PO2	An
Semester III	Optics	24BPH6301T	CO1: Explain interference phenomena and optical instruments	PSO-4	PO1	U
			CO2: Analyze diffraction patterns and resolving power	PSO-2, PSO-6	PO2	An
			CO3: Describe polarization and optical anisotropy	PSO-4	PO1	U
			CO4: Explain laser principles and applications	PSO-5, PSO-7	PO3	U
			CO5: Describe optical fiber principles and communication systems	PSO-5	PO3	A

Semester IV	Thermodynamics and statistical physics	24BPH6401T	**CO1:** Apply laws of thermodynamics to physical systems	PSO-1, PSO-4	PO1	A
			CO2: Analyze heat engines and entropy relations	PSO-2, PSO-6	PO2	An
			CO3: Explain kinetic theory and transport phenomena	PSO-1, PSO-4	PO1	U
			CO4: Apply statistical concepts to macroscopic systems	PSO-2	PO2	A
			CO5: Explain quantum statistics and black body radiation	PSO-5	PO3	U
Semester V	Electronics and solid-state physics	24BPH7501T	**CO1:** Analyze electronic circuits and network theorems	PSO-2, PSO-6	PO2	An
			CO2: Explain semiconductor devices and applications	PSO-5	PO3	U
			CO3: Describe crystal structures and diffraction techniques	PSO-4	PO1	U
			CO4: Explain superconductivity and material properties	PSO-5	PO3	U
			CO5: Analyze band theory and transport properties	PSO-2	PO2	An

Semester VI	Quantum mechanics and spectroscopy	24BPH7601T	**CO1:** Explain failures of classical physics and quantum concepts	PSO-1	PO1	U
			CO2: Solve Schrödinger equation for standard potentials	PSO-2, PSO-6	PO2	A
			CO3: Analyze atomic structure and hydrogen atom	PSO-5	PO3	An
			CO4: Explain spin, fine structure, and magnetic effects	PSO-5	PO3	U
			CO5: Describe molecular spectroscopy and selection rules	PSO-7	PO3	U

PO's for The Programme Bachelor of Science (Bio) (Pass Course) – 2024-25

Program Outcomes for B.Sc.(Bio)

Program Outcomes (POs)

Outcome Title	Description
PO 1	Apply the knowledge of basic biological concepts in Botany, Zoology, Genetics, and Molecular Biology to solve complex problems in life sciences.
PO 2	Identify, formulate, and analyze biological problems reaching substantiated conclusions using principles of natural sciences.
PO 3	Design solutions for biological problems or processes that meet specified needs with appropriate consideration for public health and safety.
PO 4	Use research-based knowledge and methods including design of experiments, analysis, and interpretation of data to provide valid conclusions.

PO 5	Create, select, and apply appropriate techniques, resources, and modern biological tools (like Bioinformatics or PCR) with an understanding of their limitations.	
PO 6	Understand the impact of biological solutions in societal and environmental contexts, and demonstrate the knowledge of sustainable development.	
PO 7	Apply ethical principles and commit to professional ethics and responsibilities of biological practices.	
PO 8	Function effectively as an individual, and as a member or leader in diverse teams and in multidisciplinary settings.	

Botany

Programme Specific Outcomes (PSO's)

PSO	Programme Specific Outcomes (PSOs) describe what a student will be able to perform specifically in the field of Botany.
PSO 1	Demonstrate a comprehensive understanding of plant diversity, encompassing major plant groups, their structure, function, and evolutionary relationships.
PSO 2	Analyze the physiological and biochemical processes that govern plant growth, development, and responses to environmental stimuli.
PSO 3	Apply the scientific method to design and conduct experiments in plant biology, effectively collect and analyze data, and draw sound conclusions.
PSO 4	Utilize various laboratory techniques and tools for plant identification, microscopy, physiological analysis, and other botanical research methods.
PSO 5	Identify and analyze complex problems related to plant science, such as those in agriculture, plant disease management, and conservation biology.
PSO 6	Apply botanical knowledge to develop innovative solutions for challenges in food security, environmental sustainability, and plant resource utilization.
PSO 7	Effectively communicate scientific information about plants, both orally and in writing, to diverse audiences.
PSO 8	Develop independent learning skills and stay updated on current advancements in plant biology for lifelong professional development.

Semester	Course Title	Course Code	Course Outcomes on completing the course, the student will be able to:	Attributes		Cognitive levels (R/U/A/An/E/C)
				PSOs addressed	PSOs addressed	
Semester I	Diversity of plant kingdom	24BBO5101T	**CO1:** Gain a comprehensive understanding of the evolutionary, structural, and reproductive diversity across various plant groups.	PSO1	PO1	U, An
			CO2: Understand the classification, structure, and life cycles of algae and fungi. Explore ecological roles and industrial applications.	PSO1, PSO2	PO1, PO5	U, An
			CO3: Understand the symbiotic relationship in lichens. Learn about ecological roles as bioindicators and industrial applications.	PSO1, PSO5	PO1, PO5	U, A
			CO4: Study the life cycles, structural adaptations, and ecological significance of Pteridophytes (seedless vascular plants).	PSO1	PO1	U, An
			CO5: Explore the structural diversity, reproduction, and adaptations of gymnosperms. Learn their importance in forestry and ecology.	PSO1	PO1, PO9	U, R
Semester II	Cell Biology, Genetics And Plant Breeding	24BBO5201T	**CO1:** Understand the structure and functions of cellular organelles, cell cycle, and molecular basis of cellular processes.	PSO2	PO1	U, R

			CO2: Study Mendelian principles, molecular genetics, gene expression, and analyze non-Mendelian inheritance patterns.	PSO2	PO1, PO7	U, An
			CO3: Gain knowledge of plant breeding methods including hybridization, mutation breeding, and selection techniques.	PSO6	PO1, PO3	U, A
			CO4: Learn the importance of conserving genetic diversity, gene banks, and in situ conservation for sustainable agriculture.	PSO5, PSO6	PO5, PO9	U, A
			CO5: Perform experiments in cell biology and genetics; build problem-solving skills in genetic analysis and breeding strategy.	PSO3, PSO4	PO2, PO7	A, An, E
Semester III	Taxonomy and Economic Botany	24BBO6301T	**CO-1:** Explain the principles of plant systematics, nomenclature (ICN), and the significance of herbaria and botanical gardens.	PSO1	PO1	U, R
			CO-2: Compare and contrast major classification systems (Bentham & Hooker, Hutchinson) and describe the diversity of flowering plant families.	PSO1	PO1	U, An
			CO-3: Identify centers of origin for cultivated plants; describe cultivation, processing, and uses of major cereals, legumes, spices, and beverages.	PSO6	PO1, PO5	R, U
			CO-4: Analyze the economic importance of plants yielding rubber, oils, dyes, timber, and fibers, including botanical sources and parts used.	PSO6	PO1, PO3	An

			CO-5: Evaluate the medicinal value of specific plants and the significance of Ethnobotany, particularly within the context of Rajasthan.	PSO5, PSO6	PO1, PO9	E, A
Semester IV	Plant Physiology and Biochemistry	24BBO6401T	**CO-1:** Explain the fundamental concepts of plant-water relations, including water potential, absorption mechanisms, and the cohesion-tension theory.	PSO2	PO1	U, R
			CO-2: Analyze the physiological processes of photosynthesis (C3, C4, CAM) and respiration (Glycolysis, Krebs cycle, ETS) and influencing factors.	PSO2	PO1, PO7	An, U
			CO-3: Describe the mechanisms of mineral nutrition, phloem translocation, and the biochemical processes involved in nitrogen fixation.	PSO2	PO1	U, R
			CO-4: Evaluate the physiological roles of plant hormones and movements, and mechanisms governing flowering like photoperiodism.	PSO2	PO1, PO3	E, An
			CO-5: Demonstrate a comprehensive understanding of the structure, classification, and functions of biomolecules and enzyme kinetics.	PSO2	PO1	U, An
Semester V	Plant Anatomy, Embryology and Ecology	24BBO7501T	**CO-1:** Explain the internal structure of plant organs, meristematic activities, and anomalous growth patterns in various angiosperm taxa.	PSO1	PO1	U, R

			CO-2: Describe the developmental stages of gametophytes, pollination mechanisms, fertilization, and embryogeny in flowering plants.	PSO1	PO1	U, R
			CO-3: Analyze the structural and functional aspects of ecosystems, including energy flow, biogeochemical cycles, and population growth models.	PSO2, PSO5	PO1, PO5	An, U
			CO-4: Evaluate plant adaptations to diverse abiotic factors and the ecological succession processes in plant communities.	PSO2	PO1, PO5	E, An
			CO-5: Apply conservation strategies for biodiversity management, with specific reference to endangered vegetation and biomes of Rajasthan.	PSO5, PSO6	PO5, PO9	A, E
Semester VI	Microbiology, plant pathology and biotechnology	24BBO7601T	CO1: Categorize the structural and reproductive features of microbes, including bacteria, viruses, and mycoplasma.	PSO1	PO1	U, An
			CO2: Identify major plant diseases relevant to local crops and apply principles of pathology for disease management.	PSO5	PO3, PO7	R, A
			CO3: Demonstrate proficiency in plant tissue culture techniques, including micropropagation and protoplast culture.	PSO3, PSO4	PO2	A, C
			CO4: Apply recombinant DNA technology tools and PCR techniques for crop improvement and transgenic development.	PSO6	PO2, PO7	A, An

Zoology

Programme Specific Outcomes (PSO's)

PSO No.	Programme Specific Outcomes
PSO-1	Demonstrate comprehensive knowledge of animal diversity, encompassing both Non-Chordates and Chordates, and their evolutionary relationships.
PSO-2	Understand the structural organization, comparative anatomy, and functional morphology of various organ systems across animal taxa.
PSO-3	Explain fundamental cellular processes, molecular biology mechanisms (DNA replication, transcription, translation), and cell signaling.
PSO-4	Analyze the physiological functions and biochemical pathways (metabolism) essential for the maintenance of mammalian systems.
PSO-5	Apply principles of developmental biology to understand embryogenesis, morphogenesis, and modern reproductive technologies like IVF.
PSO-6	Execute laboratory techniques including microscopy, histological staining, specimen identification, and biochemical assays.
PSO-7	Evaluate the ecological importance of animals and the impact of parasitic adaptations on human health and the environment.

Semester	Course Title	Course Code	Course Outcomes on completing the course, the student will be able to:	Attributes		Cognitive Level
				PSOs addressed	PSOs addressed	
Semester I	Biology of Non-Chordates	24BZO5101T	Classify non-chordates and understand taxonomy principles.	PSO-1	PO-1	R, U
	Non-Chordates Laboratory	24BZO5101P	Perform permanent microscopic preparations and identify specimens.	PSO-6	PO-2	A, An
Semester II	Comparative Anatomy and Development Biology of Vertebrates	24BZO5201T	Compare vertebrate organ systems and explain embryonic development.	PSO-2, 5	PO-1	U, An
	Comparative Anatomy and Development Biology of Vertebrates Laboratory	24BZO5201P	Identify vertebrate skeletal structures and developmental stages.	PSO-6	PO-2	R, A
Semester III	Cell and Molecular Biology	24BZO6301T	Describe organelle functions and molecular mechanisms of gene expression.	PSO-3	PO-1	U, E
	Cell and Molecular Biology Laboratory	24BZO6301P	Demonstrate mitosis/meiosis and isolate DNA from biological samples.	PSO-6	PO-2	A, C

Semester IV	Mammalian Physiology and Biochemistry	24BZO6401T	Explain respiratory, circulatory, and metabolic pathways in mammals.	PSO-4	PO-1	U, An
	Mammalian Physiology and Biochemistry Laboratory	24BZO6401P	Analyze blood parameters and perform enzyme/carbohydrate assays.	PSO-6	PO-2	A, E
Semester V	Microbiology, Immunology and Biotechnology	24BZO7501T	Classify non-chordates and understand taxonomy principles.	PSO-1	PO-1	R, U
	Zoology Laboratory	24BZO7501P	Perform permanent microscopic preparations and identify specimens.	PSO-6	PO-2	A, An
Semester VI	Ecology and Animal Behaviour	24BZO7601T	Compare vertebrate organ systems and explain embryonic development.	PSO-2, 5	PO-1	U, An
	Zoology Laboratory	24BZO7601P	Identify vertebrate skeletal structures and developmental stages.	PSO-6	PO-2	R, A

PO's for The Programme Bachelor of Computer Application (Pass Course) – 2024-25

Program Outcomes for BCA

Programme Outcomes (PO's)

PO No.	Programme Outcomes (POs)
PO-1	Apply knowledge of computing fundamentals, mathematics, and domain concepts to solve complex problems in Computer Applications.
PO-2	Identify, formulate, and analyze real-world problems to reach substantial conclusions using fundamental principles of mathematics and computing sciences.
PO-3	Design solutions for complex problems and system components that meet specified needs with appropriate consideration for public health, safety, and cultural issues.
PO-4	Create, select, and apply appropriate techniques, resources, and modern IT tools (including prediction and modeling) to complex computing activities.
PO-5	Understand and commit to professional ethics, responsibilities, and norms of professional computing practice.
PO-6	Recognize the need for, and have the preparation and ability to engage in, independent and life-long learning in the broadest context of technological change.
PO-7	Communicate effectively with the computing community and society at large, such as being able to comprehend and write effective reports and design documentation.
PO-8	Function effectively as an individual and as a member or leader in diverse teams and in multidisciplinary settings.
PO-9	Identify a timely opportunity and use innovation to pursue that opportunity to create value and wealth for the betterment of the individual and society at large.

Programme Specific Outcomes (PSO's)

PSO No.	Programme Specific Outcomes (PSOs)
PSO-1	Students will be able to understand and apply fundamental concepts of Computer Science such as programming, data structures, algorithms, and computer architecture.
PSO-2	Students will acquire proficiency in various programming languages such as C, C++, Java, Python, and other modern languages to develop software solutions.
PSO-3	Students will be able to design, implement, and manage databases using DBMS concepts and SQL for efficient data handling.
PSO-4	Students will develop skills in web technologies and will be able to design and develop dynamic web-based applications using modern tools and frameworks.
PSO-5	Students will be able to apply software development life cycle principles, project management techniques, and teamwork to solve real-world problems.
PSO-6	Students will gain knowledge of cybersecurity concepts, information security practices, ethical hacking fundamentals, and IT laws such as the Information Technology Act.
PSO-7	Students will be prepared for higher education, entrepreneurship, or employment in the IT industry with strong technical, analytical, and professional skills.

Semester	Course Code	Course Title	Course Outcomes on completing the course, the student will be able to:	Attributes		Cognitive levels (R/U/A/An/E/C)
				PSO addressed	PO addressed	
I	24BCA5101T	Programming in C	Understand basic concepts of C programming and develop simple programs using control structures.	PSO-1, PSO-2	PO-1, PO-2	R, U, A
	24BCA5102T	Web Application Development	Understand web technologies and design basic static web pages.	PSO-4	PO-3	U, A
	24BCA5103T	Computer Fundamentals & Office Management Tools	Explain computer fundamentals and use office automation tools effectively.	PSO-1, PSO-7	PO-1, PO-6	R, U, A
II	24BCA5201T	Operating Systems	Explain core concepts of operating systems including process management, memory management, file systems, and scheduling.	PSO-1	PO-1	R, U
	24BCA5202T	Database Management Systems	Design relational databases and perform data manipulation using SQL and normalization techniques.	PSO-3	PO-3	U, A, An
	24BCA5203T	Computer Organization & Architecture	Explain the internal structure of computers, instruction sets, memory organization, and I/O systems.	PSO-1	PO-1	R, U, An
III	24BCA6301T	Data Structures and Algorithms	Understand and apply data structures such as arrays, stacks, queues, linked lists, trees, and algorithms for problem solving.	PSO-1, PSO-2	PO-2	U, A, An

	24BCA6302T	Object Oriented Programming Through C++	Apply object-oriented concepts like classes, inheritance, polymorphism, and abstraction in C++ programming.	PSO-2	PO-3	U, A, An
	24BCA6303T	Networking Technologies	Explain networking fundamentals, OSI & TCP/IP models, transmission media, and networking devices.	PSO-1	PO-1	R, U, An
IV	24BCA6401T	PHP Programming	Understand server-side scripting concepts and develop dynamic web applications using PHP.	PSO-2, PSO-4	PO-3	U, A
	24BCA6402T	Object Oriented Concepts Using Java Programming	Apply object-oriented principles to develop robust Java applications.	PSO-2	PO-3	U, A, An
	24BCA6403T	Mathematics & Statistics	Apply mathematical and statistical techniques for problem solving and data analysis.	PSO-1	PO-2	U, A
V	24BCA7501T	Software Engineering	Explain software development life cycle models and apply software design and project management principles.	PSO-5	PO-4	U, An
	24BCA7502T	Artificial Intelligence	Understand fundamental concepts of Artificial Intelligence and apply AI techniques to solve problems.	PSO-7	PO-5	U, A, An
	24BCA7503T	Python Programming	Develop programs using Python constructs, libraries, and data handling techniques.	PSO-2	PO-3	U, A

VI	24BCA7601T	Machine Learning	Understand fundamental concepts of machine learning and apply supervised and unsupervised learning techniques to solve real-world problems.	PSO-7	PO-5	U, A, An
	24BCA7602T	Cloud Computing	Explain cloud computing concepts, service models, and deployment models, and apply cloud services for application development.	PSO-4, PSO-7	PO-5	U, A
	24BCA7603T	Introduction to Data Science	Understand data science concepts and apply data analysis, visualization, and basic modeling techniques.	PSO-7	PO-5	U, A, An

PO's for The Programme Bachelor of Business Administration (Pass Course) – 2024-25

Program Outcomes for BBA

Program Outcomes (POs)

PO No.	Programme Outcomes (POs)
PO1	Apply knowledge of management theories, business principles, and functional areas such as Marketing, Finance, HR, and Operations in real-world business situations.
PO2	Develop analytical and critical thinking skills to identify, formulate, and solve business problems effectively.
PO3	Demonstrate effective communication skills (oral and written) for professional and business environments.
PO4	Use quantitative techniques, statistical tools, and modern business software for decision-making.
PO5	Exhibit leadership qualities, teamwork skills, and the ability to work collaboratively in diverse organizational settings.
PO6	Understand ethical principles and apply professional ethics in business practices and corporate governance.
PO7	Analyze economic, legal, and social environments affecting business organizations.
PO8	Demonstrate entrepreneurial mindset and innovation skills for starting and managing business ventures.
PO9	Apply financial literacy and accounting knowledge for effective resource management.
PO10	Understand global business perspectives and adapt to dynamic international business environments.
PO11	Utilize research methods and data analysis techniques for business research and strategic planning.
PO12	Engage in lifelong learning and professional development to adapt to changing business and technological trends.

Programme Specific Outcomes (PSO's)

PSO No.	Programme Specific Outcomes (PSO's)
PSO-1	Legal & Regulatory Competence: Demonstrate the ability to interpret and apply business laws, including the Law of Contracts, Sale of Goods Act, and LLP Act, to ensure organizational compliance.
PSO-2	Professional Communication: Develop advanced proficiency in business communication, including report writing, presentation skills, and digital media usage for effective corporate interaction.
PSO-3	Financial Analysis & Management: Apply accounting principles and financial management tools (Capital Budgeting, Ratio Analysis) to evaluate the financial health and sustainability of a business.
PSO-4	Managerial Decision Making: Utilize management theories and behavioural sciences to lead teams, resolve organizational conflicts, and improve overall workplace productivity.
PSO-5	Quantitative & Analytical Optimization: Use operational research techniques like Linear Programming and Network Analysis (PERT/CPM) to solve complex resource allocation problems.
PSO-6	Marketing & Brand Strategy: Design integrated marketing strategies and brand management plans based on deep insights into consumer behaviour and market dynamics.
PSO-7	Entrepreneurial Mindset: Identify business opportunities and navigate the startup ecosystem by understanding government initiatives, feasibility analysis, and venture capital.
PSO-8	Human Resource Expertise: Execute core HR functions including talent acquisition, performance appraisal, and industrial relations management within the framework of Indian labour laws.
PSO-9	Economic & Strategic Thinking: Analyse micro and macro-economic environments to formulate long-term corporate strategies and competitive positioning for a business entity.

Semester	Course Code	Course Title	Course Outcomes (CO)	PSO Addressed	PO Addressed	Cognitive Levels
I	24BBA5101T	Legal Aspects of Business	Understand contract laws, Sale of Goods Act, and LLP sregulations for business operations.	PSO1 (Legal & Ethical)	PO4 (Critical Thinking)	Remember, Understand, Apply
I	24BBA5102T	Business Communication Skills	Develop effective oral and written communication skills, including report writing and letters.	PSO2 (Comm. Skills)	PO2 (Effective Comm.)	Understand, Apply, Create
I	24BBA5103T	Fundamental of Accounting	Master the accounting process, from journal entries to preparing final financial statements.	PSO3 (Financial Literacy)	PO5 (Problem Solving)	Understand, Apply, Analyze
II	24BBA5201T	Business and Management	Comprehend management functions (Planning, Organizing, Leading, Controlling) and theories.	PSO4 (General Mgmt)	PO1 (Mgmt Knowledge)	Remember, Understand
II	24BBA5202T	Strategic Management	Formulate and implement corporate-level strategies through environmental scanning.	PSO5 (Strategy)	PO6 (Decision Making)	Analyze, Evaluate, Create

				PSO3 (Financial Literacy)	PO4 (Analytical Skills)	Understand, Analyze
II	24BBA5203T	Business Economics	Analyze market structures, demand forecasting, and national income for business decisions.	PSO3 (Financial Literacy)	PO4 (Analytical Skills)	Understand, Analyze
III	24BBA6301T	Entrepreneurship Development	Identify startup opportunities and understand government initiatives for new ventures.	PSO6 (Innovation)	PO7 (Entrepreneurship)	Understand, Apply, Create
III	24BBA6302T	Operational Research	Apply linear programming and network analysis (PERT/CPM) to optimize business resources.	PSO7 (Ops & Quant)	PO5 (Quantitative Skills)	Apply, Analyze
III	24BBA6303T	Human Resource Management	Execute HR processes including recruitment, selection, training, and performance appraisal.	PSO8 (People Mgmt)	PO3 (Teamwork)	Understand, Apply
IV	24BBA6401T	Marketing Management	Design marketing mixes and understand consumer behavior and product life cycles.	PSO9 (Marketing)	PO6 (Problem Solving)	Understand, Analyze, Create
IV	24BBA6402T	Corporate Accounting	Manage corporate finances involving shares, debentures, and company liquidation.+1	PSO3 (Financial Literacy)	PO5 (Problem Solving)	Apply, Analyze

IV	24BBA6403T	Organizational Behavior	Analyze individual and group behavior to enhance organizational effectiveness.+1	PSO8 (People Mgmt)	PO3 (Teamwork)	Understand, Analyze
V	24BBA7501T	Financial Management	Evaluate investment, financing, and dividend decisions using capital budgeting tools.	PSO3 (Financial Literacy)	PO6 (Decision Making)	Apply, Analyze, Evaluate
V	24BBA7502T	Advertising and Brand Management	Develop advertising strategies and manage brand equity through creative communication.	PSO9 (Marketing)	PO2 (Effective Comm.)	Understand, Create
V	24BBA7503T	Industrial Relations	Navigate labor laws, trade unions, and grievance procedures in an industrial context.	PSO1 (Legal & Ethical)	PO4 (Critical Thinking)	Understand, Apply
VI	24BBA7601T	Management Information Systems	Understand the role of information systems in decision-making and business strategy.+2	PSO10 (Tech & Info Mgmt)	PO1 (Mgmt Knowledge)	Understand, Apply
VI	24BBA7602T	Business Research Methods	Formulate research problems and apply quantitative/qualitative tools for business analysis.+2	PSO11 (Research Skills)	PO4 (Analytical Skills)	Analyze, Evaluate, Create

VI	24BBA7603T	Project Management	Master the lifecycle of projects, including planning, scheduling, and risk assessment.+1	PSO7 (Ops & Project Mgmt)	PO6 (Decision Making)	Apply, Analyze
VI	24BBA7604T	Project Work / Dissertation	Apply theoretical knowledge to solve real-world business problems through a detailed study.	PSO11 (Research Skills)	PO7 (Entrepreneurship)	Evaluate, Create

PO's for The Programme Bachelor of Commerce (Pass Course) – 2024-25

Program Outcomes for B.COM

S.No.	Program Outcomes (POs)
PO1	Develop a comprehensive understanding of the theoretical framework of financial accounting, accounting standards, and the preparation of financial statements for various organizations.
PO2	Apply micro and macro-economic concepts, such as demand forecasting and cost analysis, to formulate effective business policies and understand market dynamics.
PO3	Assimilate core management functions—planning, organizing, staffing, and controlling—to lead organizations and manage human resources effectively.
PO4	Utilize statistical tools and quantitative techniques to summarize data and provide meaningful information for business decision-making.
PO5	Gain knowledge of Indian business laws, including the Contract Act, Sale of Goods Act, and Information Technology Act, to navigate legal requirements in commerce.

PO6	Comprehend the structure and working of the Indian banking system, financial markets, and the role of regulatory bodies like the RBI and SEBI.
PO7	Master cost accounting methods and management accounting techniques to assist in pricing, production, and organizational decision-making processes.
PO8	Acquire the traits and technical knowledge necessary to initiate and manage small-scale industrial ventures and startups.
PO9	Evaluate audit techniques, internal control systems, and the legal responsibilities of auditors to ensure financial transparency.
PO10	Understand the provisions of Direct and Indirect taxes, including Income Tax and GST, and develop skills for tax planning and e-filing.

ABST

Programme Specific Outcome (PSO's)

PSO No.	Programme Specific Outcomes:
PSO-1	Students will acquire a comprehensive understanding of accounting principles, concepts, and practices.
PSO-2	Students will develop skills in analyzing and interpreting financial statements, assessing the financial health of organizations and making informed decisions based on financial information.
PSO-3	Students will gain knowledge of tax laws, regulation and procedure.
PSO-4	Students will understand the principles and practices of auditing.
PSO-5	Students will enhance their communication skills, both written and oral, and develop the ability to work effectively in teams, present financial information and communicate with stakeholders.
PSO-6	Students will develop strong analytical and problem-solving skills, enabling them to analyze complex financial data, identify issues and propose appropriate solutions.

Semester	Course Code	Course Title	Course Outcomes on completing the course, the student will be able to:	Attributes		Cognitive levels (R/U/A/An/E/C)
				PSO addressed	PO addressed	
I	24BAB5101T	Financial Accounting	CO1: Understand the basic concepts and principles of accounting, such as the accounting cycle, accounting equations, and the double-entry system.	PSO-1	PO1, PO2	R, U
			CO2: Prepare and present financial statements (Income Statement, Balance Sheet) of sole proprietors using the trial balance.	PSO-1, PSO-2	PO2, PO4	U, Ap
			CO3: Apply the concepts of journalizing and posting in ledgers, including the preparation of subsidiary books (e.g., Cash Book, Purchase Book).	PSO-1, PSO-6	PO3, PO4	Ap
			CO4: Comprehend and apply the method of accounting for different types of transactions (e.g., purchases, sales, receipts, and payments).	PSO-2, PSO-6	PO3, PO4	Ap, An
			CO5: Demonstrate the ability to reconcile discrepancies in accounts and prepare corrected trial balances to ensure the accuracy of financial data.	PSO-2, PSO-6	PO4, PO5	An, E

II	24BAB5201T	Business Statistics	CO1: Understand the basic concepts and importance of statistics in business decision-making, including data collection, organization, and presentation.	PSO-6	PO1, PO2	R, U
			CO2: Apply descriptive statistical techniques such as measures of central tendency (mean, median, mode) and measures of dispersion (range, variance, standard deviation) to summarize and analyze data.	PSO-6	PO2, PO3	Ap
			CO3: Utilize probability concepts and distribution models (e.g., Binomial, Poisson, Normal) to assess business risks and predict future outcomes.	PSO-2, PSO-6	PO3, PO4	Ap, An
			CO4: Analyze data using statistical tools such as correlation and regression analysis to understand relationships between business variables and make informed decisions.	PSO-2, PSO-6	PO4, PO5	An
			CO5: Apply statistical techniques for hypothesis testing, confidence intervals, and analysis of variance (ANOVA) to test business assumptions and draw conclusions from data.	PSO-2, PSO-6	PO4, PO5	An, E

III	24BAB6301T	Cost Accounting	CO1: Understand the basic concepts and principles of cost accounting, including the importance of cost classification, cost allocation, and cost absorption in decision-making.	PSO1	PO1, PO2	R, U
			CO2: Learn to apply various methods of costing, such as job order costing, process costing, and operating costing, to different types of businesses and industries.	PSO2	PO2, PO3	Ap
			CO3: Develop skills to prepare cost sheets, cost statements, and profit and loss accounts, helping in the calculation and analysis of cost per unit and overall cost structures.	PSO2	PO3, PO4	Ap, An
			CO4: Understand the role of cost control techniques such as standard costing, budgetary control, and variance analysis in managing costs effectively within a business.	PSO3	PO4, PO5	An, E
			CO5: Apply cost accounting tools to business decision-making, including pricing decisions, make-or-buy decisions, and cost-volume-profit (CVP) analysis.	PSO3	PO4, PO5	An, E

IV	24BAB6401T	Income Tax	CO1: Understand the basic concepts of income tax, including definitions, types of income, and the significance of income tax in the economy.	PSO1	PO1, PO2	R, U
			CO2: Gain knowledge of the provisions related to the computation of income under different heads, such as salaries, business income, capital gains, and income from other sources.	PSO2	PO2, PO3	U, Ap
			CO3: Learn how to compute total income and the tax payable for individual taxpayers, including the application of exemptions, deductions, and rebates under the Income Tax Act.	PSO2, PSO3	PO3, PO4	Ap, An
			CO4: Understand the legal procedures for filing income tax returns, assessment, and the role of the Income Tax Department in the collection and enforcement of taxes.	PSO3	PO4, PO5	U, An
			CO5: Analyze and interpret the provisions of the Income Tax Act concerning various deductions, exemptions, and incentives available to taxpayers, including special provisions for businesses, professionals, and individuals.	PSO3	PO4, PO5	An, E

V	24BAB7501T	Auditing and Management Accounting	CO1: Understand the basic principles and concepts of auditing, including the types of audits, audit procedures, and the role of auditors in ensuring financial transparency and accountability.	PSO1	PO1, PO2	R, U
			CO2: Gain knowledge of audit planning and execution, including the steps involved in conducting an audit, such as risk assessment, evidence gathering, and evaluating internal controls.	PSO2	PO2, PO3	U, Ap
			CO3: Understand the audit report preparation process, the auditor's responsibility in giving an opinion on financial statements, and the legal and ethical standards involved in auditing.	PSO2	PO3, PO4	U, An
			CO4: Learn about the different types of audits (statutory audit, internal audit, tax audit, etc.) and their applicability in different organizational settings.	PSO3	PO4, PO5	U, An
			CO5: Develop the ability to identify and evaluate the potential risks in financial statements and business operations through audit procedures and recommendations.	PSO3	PO4, PO5	An, E

VI	24BAB7601T	Goods and Service Tax	CO1: Understand the concept of Goods and Services Tax (GST), its significance, and the objectives of the GST Act in India, including the history and rationale behind the implementation of GST.	PSO1	PO1, PO2	R, U
			CO2: Gain knowledge of the structure and classification of GST, including the types of GST (CGST, SGST, IGST) and the processes involved in registration, invoicing, and payment of GST.	PSO2	PO2, PO3	U, Ap
			CO3: Learn the detailed procedure for the computation of GST liability, input tax credit (ITC), and the filing of GST returns.	PSO2, PSO3	PO3, PO4	Ap, An
			CO4: Understand the practical aspects of GST compliance, including documentation, tax invoicing, GST rates, and the process of audit and assessment under GST.	PSO3	PO4, PO5	An
			CO5: Analyze the impact of GST on businesses, the economy, and trade, including how businesses can optimize their tax liabilities and ensure GST compliance.	PSO3	PO4, PO5	An, E

B.COM - EAFM

Programme Specific Outcomes (PSO's)

PSO No.	Programme Specific Outcomes (PSOs)
PSO-1	Demonstrate comprehensive understanding of economic principles, public finance, and financial management relevant to economic administration.
PSO-2	Apply quantitative, statistical, and analytical tools for economic analysis and informed decision-making in public and private sectors.
PSO-3	Evaluate fiscal policies, budgeting systems, and financial frameworks to assess their impact on economic development and governance.
PSO-4	Develop skills for efficient and ethical management of public expenditure, taxation, and financial resources in administrative systems.
PSO-5	Interpret and apply economic laws, financial regulations, and government policies related to administration and financial control.
PSO-6	Acquire professional competence in planning, auditing, reporting, and financial accountability for careers in administration and finance.
PSO-7	Exhibit critical thinking, problem-solving ability, and ethical awareness while addressing contemporary economic and financial challenges.

Semester	Course Code	Course Title	Course Outcomes on completing the course, the student will be able to:	Attributes		Cognitive levels (R/U/A/An/E/C)
				PSO addressed	PO addressed	
I	24BEM5101T	Business Economics	CO1: Understand the nature, scope, and importance of Business Economics in managerial decision-making	PSO-1	PO1, PO2	R, U
			CO2: Analyze consumer behavior using demand analysis, utility theory, and elasticity of demand	PSO-2	PO2, PO4	An
			CO3: Apply production and cost theories to business decision-making	PSO-2	PO3	Ap
			CO5:Evaluate price determination under different market structures	PSO-3	PO4, PO5	E
			CO5:Analyze macroeconomic factors such as inflation,	PSO-3	PO5	An, E

II	24BEM5201T	Indian Banking & Financial System	business cycles, and government policies			
			CO1:Understand the structure and role of the Indian financial system in economic development	PSO-1	PO1, PO2	R, U
			CO2:Explain the role and functions of the Reserve Bank of India	PSO-1	PO2	U
			CO3:Describe banker–customer relationships and banking operations	PSO-2	PO3	U, Ap
			CO4:Analyze functions of commercial, cooperative, and development banks	PSO-2	PO4	An
			CO5:Identify money market and capital market instruments	PSO-3	PO3, PO4	U
			CO6:Analyze digital banking reforms and payment systems	PSO-4	PO5	U, An

			CO7:Evaluate the role of NBFCs and MFIs in financial inclusion	PSO-5	PO5	E
III	24BEM6301T	Economic Environment In Rajasthan	CO1:Understand the structure and characteristics of Rajasthan's economy	PSO-1	PO1	R, U
			CO2:Analyze economic planning, budgetary policies, and development programs	PSO-2	PO2, PO4	An
			CO3:Examine agricultural and rural development in Rajasthan	PSO-3	PO3, PO4	U, An
			CO4:Analyze industrial development and mineral resources	PSO-3	PO4	U, An
			CO5:Evaluate infrastructure and tourism development	PSO-4	PO5	E
			CO6:Analyze socio-economic issues like poverty and unemployment	PSO-5	PO5	An

			CO7:Evaluate the impact of state economic policies	PSO-6	PO5	E
IV	24BEM6401T	Elements Of Financial Management	CO1:Understand concepts and objectives of financial management	PSO-1	PO1, PO2	R, U
			CO2:Apply capital budgeting techniques in investment decisions	PSO-2	PO3	Ap
			CO3:Analyze cost of capital and capital structure decisions	PSO-3	PO4	An
			CO4:Evaluate working capital and dividend policies	PSO-4	PO4, PO5	E
			CO5:Analyze financial performance using ratios and tools	PSO-5	PO5	An, E
V	24BEM7501T	Rural Development And Co-Operation	CO1:Understand concepts and objectives of rural development	PSO-1	PO1	R, U

			CO2:Analyze rural development programs and institutions	PSO-2	PO2, PO3	U, An
			CO3:Examine the role of cooperatives in rural economy	PSO-3	PO4	An
			CO4:Evaluate policies related to agriculture and rural finance	PSO-4	PO5	E
			CO5:Analyze challenges and prospects of rural development	PSO-6	PO5	An, E
VI	24BEM7601T	Business Budgeting	CO1:Understand concepts and objectives of business budgeting	PSO-1	PO1, PO2	R, U
			CO2:Apply various types of budgets in organizations	PSO-2	PO3	Ap
			CO3:Analyze budgetary control techniques	PSO-3	PO4	An

			CO4:Evaluate budgetary performance and variance analysis	PSO-4	PO5	E
			CO5:Design and create effective budget plans for business decisions	PSO-7	PO5	C

BADM

Programme Specific Outcomes (PSO's)

PSO No.	Programme Specific Outcomes (PSOs)
PSO-1	Demonstrate fundamental knowledge of business management principles, organization, and administrative practices.
PSO-2	Apply managerial, quantitative, and analytical tools for effective business decision-making.
PSO-3	Analyze business environment, organizational behavior, and functional areas of management.
PSO-4	Develop leadership, communication, and teamwork skills required for managerial roles.
PSO-5	Interpret and apply business laws, corporate governance practices, and ethical standards.
PSO-6	Enhance entrepreneurial skills, innovation, and problem-solving abilities in business contexts.
PSO-7	Demonstrate professional competence, social responsibility, and ethical awareness in business administration.

Semester	Course Code	Course Title	Course Outcomes on completing the course, the student will be able to:	PSO addressed	PO addressed	Cognitive levels (R/U/A/An/E/C)
I	24BBM5101T	Principle Of Business Management	CO1:Understand concepts, nature, and scope of business management	PSO-1	PO1	R, U
			CO2:Explain functions of management: planning, organizing, staffing, directing, and controlling	PSO-1	PO2	U
			CO3:Apply management principles in organizational situations	PSO-2	PO3	Ap
			CO4:Analyze leadership styles, motivation theories, and communication	PSO-3	PO4	An
			CO5:Evaluate contemporary management issues and practices	PSO-7	PO5	E
II	24BBM5201T	Business Law	CO1:Understand basic concepts and sources of business law	PSO-1	PO1	R, U

			CO2:Explain provisions of Indian Contract Act	PSO-2	PO2	U
			CO3:Apply legal provisions related to contracts and negotiable instruments	PSO-3	PO3	Ap
			CO4:Analyze laws related to sale of goods and consumer protection	PSO-5	PO4	An
			CO5:Evaluate ethical and legal responsibilities of businesses	PSO-7	PO5	E
III	24BBM6301T	Company Act And Security Practice	CO1:Understand provisions of the Companies Act and types of companies	PSO-1	PO1	R, U
			CO2:Explain company formation, management, and winding up	PSO-3	PO2	U
			CO3:Apply legal provisions related to shares, debentures, and securities	PSO-5	PO3	Ap
			CO4:Analyze corporate governance and regulatory framework	PSO-4	PO4	An

			CO5:Evaluate compliance and ethical practices in corporate management	PSO-7	PO5	E
IV	24BBM6401T	Entrepreneurship And Small Business Management	CO1:Understand concepts and role of entrepreneurship in economic development	PSO-1	PO1	R, U
			CO2:Analyze entrepreneurial opportunities and feasibility	PSO-2	PO4	An
			CO3:Apply managerial skills in small business planning	PSO-6	PO3	Ap
			CO4:Evaluate government schemes and support institutions for MSMEs	PSO-3	PO5	E
			CO5:Develop entrepreneurial mindset and ethical business practices	PSO-7	PO5	C
V	24BBM7501T	Functional Management	CO1:Understand functions of marketing, finance, HR, and production management	PSO-1	PO1	R, U
			CO2:Analyze interrelationship among functional areas	PSO-3	PO4	An

				CO3:Apply functional strategies in business decision-making	PSO-2	PO3	Ap
				CO4:Evaluate managerial effectiveness across business functions	PSO-4	PO5	E
				CO5:Assess contemporary challenges in functional management	PSO-7	PO5	An, E
VI	24BBM7601T	Insurance		CO1:Understand principles and types of insurance	PSO-1	PO1	R, U
				CO2:Explain life, marine, and general insurance policies	PSO-2	PO2	U
				CO3:Apply insurance concepts in risk management	PSO-3	PO3	Ap
				CO4:Analyze insurance regulations and IRDA framework	PSO-5	PO4	An
				CO5:Evaluate role of insurance in economic and social security	PSO-7	PO5	E

PO's for The Programme Bachelor of Arts (Pass Course) – 2024-25

Program Outcomes for B.A.

Program Outcomes (POs)

S.No.	Program Outcomes
PO1.	Acquire a deep understanding of core subjects in Humanities and Social Sciences, including Literature, History, Political Science, Economics, and Sociology.
PO2.	Develop strong linguistic skills and the ability to express complex ideas clearly in multiple languages through the study of poetry, drama, prose, and fiction.
PO3.	Cultivate the ability to critically evaluate historical events, political theories, and social issues to form well-reasoned arguments.
PO4.	Understand the Indian Constitution, national movements, and administrative systems to become an informed and responsible citizen.
PO5.	Gain proficiency in mathematical techniques, statistical analysis, and logical reasoning through elective subjects like Mathematics and Philosophy.
PO6.	Develop an appreciation for visual arts, painting, and global culture, along with practical skills in creative expression.
PO7.	Acquire hands-on experience through practical subjects like Geography, Psychology, and Home Science, focusing on resource management and environmental understanding.
PO8.	Enhance employability through Skill Enhancement Courses (SEC) and internships designed to bridge the gap between academic knowledge and professional requirements.
PO9.	Inculcate moral and ethical values through the study of Indian and Western Philosophy and dedication.

Political Science

Programme Specific Outcomes (PSO's)

PSO No.	Programme Specific Outcomes
PSO-1	Understand basic concepts, theories and approaches of Political Science.
PSO-2	Analyze Indian Constitution, political institutions and political processes.
PSO-3	Evaluate political ideologies and thoughts of Indian and Western thinkers.
PSO-4	Understand governance, public administration and policy-making processes.
PSO-5	Examine contemporary political issues at national and global levels.
PSO-6	Develop critical thinking, analytical and research skills.
PSO-7	Apply political knowledge in real-life civic and democratic participation.

Semester	Course Code	Course Title	Course Outcomes (On completing the course, the student will be able to:)	Attributes		Cognitive Levels (R/U/A/An/E/C)
				PSO Addressed	PO Addressed	
I	25BPSS101T	Indian Political System	Understand Constitution making, FR, DPSP, Executive, Legislature, Judiciary and Centre-State Relations.	PSO-1, PSO-2, PSO-4	PO-1, PO-2, PO-4	R, U, A, An
II	25BPSS201T	Foundations of Political Science	Understand nature, scope, and theories of State, Liberty, Equality and systems of government.	PSO-1, PSO-3, PSO-6	PO-1, PO-3, PO-4	R, U, An, E
III	25BPSS301T	Political Process in India	Understand party system, decentralization, caste, religion and national integration issues.	PSO-2, PSO-5, PSO-6	PO-2, PO-3, PO-5	U, A, An, E
IV	25BPSS401T	Western Political Thought	Study Plato, Aristotle, Hobbes, Locke, Rousseau, Marx and Laski.	PSO-1, PSO-3, PSO-6	PO-1, PO-3	R, U, An, E
V	25BPSS501T	Indian Political Thinkers	Study Manu, Kautilya, Gandhi, Tilak, Ambedkar and Savarkar.	PSO-3, PSO-5, PSO-6	PO-2, PO-3, PO-4	U, An, E
VI	25BPSS601T	International Relations	Study the Cold War, UNO, India's Foreign Policy, globalization and regional organizations.	PSO-4, PSO-5, PSO-6, PSO-7	PO-1, PO-4, PO-5	U, An, E, C

History

Programme Specific Outcomes (PSOs)

PSO	Description
PSO-1	Demonstrate a **comprehensive understanding of Indian history** from earliest times to the post-independence period, integrating political, social, economic, cultural, and intellectual developments.
PSO-2	Identify, analyze, and interpret **various historical sources**—literary, archaeological, archival, inscriptions, foreign accounts, and material culture—for reconstructing historical narratives.
PSO-3	Critically examine **major historical processes and transformations**, including state formation, imperial systems, religious movements, colonialism, nationalism, and socio-economic change in India.
PSO-4	Assess the **regional dimensions of Indian history**, with special reference to **South India, Rajasthan, and regional kingdoms**, highlighting diversity, continuity, and regional contributions.
PSO-5	Analyze the **impact of global historical developments**—such as Renaissance, Revolutions, Imperialism, World Wars, and Cold War—on India and the modern world.
PSO-6	Apply **historical thinking skills**, including chronology, causation, comparison, and interpretation, to develop analytical ability, critical reasoning, and scholarly writing.
PSO-7	Develop awareness of **heritage, culture, secular values, and citizenship**, enabling responsible engagement with society, education, research, civil services, and heritage-related careers.

Semester	Course Title	Course Code	Course Outcomes on completing the course, the student will be able to:	Attributes		Cognitive Level
				PSOs addressed	PSOs addressed	
Semester I	Bharat Ka Itihas (History of India) (From Earliest times to 750 CE)	24BHS5101T	**CO-1:** Describe and analyze the **prehistoric cultures** of India with reference to tools, techniques, and stages of human development.	PSO-1, PSO-4	PO1	R
			CO-2: Examine the **Harappan and Vedic civilizations** focusing on polity, economy, society, religion, and causes of transformation and decline.	PSO-2, PSO-6	PO2	An
			CO-3: Analyze the emergence of **Mahajanapadas and the rise of Magadha**, highlighting processes of state formation in early India.	PSO-2, PSO-6	PO2	A
			CO-4: Assess the **religious, political, and socio-economic developments** from the Mauryan to Post-Gupta period, including art, architecture, education, and regional cultures.	PSO-1, PSO-4	PO1	U
			CO-5: Describe and analyze the **prehistoric cultures** of India with reference to tools, techniques, and stages of human development.	PSO-1, PSO-6	PO2	An

Semester II	Bharat Ka Itihas (History of India) (From Earliest times to 750 CE To 1707 CE)	24BHS5201T	**CO-1:** Identify and evaluate **literary, archaeological, archival sources and foreign accounts** for understanding Early Medieval Indian history.	PSO-1, PSO-4	PO1	U
			CO-2: Explain the **political developments of Early Medieval India**, including the Tripartite Struggle and resistance to foreign invasions.	PSO-2, PSO-6	PO2	An
			CO-3: Analyze the **foundation, expansion, and administration of the Delhi Sultanate**, with reference to major rulers and administrative institutions.	PSO-2	PO2	A
			CO-4: Examine the **growth, consolidation, and decline of the Mughal Empire**, including administrative systems and socio-religious policies.	PSO-4, PSO-5	PO1	U
			CO-5: Assess the **regional powers, social structure, economy, art, architecture, and Bhakti–Sufi movements** during the medieval period.	PSO-1, PSO-6	PO2	An
Semester III	Bharat Ka Itihas (History of India) (From Earliest times 1707 CE To 1885 CE)	24BHS6301T	**CO-1:** Explain the **decline of the Mughal Empire** and analyze the emergence of **successor states** such as Bengal, Awadh, and Hyderabad.	PSO-4	PO1	U
			CO-2: Assess the **political significance of the Battles of Plassey and Buxar** in establishing British supremacy in India.	PSO-2, PSO-6	PO2	An

			CO-3: Analyze the **rise, administration, and decline of the Maratha Empire**, including the role of the Peshwas and Anglo-Maratha conflicts.	PSO-4	PO1	U
			CO-4: Examine the **expansion of British power in India**, with reference to Anglo-Mysore wars, Anglo-French rivalry, Sikh Empire, and annexation policies.	PSO-5, PSO-7	PO3	U
			CO-5: Evaluate the **colonial administrative structure and Indian responses**, including the Revolt of 1857, early reforms, and political associations.	PSO-5	PO3	A
Semester IV	Bharat Ka Itihas (History of India) (From Earliest times 1885 CE To 1964 CE)	24BHS6401T	**CO-1:** Explain the **growth of Indian nationalism**, including the role of the Indian National Congress, revolutionary movements, and mass mobilization.	-1, PSO-4	PO1	A
			CO-2: Analyze the **Gandhian movements** and assess their impact on India's freedom struggle and mass politics.	-2, PSO-6	PO2	An
			CO-3: Examine the **constitutional developments** from 1909 to 1935 and evaluate their significance in the freedom movement.	-1, PSO-4	PO1	U
			CO-4: Assess the **process of independence and partition**, highlighting key events, leaders, and constitutional outcomes.	PSO-2	PO2	A
			CO-5: Evaluate **post-independence developments** such as nation-building, integration of princely states, Constitution of India, and Non-Alignment Movement.	PSO-5	PO3	U

Semester V	Main Trends in the Cultural History of India	24BHS7501T	**CO-1:** Explain the meaning, essence, and characteristics of Indian culture and analyze the relationship between religion and culture from Vedic to Sufi traditions**.**	-2, PSO-6	PO2	An
			CO-2: Examine philosophical traditions, social institutions (Varna, Ashrama, Samskara, Purushartha) and reform movements in shaping Indian cultural values.	PSO-5	PO3	U
			CO-3: Assess the contribution of Indian literature and scholars (epics, classical writers, scientists) in the development of cultural and scientific traditions**.**	PSO-4	PO1	U
			CO-4: Analyze the evolution of Indian art, temple architecture, and painting traditions across different historical periods.	PSO-5	PO3	U
			CO-5: Evaluate the continuity and diversity of Indian cultural heritage and its relevance in contemporary society.	PSO-2	PO2	An
Semester VI	History of Rajasthan	24BHS7601T	**CO-1:** Identify and interpret the major sources and prehistoric cultures of Rajasthan, including Chalcolithic traditions and early republican tribes**.**	PSO-1	PO1	U
			CO-2: Analyze the origin of Rajputs and the rise of major dynasties, along with resistance movements against external invasions.	PSO-2, PSO-6	PO2	A

			CO-3: Examine the religious traditions, saints, art, architecture, and painting styles of Rajasthan and evaluate their cultural significance**.**	PSO-5	PO3	An
			CO-4: Assess the impact of British rule in Rajasthan, including administrative, social, and economic changes.	PSO-5	PO3	U
			CO-5: Evaluate the freedom struggle in Rajasthan, peasant and tribal movements, and the process of integration of princely states.	PSO-7	PO3	U

Sociology

Programme Specific Outcomes (PSOs)

S.No.	Programme Specific Outcomes
PSO1:	Understand Indian society in relation to social institutions such as family, caste, class, religion, and polity.
PSO2:	Apply sociological theories and perspectives to analyze social change and development.
PSO3:	Conduct basic social surveys and interpret social data.
PSO4:	Critically evaluate social problems and suggest practical solutions.
PSO5:	Demonstrate sociological imagination in understanding local, national, and global social issues.

Semester	Course Code	Course Title	Course Outcomes	PSO Addressed	PO Addressed	Cognitive Levels
I	24BSO5101 T	Introduction of Sociology	1. Understand the meaning, nature, scope and development of Sociology as a discipline.	PSO-1,2	PO-1,2	R,U
			2. Explain basic sociological concepts such as society, community, association, institution, culture, status and role.	PSO-1,2,3	PO-1,2,3	R,U,A
			3. Describe the contributions of classical sociologists like Comte, Durkheim, Marx and Weber.	PSO-2	PO-1,3	R,U
			4. Analyze the relationship between individual and society using sociological perspectives.	PSO-2,4	PO-2,3	U,A,An
			5. Apply sociological imagination to understand contemporary social issues.	PSO-3,4,5	PO-2,5	A,An
			6. Develop a scientific and critical outlook towards social reality.	PSO-4,5	PO-2,5,6	U,An
II	24BSO5201 T	Society in India	1. Explain the historical evolution of Indian society and the distinction between textual and field views.	PSO-1, 3	PO-1, 2	R, U
			2. Analyze the meaning, forms, and changes in basic institutions like Family, Marriage, and Kinship.	PSO-1	PO-2, 5	U, An

			3. Evaluate the features and continuity of Caste and Class structures in contemporary India.	PSO-1, 5	PO-1, 3	An, E
			4. Examine the processes of social change, including Sanskritization, Westernization, and Modernization.	PSO-4	PO-5, 8	U, An
			5. Identify the problems of weaker sections (SC, ST, and OBC) and discuss potential remedies.	PSO-5, 6	PO-2, 3	U, E
III	24BSO6301 T	Social Research Methods	1. Define the meaning and steps of social research and the importance of scientific objectivity.	PSO-2	PO-7	R, U
			2. Formulate research problems and develop testable hypotheses using appropriate sources.	PSO-2	PO-1, 5	U, An
			3. Apply primary and secondary data collection techniques including surveys, case studies, and interviews.	PSO-2, 6	PO-4, 5	A, An
			4. Classify and tabulate data for systematic interpretation of sociological findings.	PSO-2	PO-5, 7	U, An
			5. Calculate and interpret measures of central tendency (Mean, Median, Mode) in social research.	PSO-2	PO-5	U, A

IV	24BSO6401 T	Issues and Problems in Indian Society	1. Define the conceptual framework and sociological causes of social problems.	PSO-1, 6	PO-1, 2, 5	R, U
			2. Analyze structural issues like poverty, unemployment, and corruption.	PSO-1, 5	PO-2, 3, 5	U, An
			3. Evaluate the impact of communalism and caste/gender inequalities.	PSO-4, 5	PO-1, 3, 7	An, E
			4. Examine familial issues including dowry and domestic violence.	PSO-1, 6	PO-2, 6	U, An
			5. Generate insights and engage in discussions on contemporary social issues.	PSO-5	PO-4, 8	An, C
V	24BPH7501 T	Sociological Thoughts	1. Explain foundations of classical sociological traditions (Spencer's social evolution and Durkheim's social facts).	PSO-1, 2	PO-2, 7	R, U
			2. Analyze conflict and action perspectives (Marx's class struggle and Weber's social action/authority).	PSO-1, 5	PO-1, 5	U, An
			3. Evaluate contemporary sociological theories (Giddens' structuration and Gramsci's hegemony).	PSO-4	PO-2, 3	An, E
			4. Contrast Western thoughts with Indian sociological traditions (Srinivas's Sanskritization and Desai's Nationalism).	PSO-3, 6	PO-6	An

			5. Apply various sociological perspectives to analyze social structure, culture, and social change.	PSO-1, 4	PO-1, 5	A, E
VI	24BPH7601T	Introducing Sub-Sociological Fields	1. Explain Urban Sociology and related government schemes (Smart Cities).	PSO-1	PO-5, 6	R, U
			2. Compare Rural and Urban social structures (Little Community/Peasant Society).	PSO-4	PO-1	U, An
			3. Analyze the impact of development, displacement, and rehabilitation.	PSO-2, 5	PO-2, 3	An, E
			4. Evaluate Globalization, marginalization, and identity crisis.	PSO-3	PO-4, 8	An, E
			5. Demonstrate a holistic understanding of various sub-fields.	PSO-6	PO-1, 7	U, C

BA English Literature

Programme Specific Outcomes (PSOs)

PSO	Description
PSO-1	Develop comprehensive knowledge of British, American and Indian literature across periods.
PSO-2	Analyze poetry, drama, fiction and prose using appropriate literary terminology.
PSO-3	Demonstrate critical thinking and interpretative skills in literary studies.
PSO-4	Apply literary theories and cultural contexts in textual analysis.
PSO-5	Enhance written and oral communication skills through essays, presentations and reports.
PSO-6	Develop creative writing and research aptitude.
PSO-7	Understand socio-cultural, historical and philosophical dimensions of literature.

Semester	Course Code	Course Title	Course Outcomes	Attributes		Cognitive Levels
				PSO Addressed	PO Addressed	
I	24BEL5101T	Poetry and Drama	1. Understand major literary movements.	PSO-1,2,3,7	PO-1,2,4	R,U,A,An
			2. Analyze Shakespearean drama and metaphysical poetry.			
			3. Interpret classical and Indo-Anglian poetry.			
			4. Identify literary forms.			
			5. Develop appreciation for poetic language and drama.			
II	24BEL5201T	Prose and Fiction	1. Analyze essays and short stories.	PSO-2,3,5,7	PO-2,3,4	R,U,An,E
			2. Interpret themes of identity and morality.			
			3. Develop argumentative writing.			
			4. Understand narrative techniques.			

			5. Enhance report writing skills.			
III	24BEL6301T	Poems and Plays	1. Trace Romantic and Victorian poetry.	PSO-1,2,3,6	PO-1,2,4	R,U,An,C
			2. Analyze symbolism and modern techniques.			
			3. Interpret Indian English poetry.			
			4. Develop comparative analysis.			
			5. Improve presentation skills.			
IV	24BEL6401T	Essays and Novel	1. Analyze major novelists.	PSO-2,3,4,5	PO-2,3,4	U,An,E
			2. Interpret autobiographical writings.			
			3. Understand narrative realism.			
			4. Apply literary criticism.			
			5. Develop evaluative skills.			
V	24BEL7501T	Modern Poetry and Drama	1. Analyze modern poetry.	PSO-1,2,3,6	PO-1,2,4	U,An,E,C
			2. Interpret themes of modernism.			

			3. Understand stylistic innovations.			
			4. Compare poetic expressions.			
			5. Develop creative expression.			
VI	24BEL7601T	Modern Prose	1. Analyze modern essays and stories.	PSO-2,3,5,6,7	PO-2,3,4	U,An,E,C
			2. Evaluate themes of modernity.			
			3. Develop advanced writing skills.			
			4. Apply critical theory.			
			5. Demonstrate research competence.			

Hindi Literature

Programme Specific Outcomes (PSO's)

PSO No.	Programme Specific Outcome (हिंदी)
PSO-1	विद्यार्थी हिंदी साहित्य के इतिहास, विकास एवं विभिन्न कालखंडों (आदिकाल से मध्यकालीन काव्य तक) की सम्यक समझ विकसित कर सकेगा तथा आदिकालीन एवं मध्यकालीन काव्य के प्रमुख कवियों एवं उनकी रचनाओं का अध्ययन कर सकेगा।
PSO-2	विद्यार्थी कथा साहित्य—हिंदी कहानी एवं उपन्यास—तथा हिंदी गद्य साहित्य की प्रमुख विधाओं को समझने में सक्षम होगा और उनके सामाजिक-सांस्कृतिक संदर्भों का विश्लेषण कर सकेगा।
PSO-3	विद्यार्थी रीतिकालीन काव्य तथा काव्यांग विवेचन के अंतर्गत रीतिकाल की प्रमुख प्रवृत्तियों, छंद, रस एवं अलंकारों का ज्ञान प्राप्त कर रीतिकालीन कवियों की काव्य-रचनाओं का आलोचनात्मक अध्ययन कर सकेगा।
PSO-4	विद्यार्थी हिंदी नाटक एवं रंगमंच का परिचय प्राप्त कर हिंदी नाटक की प्रमुख प्रवृत्तियों तथा महत्वपूर्ण नाटकों जैसेराहस, एकांकी, उसर, औरंगज़ेबकीआख़िरीरात, मकड़ीकाजाला, हरीघासपरघंटेभर, अंधकारऔरप्रकाश, लक्ष्मीकास्वागतआदि का अध्ययन एवं विश्लेषण कर सकेगा।
PSO-5	आधुनिक काव्य, आधुनिक हिंदी काव्य की प्रवृत्तियों, प्रयोगों एवं समकालीन चेतना काआलोचनात्मक अध्ययन कर सकेगा।
PSO-6	निबन्ध एवं भाषा, हिंदी भाषा के स्वरूप, प्रयोग एवं निबंध लेखन कौशल को विकसित करअकादमिक एवं व्यावहारिक जीवन में उपयोग कर सकेगा।

Semester	Course Code	Course Title	Course Outcomes on completing the course, the student will be able to:	Attributes		Cognitive levels (R/U/A/An/E/C)
				PSO addressed	PO addressed	
I	24BHL 5101T	प्राचीन एवं मध्यकालीन काव्य	आदिकाल एवं भक्तिकाल की रचनाएँ एवं उनकी हिंदी काव्य की मूल प्रवृत्तियों, छंद, रस एवं अलंकारों को समझकर काव्य की आलोचनात्मक व्याख्या कर सकेगा।	PSO-1, PSO-4	PO-1, PO-2	R, U
II	24BHL 5201T	कथा साहित्य-हिन्दी कहानी एवं उपन्यास	हिंदी गद्य साहित्य की प्रमुख विधाओं, कथा साहित्य और हिन्दी कहानी को समझने तथा उनके सामाजिक-सांस्कृतिक संदर्भों का विश्लेषण करने में सक्षम होगा।	PSO-2, PSO-3	PO-2, PO-3	U, An
III	24BHL 6301T	रीतिकालीन काव्य तथा काव्यांग विवेचन	रीतिकालीन की प्रमुख प्रवृत्तियाँ, अलंकार ज्ञान, छंद और अलंकार ज्ञान और रीतिकालीन कवियों का काव्य	PSO-1, PSO-6	PO-3, PO-4	U, An, E

IV	24BHL 6401T	हिन्दी नाटक और रंगमंच	हिन्दी नाटक और रंगमंच का परिचय नाटक लहरों का राहंस एवं एकांकी, ऊसर, औरंगजेब की आखिरी रात, मकड़ी का जाला, हरी घास पर घंटे भर, अंधकार और प्रकाश, लक्ष्मी का स्वागत आदि	PSO-3, PSO-5	PO-4, PO-5	An, E
V	24BHL 7501T	आधुनिक काव्य	आधुनिक हिंदी काव्य की प्रवृत्तियों, प्रयोगों एवं समकालीन चेतना का आलोचनात्मक अध्ययन कर सकेगा।	PSO-4, PSO-7	PO-5, PO-6	An, E
VI	24BHL 7601T	निबन्ध एवं भाषा	हिंदी भाषा के स्वरूप, प्रयोग एवं निबंध लेखन कौशल को विकसित कर अकादमिक एवं व्यावहारिक जीवन में उपयोग कर सकेगा।	PSO-5, PSO-7	PO-6, PO-7	U, A, C

Geography

Programme Specific Outcomes (PSO's)

S. No.	Outcome
PSO 1	Explain the internal and external forces shaping the Earth's crust.
PSO 2	Differentiate between various erosional and depositional landforms.
PSO 3	Apply theories of mountain building and continental drift to global structures.
PSO 4	Conduct field surveys to identify local rock types and soil profiles.
PSO 5	Evaluate the theories of Davis and Penck regarding landscape evolution.
PSO 6	Map the distribution of major rivers, glaciers, and volcanic zones.
PSO 7	Synthesize geomorphic data to predict future changes in coastal or riverine areas.

Semester	Course Code	Course Title	Course Outcomes (CO)	PSO Addressed	PO Addressed	Cognitive Levels
I	24BGS5101T	Physical Geography-I (Geomorphology)	CO 1: Describe the origin of Earth and the Geological Time Scale.	PSO 6	PO 1	Remembering
			CO 2: Explain the interior structure of the Earth and the origin/types of rocks.	PSO 1	PO 1	Understanding
			CO 3: Illustrate the processes of Plate Tectonics and Continental Drift.	PSO 3	PO 2	Understanding
			CO 4: Analyze theories of Mountain Building (Kober, Holmes, Taylor).	PSO 3	PO 3	Analyzing
			CO 5: Compare the concepts of Isostasy by Airy and Pratt.	PSO 5	PO 2	Analyzing
			CO 6: Distinguish between weathering and various erosion/denudation processes.	PSO 2	PO 5	Understanding
			CO 7: Evaluate the erosional and depositional cycles of River, Wind, and Glacier.	PSO 5, 7	PO 3, 5	Evaluating

II		Physical Geography-II	CO 1: Explain the vertical structure of the atmosphere and the Earth's Heat Budget.	PSO 1	PO 1	Understanding
			CO 2:Analyze the distribution of atmospheric pressure and planetary wind systems.	PSO 2	PO 2	Analyzing
			CO 3: Illustrate the processes of cloud formation and types of precipitation.	PSO 2	PO 6	Applying
			CO 4: Compare the characteristics of Tropical and Temperate Cyclones.	PSO 3	PO 2	Analyzing
			CO 5: Distinguish between the climatic classifications of Koppen and Thornthwaite.	PSO 4	PO 4	Analyzing
			CO 6: Examine the relief, temperature, and salinity patterns of major oceans.	PSO 5, 6	PO 1, 7	Analyzing
			CO 7: Evaluate the theories of coral reefs and the potential of the "Blue Economy".	PSO 7	PO 5	Evaluating
III	24BGS6301T	Human Geography	CO 1: Define the nature and scope of Human Geography and its core paradigms.	PSO 1	PO 1	Remembering
			CO 2: Compare the schools of Determinism, Possibilism, and Neo-determinism.	PSO 1	PO 4	Understanding

			CO 3: Categorize human races and describe the socio-economic life of major tribes.	PSO 2, 5	PO 2	Understanding
			CO 4:Analyze world population growth, density, and distribution patterns.	PSO 3	PO 6	Analyzing
		Human Geography	CO 5: Evaluate the concept of Optimum Population and Population-Resource regions.	PSO 7	PO 5	Evaluating
		Human Geography	CO 6: Explain the causes, types, and consequences of global migration.	PSO 6	PO 6	Understanding
		Human Geography	CO 7:Analyze the morphology of settlements and problems of modern urbanization.	PSO 7	PO 3, 7	Analyzing
IV	24BGS6401T	Economic and Resource Geography	CO 1: Define the scope of Economic Geography and classify economic activities (Primary to Quaternary).	PSO 1	PO 1	Remembering
			CO 2: Classify natural resources and analyze the distribution of major minerals and energy sources.	PSO 2, 3	PO 1, 5	Understanding
			CO 3: Evaluate strategies for resource conservation and solutions for the world energy crisis.	PSO 3	PO 3, 5	Evaluating

			CO 4:Analyze world agricultural regions and the problems related to global food security.	PSO 4	PO 2, 4	Analyzing
			CO 5: Explain the localization and spatial distribution of major world industries.	PSO 5	PO 2	Understanding
			CO 6: Assess the impact of Special Economic Zones (SEZ) and Technology Parks on the economy.	PSO 6	PO 6	Evaluating
			CO 7:Analyze world transport patterns and their role in global trade and connectivity.	PSO 7	PO 6	Analyzing
V	24BGS7501T	Geography of India	CO 1: Describe India's physiographic divisions and the mechanism of the Indian monsoon.	PSO 1	PO 1, 4	Remembering
			CO 2:Analyze the distribution and importance of major metallic and non-metallic minerals.	PSO 2	PO 1, 5	Analyzing
			CO 3: Evaluate the transition toward renewable energy (Solar and Wind) in India.	PSO 3	PO 5	Evaluating
			CO 4: Explain the changing patterns of major crops and the impact of the Green Revolution.	PSO 4	PO 3, 6	Understanding
			CO 5:Analyze the spatial distribution of major industrial regions like Iron & Steel.	PSO 6	PO 7	Analyzing

			CO 6: Examine the growth, density, and linguistic diversity of the Indian population.	PSO 5	PO 2, 7	Analyzing
			CO 7: Evaluate the trends and consequences of urbanization and northern dialects.	PSO 7	PO 3	Evaluating
VI	24BGS7601T	Man and Natural Environment	CO 1: Define the environment and differentiate between its natural, biological, and social types.	PSO 1	PO 1	Remembering
			CO 2:Analyze Man-Environment relationships through Determinism and Possibilism.	PSO 5	PO 2	Analyzing
			CO 3: Illustrate the functions of an ecosystem, including energy flow and food webs.	PSO 2	PO 4	Understanding
			CO 4: Evaluate the processes of ecological succession and ecosystem stability.	PSO 2	PO 4	Evaluating
			CO 5:Analyze causes of global environmental crises like global warming and ozone depletion.	PSO 3, 6	PO 3, 6	Analyzing
			CO 6: Explain the principles of sustainable development and environmental awareness.	PSO 4	PO 5, 7	Understanding
			CO 7: Assess management techniques for soil, water, forest, and wildlife resources in India.	PSO 4, 7	PO 3, 5	Evaluating

Post-Graduation (P.G.): PO's, PSO's, CO's

S. No.	Under-Graduation Programme
1.	M.Sc. Mathematics
2.	M.Sc. Chemistry
3.	M.Sc. Physics
4.	M.Sc. Botany
5.	M.Sc. Zoology
6.	Master of Computer Application (MCA)
7.	M.Com. Economic Administration and Financial Management (EAFM)
8.	M.A. English Literature
9.	M.A. Geography

Master of Science (M.Sc.) Mathematics

Programme Outcomes (PO's)

Successful completion of Master of Science (M.Sc.) Mathematics program will make the students proficient in the following areas:

PO No.	Programme Outcomes (PO's)
PO-1	**Foundational Knowledge:** Students will gain a strong grounding in core areas of mathematics, including differential equations, numerical methods, and abstract algebraic structures.
PO-2	**Critical Thinking:** Students will be able to think logically and analytically, formulating mathematical models to solve complex real-world problems.
PO-3	**Problem Solving:** Capability to analyze and interpret abstract data and provide logical conclusions using mathematical tools.
PO-4	**Effective Communication:** Students will be able to communicate mathematical ideas, proofs, and results clearly and effectively using proper terminology and notation.
PO-5	**Research Aptitude:** Students will be able to identify research questions, use relevant literature, and engage in independent mathematical inquiry.
PO-6	**Interdisciplinary Application:** Students will be able to apply mathematical principles to other disciplines like physics, computer science, and engineering.
PO-7	**Modern Tool Usage:** Apply mathematical software or algorithms (like those in Cryptography) to solve modern-day challenges.
PO-8	**Abstract Reasoning:** Students will develop the ability to reason abstractly, construct formal proofs, and understand the axiomatic structure of mathematics.

PO-9	**Mathematical Modeling:** Students will be able to translate practical problems into mathematical models and use computational methods to find optimal solutions.	
PO-10	**Professional Ethics:** Students will understand the ethical implications of using mathematical and statistical models in a social context, especially concerning data privacy.	
PO-11	**Career Readiness & Lifelong Learning:** The program prepares students for diverse careers in data analytics, finance, and academia, while fostering a commitment to continuous professional development.	

Master of Science (M.Sc.) Mathematics

Programme Specific Outcomes (PSO's)

Successful completion of Master of Science (M.Sc.) Mathematics program will make the students proficient in the following areas:

PSO No.	Programme Specific Outcomes (PSO's)
PSO-1	**Abstract Reasoning:** Develop the ability to reason abstractly, construct formal mathematical proofs, and understand the axiomatic structure of advanced mathematics.
PSO-2	**Mathematical Software Proficiency:** Gain proficiency in using computational tools and software (such as MATLAB, Python, or R) to solve complex problems and visualize data.
PSO-3	**Career Readiness:** Prepare for diverse professional paths in data analytics, finance, actuarial science, and academia.
PSO-4	**Competitive Exam Mastery:** Equip students with the deep theoretical knowledge required to clear national-level exams like **CSIR-NET, GATE, and SET**.
PSO-5	**Mathematical Modeling:** Ability to translate real-world physical or social problems into mathematical models and find optimal solutions.
PSO-6	**Analytical Rigor:** Master the rigorous analysis of sequences, series, and functions of complex variables as required in Real and Complex Analysis.
PSO-7	**Advanced Algebraic Understanding:** Proficiency in the properties of groups, rings, fields, and vector spaces, allowing for applications in fields like Cryptography.

PSO-8	**Numerical Computation:** Develop skills to implement numerical algorithms (like Newton-Raphson or Gauss-Seidel) for equations where analytical solutions are unavailable.
PSO-9	**Differential Equation Expertise:** Ability to solve and model dynamic systems using Ordinary and Partial Differential Equations.
PSO-10	**Mechanical & Physical Modeling:** Apply principles of Statics and Dynamics to analyze the equilibrium and motion of particles and rigid bodies.
PSO-11	**Ethics & Social Responsibility:** Understand the ethical implications of mathematical modeling, particularly regarding data privacy and bias in statistical applications.
PSO-12	**Lifelong Learning:** Develop an independent research aptitude that fosters a commitment to continuous learning and adaptation to evolving mathematical theories.

Semester	Course Code	Course Title	Course Outcomes on completing the course, the student will be able to:	Attributes		Cognitive levels (R/U/A/An/E/C)
				PSO addressed	PO addressed	
I	24MMS9101T	Algebra-I	**CO I:** Demonstrate deep understanding of fundamental abstract algebra concepts.	PSO 1, 7	PO 1, 8	U
			CO II: Apply group theory concepts to solve problems involving direct and internal products, Sylow's theorem, and isomorphism theorem	PSO 7	PO 1, 3	A
			CO III: Analyze and solve problems involving polynomial rings, linear transformations, dual spaces, and field extensions	PSO 1, 7	PO 1, 3	An
			CO IV: Utilize Galois theory to understand the solvability of polynomial equations and apply it to solve related problems	PSO 7	PO 1, 8	A, An
			CO V: Represent linear maps using matrices, calculate eigenvalues and eigenvectors, and apply these concepts to solve various problems	PSO 7	PO 1, 2	A

I	24MMS9102T	Real Analysis	CO I: Apply measure theory concepts to analyze sets of real numbers and measurable functions	PSO 1, 6	PO 1, 8	A, An
			CO II: Understand and apply concepts of L-spaces, Holder-Minkowski inequalities, and topological spaces, including separation axioms	PSO 6	PO 1, 8	U, A
			CO III: Analyze continuous mappings and homeomorphisms, apply nets and filters, and utilize separation axioms to categorize topological spaces.	PSO 1, 6	PO 3, 8	An
			CO IV: Analyze and characterize compact and locally compact spaces, apply continuity and connectedness properties, and utilize the One-Point Compactifications Theorem	PSO 6	PO 8	An, E
I	24MMS9103T	Differential Equation-I	CO I: Solve non-linear ordinary differential equations of particular forms, including Riccati's equation, and analyze total differential equations and partial differential equations of second order with variable coefficients.	PSO 9	PO 1, 3	A

			CO II: Classify linear partial differential equations of second order using Cauchy's method and separation of variables to solve first order partial differential equations and analyze Laplace, Wave, and diffusion equations.	PSO 9	PO 1, 2	U, A
			CO III: Define and analyze functionals and their variations.	PSO 1	PO 8	R, An
			CO IV: Apply Euler's equation and variational principles to solve extremum problems, and utilize the method of Frobenus to solve differential equations near singular points.	PSO 5, 9	PO 9	A
			CO V: Analyze and apply properties of Gauss hypergeometric functions, Bessel functions, Hermite polynomials, and Laguerre polynomials to solve problems.	PSO 8	PO 1	An, A
I	24MMS9104T	Tensor Analysis & Riemannian Geometry	CO I: Explain the algebra of tensors, including contraction, inner product, and outer product, and distinguish between covariant and contravariant indices.	PSO 1, 7	PO 1, 4	U
			CO II: Calculate the Metric Tensor for various coordinate systems and use it to define lengths, angles, and volumes.	PSO 10	PO 1, 6	A

			CO III: Compute Christoffel Symbols and use them to perform Covariant Differentiation, ensuring physical laws remain invariant across frames.	PSO 1, 10	PO 6, 8	A
			CO IV: Derive the Riemann Curvature Tensor, Ricci Tensor, and Scalar Curvature to quantify the "flatness" or "curviness" of a manifold.	PSO 1	PO 1, 8	E
			CO V: Solve the Geodesic Differential Equations to determine the path of a particle in a curved space-time or on a curved surface.	PSO 9, 10	PO 6, 9	A, An
I	24MMS91 06T	**Calculus of Variation & Special Function-I**	**CO I:** Formulate and solve the Euler-Lagrange equation to find the extremals of various functionals.	PSO 1	PO 1, 3	C
			CO II: Apply variational techniques to solve the Brachistochrone problem, geodesics on surfaces, and minimal surfaces of revolution.	PSO 5, 10	PO 2, 9	A
			CO III: Solve constrained optimization problems using the method of Lagrange Multipliers within a functional framework.	PSO 5, 8	PO 9	A
			CO IV: Demonstrate the use of Rodrigues' Formula and Generating Functions to derive identities for orthogonal polynomials.	PSO 1	PO 1	U, A

E			**CO V:** Evaluate complex integrals and expand functions into series using the Orthogonality properties of special functions.	PSO 6	PO 3	E
II	24MMS9201T	**Research Methodology**	**CO I:** Identify and formulate a valid research problem by conducting an exhaustive review of existing mathematical literature.	PSO 12	PO 5	U, C
			CO II: Apply appropriate qualitative and quantitative research designs, including experimental and descriptive methods.	PSO 12	PO 5	A
			CO III: Utilize LaTeX for professional mathematical typesetting and use software tools for numerical simulation and data visualization.	PSO 2	PO 7	A
			CO IV: Demonstrate proficiency in statistical inference, hypothesis testing, and error analysis.	PSO 11	PO 3, 10	A, An
			CO V: Write structured scientific reports, research papers, and grant proposals following international citation standards (APA, MLA, or BibTeX).	PSO 12	PO 4, 11	C
II	24MMS9202T	**Algebra-II**	**CO I:** Distinguish between vector spaces and Modules, and analyze submodules, quotient modules, and module homomorphisms.	PSO 7	PO 1, 8	An

			CO II: Apply the Structure Theorem to classify finitely generated abelian groups and understand the decomposition of modules over PIDs.	PSO 1, 7	PO 1, 3	A
			CO III: Characterize rings using the Noetherian and Artinian conditions and apply Hilbert's Basis Theorem.	PSO 7	PO 8	An
			CO IV: Compute the Smith Normal Form, Rational Canonical Form, and Jordan Canonical Form for matrices to simplify linear transformations.	PSO 7, 8	PO 3	A
			CO V: Understand the properties of Simple and Semisimple modules and apply Wedderburn-Artin theory to ring structures.	PSO 7	PO 1	U, A
II	**24MMS9203T**	**Differential Equation-II**	**CO I:** Apply Laplace transforms to solve ordinary and partial differential equations and evaluate complex integrals.	PSO 9	PO 1, 3	A
			CO II: Utilize Fourier and Mellin transforms to solve boundary value problems in mathematical physics.	PSO 9	PO 6, 9	A
			CO III: Classify and solve linear Integral Equations of Volterra and Fredholm types using kernels and successive approximations.	PSO 8, 9	PO 1, 3	U, A

				PSO	PO	
			CO IV: Convert differential equations into integral equations and vice versa to find alternative solution paths.	PSO 1, 9	PO 2	A, An
			CO V: Apply symmetric kernels and Hilbert-Schmidt theory to solve Fredholm integral equations.	PSO 9	PO 3	A
II	24MMS9204T	**Differential Geometry**	**CO I:** Compute curvature and torsion for space curves and apply Serret-Frenet equations to define curve properties.	PSO 1	PO 1, 3	A
			CO II: Determine the First and Second Fundamental Forms of surfaces to calculate areas and angles on manifolds.	PSO 1	PO 6, 8	A
			CO III: Analyze Gaussian and Mean curvatures and identify specific surface types like Minimal Surfaces.	PSO 1, 10	PO 2	An
			CO IV: Solve for Geodesics on various surfaces and understand the properties of Geodesic Curvature.	PSO 1, 9	PO 3	A
			CO V: Apply the Gauss-Bonnet Theorem to relate the local geometry of a surface to its global topology.	PSO 1	PO 8	A, An

II	24MMS9206T	Special Function-II	**CO I:** Analyze the convergence and analytic continuation of generalized hypergeometric functions.	PSO 6	PO 1, 8	An
			CO II: Apply Meijer's G-function to evaluate complex integrals and represent diverse special functions in a unified form.	PSO 8	PO 1, 3	A
			CO III: Utilize Jacobi and Gegenbauer polynomials to solve boundary value problems and understand their orthogonality properties.	PSO 9, 10	PO 6	A
			CO IV: Derive and manipulate generating functions to obtain new identities and recurrence relations for polynomials.	PSO 1	PO 1	A, C
			CO V: Evaluate definite integrals involving products of special functions using transformation formulas.	PSO 8	PO 3	E
III	24MMS9301T	Functional Analysis-I	CO I: Define and describe the properties of Normed Linear Spaces and Banach Spaces.	PSO 1, 6	PO 1	R, U
			CO II: Apply the Fundamental Theorems (Hahn-Banach, Open Mapping, Closed Graph) to bounded linear operators.	PSO 1	PO 8	A

			CO III: Analyze the geometry of Hilbert Spaces, including orthogonality and projection theorems.	PSO 6	PO 3, 8	An
			CO IV: Evaluate dual spaces and understand the Riesz Representation Theorem for functionals.	PSO 1, 6	PO 1, 8	E
			CO V: Construct proofs involving weak and weak* convergence in various function spaces.	PSO 1	PO 4, 8	C
III	24MMS9302T	**Viscous Fluid Dynamics**	CO I: Formulate the Navier-Stokes equations for various incompressible viscous flow scenarios.	PSO 9, 10	PO 1, 9	U, A
			CO II: Solve exact solutions for steady and unsteady flows, such as flow between parallel plates.	PSO 10	PO 3	A
			CO III: Apply Dimensional Analysis and the concept of Reynolds Number to fluid problems.	PSO 5, 10	PO 6	A, An
			CO IV: Analyze Boundary Layer Equations and describe the phenomenon of flow separation.	PSO 10	PO 2	An
			CO V: Evaluate the impact of viscosity on energy dissipation and heat transfer in fluids.	PSO 5	PO 6, 9	E

III	24MMS9304T	**Advanced Numerical Analysis**	CO I: Develop and implement iterative methods for solving large systems of linear and non-linear equations.	PSO 2, 8	PO 7	A, C
			CO II: Apply Finite Difference Methods to find numerical solutions for Elliptic and Hyperbolic PDEs.	PSO 5, 8	PO 9	A
			CO III: Analyze the stability, convergence, and consistency of numerical schemes.	PSO 8	PO 2, 3	An, E
			CO IV: Use Spline interpolation and approximation theory for complex data sets.	PSO 2, 8	PO 7	A
			CO V: Compute numerical solutions for Eigenvalue problems using Power and QR methods.	PSO 8	PO 3	A
III	24MMS9306T	**Combinatorics & Graph Theory**	CO I: Solve advanced counting problems using the Principle of Inclusion-Exclusion and Polya's Enumeration Theorem.	PSO 1	PO 1, 3	A
			CO II: Determine graph connectivity, Planarity using Euler's formula, and Kuratowski's theorem.	PSO 1	PO 2, 8	An
			CO III: Apply algorithms for finding spanning trees, shortest paths, and maximum flows in networks.	PSO 2, 5	PO 7, 9	A

			CO IV: Analyze Chromatic numbers and Edge coloring properties for scheduling problems.	PSO 5	PO 2, 6	An
			CO V: Construct mathematical proofs for fundamental theorems in Ramsey Theory or Matchings.	PSO 1	PO 4, 8	C
III	24MMS93 08T	Integral Transform	CO I: Apply Laplace and Inverse Laplace transforms to solve Differential and Integro-differential equations.	PSO 9	PO 1, 3	A
			CO II: Utilize Fourier Series and Transforms to analyze periodic and non-periodic signals.	PSO 8, 9	PO 6	A, An
			CO III: Use Z-transforms to solve linear difference equations in discrete-time systems.	PSO 2, 9	PO 7	A
			CO IV: Apply Mellin and Hankel transforms to solve problems in Axisymmetric potential theory.	PSO 9	PO 6, 9	A
			CO V: Evaluate complex integrals using the Convolution theorem across various transform domains.	PSO 8	PO 3	E
III	24MMS93 09T	Computer Application	CO I: Write and debug complex scripts in Python/MATLAB to solve mathematical problems.	PSO 2	PO 7	A, C

			CO II: Create 2D and 3D visualizations of mathematical functions and datasets.	PSO 2	PO 4	C
			CO III: Simulate stochastic and deterministic models using computational algorithms.	PSO 5	PO 9	A, An
			CO IV: Apply symbolic computation for algebraic manipulation and calculus.	PSO 2, 7	PO 7	A
			CO V: Design a mini-project that integrates programming with a real-world mathematical application.	PSO 2, 12	PO 5, 11	C
IV	24MMS94 01T	**Functional Analysis-II**	CO I: Analyze the Spectrum of linear operators and understand the Resolvent set.	PSO 1, 6	PO 8	An
			CO II: Apply the Spectral Theorem for self-adjoint and compact operators on Hilbert Spaces.	PSO 1	PO 1, 3	A
			CO III: Understand the theory of Unbounded Operators and their applications in Quantum Mechanics.	PSO 6	PO 6	U, An
			CO IV: Critique the properties of Banach Algebras and Gelfand Transformations.	PSO 1, 7	PO 8	E

			CO V: Construct proofs for the existence of solutions using Fixed Point Theorems.	PSO 1	PO 4, 5	C
IV	**24MMS94 03T**	**Integral Equation**	CO I: Classify and solve Fredholm and Volterra equations of the first and second kind.	PSO 8, 9	PO 1	U, A
			CO II: Utilize Resolvent Kernels and Neumann Series for finding series solutions.	PSO 9	PO 3	A
			CO III: Apply the Method of Successive Approximations to non-linear integral equations.	PSO 8	PO 2	A
			CO IV: Convert Boundary Value Problems into Integral Equations using Green's Function.	PSO 9	PO 9	An
			CO V: Solve Singular Integral Equations and apply them to physics/engineering problems.	PSO 10	PO 6	A, E
IV	**24MMS94 04T**	**Mathematic al Programmi ng**	CO I: Formulate Linear and Non-linear programming models for industrial optimization.	PSO 3, 5	PO 9	C
			CO II: Solve Quadratic and Dynamic Programming problems using recursive relations.	PSO 5	PO 3	A

				CO III: Apply Karush-Kuhn-Tucker (KKT) conditions to find optimal points in constrained optimization.	PSO 5	PO 2	An
				CO IV: Evaluate the sensitivity of optimal solutions to changes in model parameters.	PSO 3, 5	PO 3	E
				CO V: Discuss the ethical implications of algorithmic decision-making and data privacy in modeling.	PSO 11	PO 10	E

Master of Science (M.Sc.) Physics

Programme Outcomes (PO's)

Successful completion of Master of Science (M.Sc.) Physics program will make the students proficient in the following areas:

S.No.	Program Outcomes
PO1.	Acquire in-depth knowledge of core areas of physics including Classical Mechanics, Quantum Mechanics, Electrodynamics, Statistical Mechanics, Nuclear Physics, Solid State Physics, and Mathematical Physics.
PO2.	Apply advanced mathematical tools and techniques to formulate, analyse, and solve complex physical problems.
PO3.	Identify, analyse, and solve theoretical and experimental problems using logical reasoning and scientific methodology.
PO4.	Design and perform advanced physics experiments, analyse experimental data, and interpret results with accuracy.
PO5.	Use computational tools, numerical methods, and programming techniques to model and simulate physical systems.

PO6.	Develop the ability to conduct independent research, formulate hypotheses, review literature, and present scientific findings effectively.
PO7.	Understand and operate modern laboratory instruments and electronic devices used in experimental physics.
PO8.	Demonstrate critical thinking in evaluating scientific theories, experimental data, and emerging technologies.
PO9.	Communicate scientific concepts effectively through presentations, seminars, research reports, and publications.
PO10.	Adhere to ethical standards in research, academic integrity, and professional practice.
PO11.	Develop the ability for self-learning and continuous professional development in physics and interdisciplinary fields.
PO12.	Gain competencies required for careers in teaching, research institutions, scientific organizations, industry, and for pursuing Ph.D. programs.

M.Sc. Physics Programme Specific Outcomes (PSOs)

PSO	Description
PSO-1	PSO-1: Acquire advanced and in-depth knowledge in core areas of Physics such as Classical Mechanics, Quantum Mechanics, Electrodynamics, Statistical Mechanics, Solid State Physics, Nuclear and Particle Physics, and Mathematical Physics.
PSO-2	PSO-2: Apply advanced mathematical techniques, computational methods, and analytical tools to solve complex theoretical and applied physical problems.
PSO-3	PSO-3: Demonstrate proficiency in experimental techniques, instrumentation, numerical analysis, and data interpretation relevant to modern physics laboratories and research.
PSO-4	PSO-4: Formulate research problems, review scientific literature, and carry out independent and collaborative research using theoretical, experimental, and computational approaches.
PSO-5	PSO-5: Apply principles of physics to interdisciplinary domains including nanotechnology, electronics, optoelectronics, plasma physics, communication systems, and emerging technologies.

PSO-6	PSO-6: Communicate scientific concepts effectively through technical writing, presentations, and publications while maintaining professional ethics and research integrity.
PSO-7	PSO-7: Exhibit preparedness for careers in academia, research institutions, industry, and for pursuing higher studies such as Ph.D. and post-doctoral research.

Semester	Course Code	Course Title	Course Outcomes (After completion, students will be able to:	PSO Addressed	PO Addressed	Cognitive Level
I	24MPH9101T	Classical Mechanics	CO1: Apply Lagrangian and Hamiltonian formulations to analyze constrained mechanical systems.	PSO-1, PSO-2	PO1, PO2	Apply (A)
			CO2: Use calculus of variations and canonical transformations in solving dynamical problems.	PSO-2, PSO-4	PO2, PO3	Analyze (An)
			CO3: Analyze rigid body motion, small oscillations, and action-angle variables.	PSO-1	PO2	Analyze (An)
			CO4: Evaluate conservation laws and symmetry principles in classical systems.	PSO-1	PO1	Understand (U)

	24MPH9102T	Quantum Mechanics	CO1: Explain Hilbert space formalism and operator methods in quantum systems.	PSO-1	PO1	Understand (U)
I			CO2: Solve Schrödinger equation for standard quantum mechanical problems.	PSO-1, PSO-2	PO2	Apply (A)
			CO3: Apply perturbation theory and variational methods.	PSO-2	PO3	Analyze (An)
			CO4: Analyze angular momentum, spin systems, and identical particles.	PSO-1	PO2	Analyze (An)
I	24MPH9103T	Classical Electrodynamics	CO1: Apply Maxwell's equations to static and dynamic electromagnetic fields.	PSO-1	PO1	Understand (U)
			CO2: Solve boundary value problems using Green's function and method of images.	PSO-2	PO2	Apply (A)

			CO3: Analyze electromagnetic wave propagation in various media.	PSO-1	PO2	Analyze (An)
			CO4: Evaluate radiation from accelerated charges and relativistic field transformations.	PSO-1, PSO-5	PO3	Evaluate (E)
I	24MPH9105T	Numerical Methods & Computer Fundamentals	CO1: Analyze numerical errors and stability in computational methods.	PSO-2	PO2	Analyze (An)
			CO2Apply numerical techniques for solving linear and nonlinear equations.	PSO-2	PO3	Apply (A)
			CO3: Implement numerical integration and differential equation methods.	PSO-2	PO3	Apply (A)
			CO4: Develop basic algorithms and computational programs.	PSO-2	PO2	Analyze (An)

I	24MPH9106T	Laser Physics	CO1: Explain laser principles, stimulated emission, and pumping schemes.	PSO-1	PO1	Understand (U)
			CO2: Analyze rate equations and population inversion conditions.	PSO-1, PSO-5	PO2	Analyze (An)
			CO3: Evaluate optical fiber properties and numerical aperture.	PSO-2	PO2	Evaluate (E)
			CO4: Apply laser and fiber optics concepts in communication systems.	PSO-5	PO3	Apply (A)
II	24MPH9201T	Research Methodology	CO1: Explain the research process, scientific methods, and research design principles.	PSO-4	PO5	Understand (U)
			CO2: Formulate research problems and construct testable hypotheses.	PSO-4	PO3	Create (C)

(A)			CO3: Apply appropriate sampling techniques and data collection methods.	PSO-4	PO3	Apply (A)
			CO4: Process, analyze, and interpret research data scientifically.	PSO-4, PSO-6	PO4, PO7	Analyze (An)
II	24MPHI9020T	Electronics	CO1: Analyze semiconductor devices and transistor-based amplifier circuits.	PSO-1	PO2	Analyze (An)
(A)			CO2: Apply operational amplifier configurations in practical circuits.	PSO-5	PO3	Apply (A)
			CO3: Design combinational and sequential digital logic circuits.	PSO-5	PO3	Create (C)
			CO4: Implement ADC/DAC systems and digital electronic applications.	PSO-5	PO3	Apply (A)

II	24MPHI9203T	Atomic and Molecular Physics	CO1: Explain atomic structure, fine structure, and hyperfine interactions.	PSO-1	PO1	Understand (U)
			CO2: Analyze Zeeman, Stark effects, and coupling schemes in atoms.	PSO-1	PO2	Analyze (An)
			CO3: Interpret molecular rotational, vibrational, and electronic spectra.	PSO-2	PO2	Analyze (An)
			CO4: Apply spectroscopic techniques such as NMR and ESR in physical analysis.	PSO-3, PSO-5	PO3	Apply (A)
II	4MPHI9205T	Nanotechnology	CO1: Explain quantum confinement and properties of nanoscale systems.	PSO-1	PO1	Understand (U)
			CO2: Describe various synthesis techniques for nanomaterials.	PSO-3	PO3	Apply (A)

			CO3: Analyze spectroscopic and characterization methods of nanostructures.	PSO-3	PO4	Analyze (An)
			CO4: Apply nanotechnology concepts in device fabrication and applications.	PSO-5	PO3	Apply (A)
II	24MPHI9206T	Mathematical Physics	CO1: Apply tensor analysis and group theory in physical problems.	PSO-2	PO2	Apply (A)
A			CO2: Use Fourier transform techniques to solve differential equations.	PSO-2	PO3	Apply (A)
			CO3: Apply Laplace transforms to linear differential equations and PDEs.	PSO-2	PO3	Apply (A)
			CO4: Analyze symmetry properties and transformation groups in physics.	PSO-1, PSO-2	PO2	Analyze (An)

III	24MPHI9301T	Solid State Physics	CO1: Explain crystallography, lattice defects, and diffraction phenomena.	PSO-1	PO1	Understand (U)
			CO2: Analyze band theory and electronic properties of solids.	PSO-1, PSO-2	PO2	Analyze (An)
			CO3: Interpret lattice vibrations, phonons, and thermal properties of solids.	PSO-1	PO2	Analyze (An)
			CO4: Evaluate magnetic properties and superconductivity in materials.	PSO-1, PSO-5	PO3	Evaluate (E)
III	24MPH9302T	Condensed Matter Physics	CO1: Explain phase transitions, alloys, and disorder in solids.	PSO-1	PO1	Understand (U)
			CO2: Analyze high temperature superconductors and nanomaterials.	PSO-1, PSO-5	PO2	Analyze (An)

			CO3: Interpret electronic properties of novel organic materials and CNTs.	PSO-5	PO3	Analyze (An)
			CO4: Apply structural characterization techniques and transport theories.	PSO-3, PSO-5	PO4	Apply (A)
III	24MPH9303T	Advance Quantum Mechanics	CO1: Apply scattering theory and partial wave analysis to quantum systems.	PSO-1, PSO-2	PO2	Apply (A)
			CO2: Analyze relativistic wave equations such as Klein–Gordon and Dirac equations.	PSO-1	PO2	Analyze (An)
			CO3: Evaluate symmetry operations and transformation properties in relativistic quantum mechanics.	PSO-1	PO2	Evaluate (E)
			CO4: Explain quantization of radiation fields and interaction of matter with radiation.	PSO-1, PSO-4	PO3	Understand (U)

III	24MPH9304T	Experimental Techniques in Physics	CO1: Apply sample preparation and thin film deposition techniques.	PSO-3	PO4	Apply (A)
			CO2: Analyze radiation–matter interaction and detector systems	PSO-3	PO2	Analyze (An)
			CO3: Interpret results from spectroscopy and microscopy techniques.	PSO-3	PO4	Analyze (An)
			CO4: Evaluate structural properties using X-ray diffraction and related methods.	PSO-3, PSO-4	PO3	Evaluate (E)
III	24MPH9305T	Opto-electronics	CO1: Explain working principles of optoelectronic devices and special diodes.	PSO-1	PO1	Understand (U)

			CO2: Analyze semiconductor lasers and injection luminescence mechanisms.	PSO-1, PSO-5	PO2	Analyze (An)
			CO3: Evaluate optical detectors and fiber optic communication systems.	PSO-5	PO3	Evaluate (E)
			CO4: Apply detector performance parameters in practical optoelectronic systems	PSO-5	PO3	Apply (A)
III	Microwave Electronics and Communicati on	24MPH930 7T	CO1: Explain working principles of microwave devices such as klystrons and magnetrons.	PSO-1	PO1	Understan d (U)
			CO2: Analyze Gunn diode and high-frequency microwave systems.	PSO-5	PO2	Analyze (An)

			CO3: Apply analog and digital modulation techniques in communication systems.	PSO-5	PO3	Apply (A)
			CO4: Evaluate satellite communication systems and link design principles.	PSO-5	PO3	Evaluate (E)
IV	Nuclear and Particle Physics	24MPH9401T	CO1: Explain nuclear forces, two-nucleon systems and properties of deuterons including quadrupole and magnetic moments.	PSO1, PSO2	PO1, PO2	Understand
			CO2: Describe nuclear shell model, magic numbers, transition probabilities and collective models.	PSO1, PSO2	PO1, PO3	Analyze
			CO3: Analyze beta and gamma decay processes and understand working principles of nuclear detectors.	PSO2, PSO3	PO2, PO4	Apply

			CO4: Explain particle classification, conservation laws, quark model and basic concepts of QCD.	PSO1, PSO4	PO1, PO5	Evaluate
IV	Statistical Physics	24MPH9402T	CO1: Explain ensemble theory and connections between thermodynamics and statistical mechanics.	PSO1	PO1, PO2	Understand
			CO2: Derive and apply partition functions for classical and quantum systems.	PSO1, PSO2	PO2, PO3	Apply
			CO3: Analyze Bose–Einstein condensation and Ising model phase transitions.	PSO2, PSO3	PO3, PO4	Analyze
			CO4: Evaluate fluctuation phenomena, random walk and non-equilibrium processes.	PSO2, PSO4	PO4, PO5	Evaluate

IV	Astronomy and Astrophysics	24MPH9403T	CO1: Explain radiative processes, stellar magnitudes and distance measurements.	PSO1	PO1, PO2	Understand
			CO2: Describe stellar evolution, compact objects and galactic structure.	PSO1, PSO2	PO2, PO3	Apply
			CO3: Analyze dark matter evidences and galaxy rotation curves.	PSO2, PSO3	PO3, PO4	Analyze
			CO4: Evaluate cosmological observations including black holes, gravitational lensing and Hubble's law.	PSO3, PSO4	PO4, PO5	Evaluate
IV	High Energy Physics	24MPH9404T	CO1: Apply relativistic kinematics to particle reactions and decay processes.	PSO1, PSO2	PO1, PO3	Apply

			CO2: Analyze hadron-nucleon and nucleus-nucleus collision phenomena.	PSO2, PSO3	PO3, PO4	Analyze
			CO3: Explain Quark-Gluon Plasma formation and its experimental signatures.	PSO3	PO4	Understand
			CO4: Describe detector principles used in high-energy physics experiments.	PSO2, PSO4	PO4, PO5	Evaluate

Master of Science (M.Sc.) Chemistry

Programme Outcomes (PO's)

Successful completion of Master of Science (M.Sc.) Chemistry program will make the students proficient in the following areas:

S.No.	Description
PO 1	Acquire advanced theoretical and practical knowledge in core branches: Organic, Inorganic, Physical, and Analytical Chemistry.
PO 2	Ability to analyze complex chemical problems, evaluate scientific data, and apply logic to solve intricate molecular challenges.
PO 3	Proficiency in handling sophisticated laboratory equipment, performing advanced synthesis, and mastering qualitative/quantitative analysis.
PO 4	Capacity to design experiments, review literature, and contribute to scientific innovations or product development.

PO 5	Skill in using computational chemistry software (like ChemDraw or Gaussian) and analytical instruments (NMR, HPLC, GC-MS).
PO 6	Ability to communicate complex scientific findings clearly through research papers, reports, and oral presentations.
PO 7	Commitment to professional ethics and strict adherence to laboratory safety protocols and green chemistry principles.
PO 8	Recognition of the need for continuous learning to keep pace with the rapidly evolving global chemical industry.

M.Sc. (Chemistry) PSO's

PSO No.	Description
PSO 1.	Demonstrate advanced knowledge of Organic and Physical Chemistry including reaction mechanisms, thermodynamics, kinetics, electrochemistry, spectroscopy and atomic structure.
PSO 2.	Apply theoretical concepts to analyze, synthesize and characterize chemical compounds using modern instrumental techniques.
PSO 3.	Develop research-oriented skills and problem-solving abilities in specialized areas of chemistry.
PSO 4.	Understand and apply principles of green chemistry, sustainable technology and eco-friendly industrial processes.
PSO 5.	Interpret and evaluate experimental data using scientific methods and critical analytical thinking.
PSO 6.	Handle and operate sophisticated laboratory instruments such as spectrophotometer, polarimeter and other analytical equipment.
PSO 7.	Apply chemical knowledge in pharmaceuticals, polymers, materials science, nanotechnology, petrochemicals and allied industries.
PSO 8.	Prepare for careers in research, academics, chemical industries and interdisciplinary scientific fields through comprehensive subject knowledge and practical skills.

Semester	Course Code	Course Title	Course Outcomes on completing the course, the student will be able to:	PSO addressed	Cognitive levels
I	24MCH9101T	Inorganic Chemistry–I	**CO1:** Explain stereochemistry and bonding in main group compounds using VSEPR theory, Walsh diagrams, Bent rule and $d\pi$–$p\pi$ interactions.	1,2,5	
			CO2: Apply crystal field theory and molecular orbital theory to interpret structure, bonding and stability of octahedral, tetrahedral and square planar metal complexes.	1,2,5	U, A, An
			CO3: Analyze electronic spectra and magnetic properties of transition metal complexes using Orgel and Tanabe–Sugano diagrams and evaluate spectroscopic parameters.	2,3,5	An, E
			CO4: Explain bonding, structure, vibrational spectra and reactions of metal π-complexes and metal carbonyls.	1,2,3	U, An
			CO5: Interpret structure and bonding in boranes, carboranes and metal clusters using Wade's rules and related concepts.	1,2,5	U, An

			CO6: Describe principles of nuclear and radiochemistry including radioactive decay, radiation detection techniques and activation analysis.	2,5,6,8	R, U, An
I	**24MCH9102T**	**Organic Chemistry–I**	**CO1:** Explain reaction mechanisms, structure–reactivity relationships, kinetic and thermodynamic control, aromaticity and linear free energy relationships (Hammett and Taft equations).	1,2,5	R, U, An
			CO2: Apply stereochemical principles including chirality, conformational analysis, stereospecificity and stereoselectivity to determine molecular configuration and conformation.	1,2,3,5	U, A, An
			CO3: Analyze mechanisms of aliphatic nucleophilic substitution (SN1, SN2, SNi, SET) and neighboring group participation with emphasis on structure and medium effects.	1,2,3,5	An, E
			CO4: Interpret mechanisms of aromatic nucleophilic substitution (SNAr, benzyne, SRN1) and related rearrangements.	1,2,3	U, An
			CO5: Explain mechanisms and orientation effects in aliphatic and aromatic electrophilic substitution reactions including quantitative treatment of reactivity.	1,2,5	U, An

			CO6: Apply spectroscopic and theoretical methods (CD, ORD, NMR and related rules) to determine stereochemistry and reactive intermediates.	2,5,6	A, An, E
I	**24MCH9103T**	**Physical Chemistry–I**	**CO1:** Explain postulates of quantum mechanics, operators and Schrödinger equation, and interpret the physical significance of wave functions.	1,5	R, U
			CO2: Apply Schrödinger equation to model systems such as particle in a box, harmonic oscillator, rigid rotor and hydrogen atom, and interpret quantum numbers.	1,2,3,5	U, A, An
			CO3: Analyze angular momentum, spin, approximation methods (variation and perturbation) and apply molecular orbital theory including Hückel MO treatment to conjugated systems.	1,2,3,5	An, E
			CO4: Explain principles of surface chemistry including adsorption isotherms (Langmuir and BET), micellization and electrokinetic phenomena.	1,2,4,5	U, An
			CO5: Interpret electrochemical processes using Debye–Hückel theory, electrified interface models, Butler–Volmer equation and polarography principles.	1,2,5,6,7	An, E

I	24MCH9105T	Spectroscopy–I	CO1: Explain the interaction of electromagnetic radiation with matter and interpret rotational, vibrational (IR and Raman) spectra of molecules.	1,2,5	R, U, An
			CO2: Analyze atomic and molecular electronic spectra including Franck–Condon principle, charge transfer spectra and photoelectron spectroscopy (ESCA, Auger).	1,2,5	U, An
			CO3: Apply principles of NMR spectroscopy (^1H and multinuclear) to interpret chemical shifts, spin–spin coupling and structural features of organic and inorganic compounds.	2,3,5,6	A, An, E
			CO4: Explain ESR spectroscopy and evaluate magnetic parameters such as hyperfine coupling and g-values in free radicals and transition metal complexes.	2,3,5	U, An
			CO5: Interpret Mössbauer spectroscopy data and apply electron microscopy techniques (SEM, TEM, AFM) for structural and oxidation state analysis.	2,5,6,7	An, E
I	24MCH9106T	Analytical Techniques	CO1: Apply statistical tools and chemometric methods including mean, standard deviation, t-test, regression and confidence limits to evaluate analytical data.	2,3,5	U, A, An
			CO2: Explain principles and techniques of sampling for gases, liquids and solids, and evaluate solvent extraction methods in chemical analysis.	2,4,5,7	R, U, An

			CO3: Apply conductometric and potentiometric methods including ion-selective electrodes for quantitative chemical analysis.	2,5,6	A, An
			CO4: Explain principles and applications of coulometry and atomic absorption spectroscopy for trace metal analysis.	2,5,6,7	U, An
			CO5: Interpret analytical results by assessing accuracy, precision, detection limits and sources of error in instrumental methods.	3,5,8	An, E
II	**24MCH9201T**	**Research Methodology**	**CO1:** Explain the nature of scientific inquiry, research methods, hypothesis formulation and principles of research design.	3,5,8	R, U
			CO2: Apply appropriate sampling techniques and methods of data collection including observation, interviews and questionnaires.	3,5,8	U, A
			CO3: Process, analyze and interpret research data using classification, tabulation and report writing principles with proper documentation.	3,5,8	A, An
			CO4: Apply quantitative tools such as measures of central tendency, correlation and hypothesis testing (t, F, Z, Chi-square tests) in research analysis.	2,3,5	A, An, E

			CO5: Prepare structured research reports following scientific format, ethical standards and referencing guidelines.	3,5,8	An, E
II	**24MCH9202T**	**Inorganic Chemistry–II**	**CO1:** Explain symmetry elements, group theory concepts, character tables and their applications in spectroscopy and molecular vibrations.	1,2,5	R, U, An
			CO2: Analyze electron transfer reactions including outer and inner sphere mechanisms, mixed valence complexes and internal electron transfer processes.	1,2,3,5	U, An
			CO3: Interpret mechanisms of substitution reactions in coordination compounds of various geometries using kinetic and mechanistic principles.	1,2,3,5	An, E
			CO4: Evaluate substitution reactions in octahedral and square planar complexes including cobalt(III) and platinum(II) systems with emphasis on trans effect and kinetic factors.	1,2,3,5,7	An, E
			CO5: Apply theoretical approaches, potential energy diagrams and isotope effects to explain inorganic reaction pathways.	2,3,5	A, An
II	**24MCH9203T**	**Organic Chemistry–II**	**CO1:** Explain mechanistic and stereochemical aspects of addition reactions to carbon–carbon and carbon–heteroatom multiple bonds, including regio- and chemo-selectivity.	1,2,5	R, U, An

			CO2: Apply principles of organometallic reagents, metal hydride reductions and condensation reactions (Aldol, Claisen, Mannich, etc.) in synthetic transformations.	1,2,3,7	U, A, An
			CO3: Analyze free radical reactions, elimination mechanisms (E1, E2, E1cB) and their orientation and reactivity patterns.	1,2,3,5	An, E
			CO4: Interpret mechanisms and migratory aptitude in molecular rearrangements including named rearrangement reactions.	1,3,5	U, An
			CO5: Apply molecular orbital symmetry principles and Woodward–Hoffmann rules to explain pericyclic reactions including electrocyclic, cycloaddition and sigmatropic rearrangements.	1,2,3,5	A, An, E
II	**24MCH9205T**	**Spectroscopy–II**	**CO1:** Explain principles of UV–Visible and IR spectroscopy including electronic transitions, vibrational frequencies and solvent effects.	1,2,5	R, U, An
			CO2: Apply Woodward–Fieser rules and interpret characteristic absorption bands for structural analysis of organic compounds.	1,2,5	U, A
			CO3: Analyze mass spectral fragmentation patterns including McLafferty rearrangement, nitrogen rule and high-resolution mass spectrometry for structure determination.	2,3,5	An, E

			CO4: Interpret ¹H and ¹³C NMR spectra including chemical shifts, spin–spin coupling, NOE and 2D NMR techniques for stereochemical and structural elucidation.	2,3,5,6	A, An, E
			CO5: Integrate UV, IR, NMR and Mass spectrometric data to solve structural elucidation problems of organic molecules.	2,3,5,8	An, E
II	24MCH9206T	**Environmental Chemistry**	**CO1:** Explain atmospheric chemistry including biogeochemical cycles, photochemical reactions and formation of ozone and smog.	1,4,5	R, U, An
			CO2: Analyze sources, effects and control strategies of air pollutants including acid rain, aerosols and urban air pollution.	4,5,7	U, An, E
			CO3: Interpret redox and acid–base chemistry of natural waters and evaluate parameters such as DO, BOD and COD in water quality assessment.	2,4,5,7	A, An
			CO4: Explain sources, speciation and toxic effects of heavy metals, pesticides, PCBs and PAHs in the environment.	4,5,7	U, An
			CO5: Evaluate environmental pollution problems including soil contamination and major environmental disasters, and propose remediation strategies.	3,4,5,8	An, E

III	24MCH9301T	Thermodynamics and Chemical Kinetics	**CO1:** Explain classical thermodynamic concepts including partial molar properties, fugacity, activity coefficients and phase equilibria in ideal and non-ideal systems.	1,2,5	R, U, An
			CO2: Apply principles of statistical thermodynamics and partition functions to evaluate thermodynamic properties and equilibrium constants.	1,2,3,5	U, A, An
			CO3: Analyze reaction kinetics using collision theory, activated complex theory, chain reactions, photochemical reactions and enzyme kinetics.	1,2,3,5	An, E
			CO4: Interpret mechanisms of fast and unimolecular reactions using advanced kinetic methods and RRKM theory.	2,3,5	U, An
			CO5: Evaluate temperature effects and reaction dynamics through Arrhenius behavior and theoretical kinetic models.	1,3,5	An, E
III	24MCH9305T	Organic Synthesis–I	**CO1:** Explain the principles, preparation and mechanistic applications of organometallic reagents in organic synthesis.	1,2,3,7	R, U, An
			CO2: Apply various oxidative reagents and strategies for selective oxidation of hydrocarbons and functional groups.	1,2,3,7	U, A, An
			CO3: Analyze different reduction methods including catalytic hydrogenation, metal hydride reductions and hydrogenolysis in synthetic transformations.	1,2,3,7	An, E

			CO4: Interpret the synthesis, structure and reactivity of metallocenes, non-benzenoid aromatics and polycyclic aromatic compounds.	1,2,5,7	U, An
			CO5: Design synthetic routes using appropriate oxidation, reduction and organometallic strategies for complex molecule synthesis.	2,3,5,7,8	A, An, E
III	**24MCH9306T**	**Organic Synthesis–II**	**CO1:** Explain the disconnection approach, synthons, synthetic equivalents and functional group interconversions in planning organic synthesis.	1,2,3,7	R, U, An
			CO2: Apply protecting group strategies and one-group C–C disconnections for selective and chemoselective synthesis.	1,2,3,7	U, A, An
			CO3: Analyze two-group C–C disconnections including Diels–Alder reaction, Michael addition and Robinson annulation in ring construction.	1,2,3,7	An, E
			CO4: Design synthetic routes for saturated and aromatic heterocycles using retrosynthetic principles.	2,3,5,7,8	A, An, E
			CO5: Integrate retrosynthetic analysis and strategic bond disconnections to develop efficient multistep organic syntheses.	2,3,5,7,8	An, E

III	24MCH9307T	**Natural Products**	**CO1:** Explain classification, biosynthesis and structural elucidation of terpenoids and carotenoids using isoprene rule and spectral methods.	1,2,5,7	R, U, An
			CO2: Analyze structure, stereochemistry, biosynthesis and synthesis of alkaloids and steroids of biological importance.	1,2,3,7	U, An, E
			CO3: Interpret the structure and biosynthetic pathways of plant pigments and porphyrins including haemoglobin and chlorophyll.	1,2,5,7	U, An
			CO4: Explain occurrence, synthesis and physiological significance of prostaglandins, pyrethroids and rotenones.	1,2,7	R, U, An
			CO5: Apply spectral techniques for structure elucidation and evaluate the biological and pharmaceutical relevance of natural products.	2,3,5,7,8	A, An, E
IV	24MCH9401T	**Solid State Chemistry and Photochemistry**	**CO1:** Explain principles of solid state reactions, crystal defects, non-stoichiometry and their thermodynamic and kinetic aspects.	1,2,5,7	R, U, An
			CO2: Analyze electronic band theory, magnetic properties and semiconducting behavior of solids including p–n junctions and superconductors.	1,2,3,7	U, An, E

			CO3: Interpret fundamental principles of photochemistry including excited states, quantum yield, actinometry and photochemical kinetics.	1,2,5	U, An
			CO4: Explain mechanisms of photochemical reactions of alkenes, carbonyl and aromatic compounds including rearrangements and cycloadditions.	1,2,3	U, An
			CO5: Evaluate applications of photochemistry in environmental processes, polymer degradation, vision chemistry and atmospheric reactions.	3,4,5,8	An, E
IV	**24MCH9402T**	**Photo-Inorganic Chemistry**	**CO1:** Explain fundamental principles of photochemistry including absorption, excitation, quantum yield, excited state lifetimes and photophysical processes.	1,2,5	R, U
			CO2: Analyze properties and kinetics of electronically excited states including radiative and non-radiative transitions and quenching mechanisms.	1,2,3	U, An
			CO3: Interpret electronic structure and photochemical behavior of transition metal complexes including charge transfer spectra and ligand field photochemistry.	1,2,3,7	U, An
			CO4: Evaluate redox properties of excited metal complexes such as tris-bipyridyl complexes and compare their photochemical reactivity and lifetimes.	2,3,4	An, E

			CO5: Assess applications of photo-inorganic systems in catalysis, water photolysis, nitrogen fixation, CO_2 reduction and solar energy conversion.	3,4,5,8	An, E
IV	**24MCH9403T**	**Heterocyclic Chemistry**	**CO1:** Explain nomenclature systems (Hantzsch–Widman), classification, aromaticity criteria and reactivity of aromatic heterocycles.	1,2,5	R, U
			CO2: Analyze structural features, conformational behavior, stereoelectronic effects and synthesis of non-aromatic and small ring heterocycles.	1,2,3	U, An
			CO3: Interpret synthesis, reactions and medicinal significance of benzo-fused and meso-ionic heterocycles.	1,2,3,7	U, An
			CO4: Evaluate synthesis and reactivity of six-membered heterocycles containing one or more heteroatoms including diazines and related systems.	2,3,7	An, E
			CO5: Design synthetic strategies for diverse heterocyclic frameworks using cyclization and cycloaddition methodologies.	2,3,5,7,8	A, An, E

Master of Science (M.Sc.) Botany

Programme Outcomes (PO's)

Successful completion of Master of Science (M.Sc.) Botany program will make the students proficient in the following areas:

S.No.	Programme Outcomes (POs) describe what a student will be able to perform specifically in the field of Botany.
PO 1	Apply advanced understanding of plant biology including structure, function, development, diversity, and evolution.
PO 2	Identify, analyze, and solve complex biological problems using scientific reasoning and critical thinking.
PO 3	Design experiments, formulate hypotheses, collect and analyze data, and interpret scientific results using appropriate methodologies.
PO 4	Use modern laboratory instruments, molecular techniques, bioinformatics tools, and statistical software relevant to plant sciences.
PO 5	Communicate scientific information effectively through oral presentations, reports, publications, and collaborative teamwork.
PO 6	Demonstrate ethical behavior, environmental stewardship, and commitment to biodiversity conservation and sustainable development.

Programme Specific Outcomes (PSO's)

S.No.	Programme Specific Outcomes (PSOs) describe what a student will be able to perform specifically in the field of Botany.
PSO 1	Identify, classify, and evaluate plant groups using classical and modern taxonomic methods, herbarium techniques, and field-based biodiversity surveys.
PSO 2	Explain and analyze physiological, biochemical, and metabolic processes in plants, including stress physiology and growth regulation.
PSO 3	Apply molecular, cellular, genetic engineering, genomics, and plant tissue culture techniques for research and biotechnological applications.
PSO 4	Analyze ecological interactions, environmental parameters, ecosystem dynamics, and apply conservation strategies to protect biodiversity.

SEM	Course Code	Course Title	Course Outcomes on completing the course, the student will be able to:	Attributes		Cognitive levels (R/U/A/An/E/C)
				PSO addressed	PO addressed	
I	24MB09101T	Algae, Fungi and Bryophyta	CO1. Describe diversity, habitat, and thallus organization in algae.	PSO1	PO1	U
			CO2. Classify algae based on pigments and diagnostic features.	PSO1	PO1, PO2	U/An
			CO3. Explain the economic importance of algae in various industries.	PSO1	PO1, PO6	U
			CO4. Discuss thallus structure, nutrition, and life cycles of fungi.	PSO1	PO1	U
			CO5. Differentiate major fungal groups and representative genera.	PSO1	PO1, PO2	An
			CO6. Describe distribution and reproductive features of bryophytes.	PSO1	PO1	U

			CO7. Explain ecological and evolutionary significance of bryophytes.	PSO4	PO6	U
I	24MB09102T	Cell and Molecular Biology	CO1. Explain structure and function of cells and organelles.	PSO3	PO1	U
			CO2. Describe chromosome structure and cell cycle regulation.	PSO3	PO1	U
			CO3. Explain major cell signaling pathways and responses.	PSO3	PO1, PO2	U
			CO4. Discuss cell communication and programmed cell death.	PSO3	PO1	U
			CO5. Describe gene structure and transcriptional control.	PSO3	PO1	U
			CO6. Explain DNA replication and repair pathways.	PSO3	PO1, PO2	U
			CO7. Describe transcription, translation, and protein synthesis.	PSO3	PO1	U
			CO8. Analyze regulation of gene expression and epigenetics.	PSO3	PO2, PO3	An

I	24MB09103T	Principles of Plant Pathology and Microbiology	CO1. Explain concepts of plant diseases and pathogenesis.	PSO1	PO1	U
			CO2. Describe epidemiology and host–pathogen interactions.	PSO1	PO1, PO2	U
			CO3. Discuss disease development and plant defense mechanisms.	PSO2	PO1	U
			CO4. Evaluate disease management and biotechnological control.	PSO3, PSO4	PO2, PO6	E
			CO5. Explain history and classification of microorganisms.	PSO1	PO1	U
			CO6. Describe morphology and cultivation of bacteria.	PSO3	PO1, PO4	U
			CO7. Explain structure and life cycles of plant viruses.	PSO1	PO1	U
			CO8. Identify major plant diseases and management strategies.	PSO1	PO2	R/U

I	24MBO9016T	Applied Microbiology	CO1. Explain microbial spoilage and food preservation.	PSO2	PO1	U
			CO2. Describe microbial applications in wastewater treatment.	PSO4	PO4, PO6	U
			CO3. Understand biodegradation and bioremediation strategies.	PSO4	PO6	U
			CO4. Explain biodeterioration of archaeological materials.	PSO4	PO1	U
			CO5. Evaluate biofertilizers and sustainable agriculture roles.	PSO2, PSO4	PO6	E

II	24MBO9201T	Research Methodology	CO1. Explain scientific inquiry, methods, and hypotheses.	PSO2	PO2	U
			CO2. Describe research design and sampling techniques.	PSO4	PO3	U

			CO3. Analyze data using processing and reporting formats.	PSO4	PO3	An
			CO4. Apply quantitative tools and hypothesis testing.	PSO4	PO4	A
			CO5. Prepare structured research reports to standards.	PSO4	PO5	C
II	24MBO9202T	Pteridophytes, Gymnosperms, and Paleobotany	CO1. Explain evolution and reproduction of Pteridophytes.	PSO1	PO1	U
			CO2. Describe morphology and anatomy of Pteridophyte genera.	PSO1	PO1	U

			CO3. Explain trends in major Gymnosperm orders.	PSO1	PO1	U
			CO4. Understand paleobotany and fossil plant groups.	PSO1	PO1	U
			CO5. Evaluate applied aspects (coal, petroleum exploration).	PSO1	PO2	E

Semester II	24MBO9203T	Plant Morphology and Developmental Anatomy	CO1. Differentiate plant vs. animal development.	PSO2	PO1	U
			CO2. Describe seed germination and hormonal control.	PSO2	PO1	U
			CO3. Illustrate SAM organization and stem development.	PSO1	PO1	U

			CO4. Describe leaf development and tissue differentiation.	PSO1	PO1	U
			CO5. Explain root development and microbe interactions.	PSO2	PO1	U
			CO6. Analyze seed coat ontogeny and dispersal.	PSO1	PO2	An
II	24MBO9205T	Ethnobotany	CO1. Explain scope and role in traditional health.	PSO1	PO6	U
			CO2. Apply field methods to document ethnobotanical data.	PSO1	PO3	A
			CO3. Describe bioprospecting and traditional knowledge.	PSO3	PO1	U
			CO4. Evaluate role in rural development and NWFPs.	PSO4	PO6	E
			CO5. Analyze legal, ethical, and IPR aspects.	PSO4	PO6	An

III	24MBO9301T	Taxonomy and Embryology of Angiosperms	CO1: Explain nomenclature and evaluate classification systems.	PSO1	PO1	E

			CO2: Utilize taxonomic tools and evidence to identify families.	PSO1	PO2	A
			CO3: Describe gametophyte development in flowering plants.	PSO1	PO1	U
			CO4: Analyze pollination and double fertilization mechanisms.	PSO2	PO1	An
			CO5: Evaluate endosperm/embryo development and somatic embryogenesis.	PSO3	PO1	E
III	24MBO9302T	Plant Physiology and Metabolism	CO1: Analyze water relations and xylem/phloem transport.	PSO2	PO1	An
			CO2: Classify metabolites and evaluate enzyme kinetics.	PSO2	PO2	E
			CO3: Illustrate carbohydrate metabolism (Krebs, ETS).	PSO2	PO1	U

			CO4: Examine nitrogen/fat metabolism and nodule development.	PSO2	PO1	An
			CO5: Evaluate chemical nature and action of growth regulators.	PSO2	PO2	E
III	24MBO9303T	Tools and Techniques in Plant Sciences	CO1: Explain microscopy, centrifugation, and electrophoresis.	PSO3	PO4	U
			CO2: Apply chromatographic and spectroscopic methods.	PSO3	PO4	A
			CO3: Execute microtomy and cryopreservation techniques.	PSO3	PO4	A
			CO4: Implement radiolabeling and molecular imaging safely.	PSO3	PO6	A
			CO5: Evaluate and select appropriate field biology methods.	PSO1	PO2	E

III	24MBO9310T	Advanced Morphology and Morphogenesis	CO1: Explain floral organ anatomy and taxonomic significance.	PSO1	PO1	U
			CO2: Evaluate factors governing morphogenesis (Arabidopsis).	PSO3	PO1	E
			CO3: Apply somatic embryogenesis and embryo rescue.	PSO3	PO3	A
			CO4: Execute advanced tissue culture and micropropagation.	PSO3	PO4	A
			CO5: Analyze endosperm development and tissue culture roles.	PSO3	PO2	An
III	24MBO9311T	Advanced Biosystematics of Angiosperms	CO1: Evaluate historical taxonomy and APG III systems.	PSO1	PO1	E

			CO2: Apply nomenclature rules and utilize taxonomic literature.	PSO1	PO2	A
			CO3: Analyze serological, cytological, and chemical evidence.	PSO3	PO2	An
			CO4: Implement Numerical Taxonomy and Cladistics.	PSO1	PO4	A
			CO5: Differentiate characters and use taxonomic keys.	PSO1	PO2	An

IV	24MBO9401T	Genetics	CO1: Evaluate inheritance principles, Mendelian laws, and organelle genomes.	PSO3	PO1	E
			CO2: Analyze chromosomal aberrations, ploidy, and crop evolution.	PSO3	PO1	An
			CO3: Explain gene structure and apply population/quantitative genetics.	PSO3	PO2	U/A

			CO4: Construct and interpret linkage/physical maps using molecular markers.	PSO3	PO3	C
			CO5: Utilize advanced molecular cytogenetic techniques (flow cytometry).	PSO3	PO4	A
IV	24MBO9402T	Plant Biochemistry and Metabolism	CO1: Explain thermodynamics, ATP synthesis, and nucleotide metabolism.	PSO2	PO1	U
			CO2: Evaluate enzyme kinetics and regulation mechanisms.	PSO2	PO2	E
			CO3: Analyze protein structure (Ramachandran Plot) and proteomics.	PSO2	PO4	An
			CO4: Categorize secondary metabolites and evaluate defense roles.	PSO2	PO1	U/E
			CO5: Utilize protein data banks to predict folding and stability.	PSO3	PO4	A
IV	24MBO9404T	Morphogenesis and Experimental Biology	CO1: Describe shoot apex development and meristem culture.	PSO3	PO1	U

			CO2: Analyze molecular basis of development in Arabidopsis.	PSO3	PO2	An
			CO3: Evaluate somatic embryogenesis and micropropagation advances.	PSO3	PO3	E
			CO4: Apply microtechniques and electron microscopy (SEM/TEM).	PSO1	PO4	A

Master of Science (M.Sc.) Zoology

Programme Outcomes (PO's)

Successful completion of Master of Science (M.Sc.) Zoology program will make the students proficient in the following areas:

S.No.	Program Outcomes
PO 1: Scientific Knowledge	Apply advanced knowledge of animal biology, genetics, physiology, and taxonomy to solve complex biological problems.
PO 2: Research Skills	Develop the ability to design experiments, execute field studies, and use statistical tools to analyze biological data.
PO 3: Problem Analysis	Identify and analyze environmental and biological issues (like pest control or disease outbreaks) using scientific principles.

PO 4: Modern Tool Usage	Proficiency in using advanced laboratory equipment, bioinformatics software, and molecular biology techniques.
PO 5: Environment & Sustainability	Understand the impact of human activity on biodiversity and apply zoological knowledge toward conservation and sustainable development.
PO 6: Ethics	Commitment to professional ethics, especially regarding animal welfare, bioethics, and intellectual property rights in research.
PO7: Communication	Ability to communicate scientific findings effectively through research papers, presentations, and reports to both the scientific community and the public.
PO8: Lifelong Learning	Recognize the need for continuous learning in the rapidly evolving fields of biotechnology, genetics, and ecology.

Programme Specific Outcomes (PSO's)

PSO No.	Programme Specific Outcomes
PSO-1	Demonstrate a comprehensive understanding of the origin, evolution, and classification of Invertebrates.
PSO-2	Analyze the structural organization and physiological mechanisms (respiration, excretion) in non-chordates.
PSO-3	Evaluate the evolutionary significance of larval forms and the transition from protozoa to metazoa.
PSO-4	Gain proficiency in identifying specialized biological processes like metamerism and coelom formation.
PSO-5	Understand the complex nervous systems and sensory adaptations across different invertebrate phyla.
PSO-6	Assess the reproductive strategies and life cycles of free-living and parasitic non-chordates.
PSO-7	Develop an appreciation for the ecological and economic importance of minor phyla.

Semester	Course Code	Course Title	Course Outcomes	Attributes: PSO Addressed	Attributes: PO Addressed	Cognitive Levels
I	24MZO9101T	Structure and Function of Invertebrates	1. Gain knowledge on animal diversity and characteristics. 2. Understand evolutionary relationships in non-chordates. 3. Study mechanisms of locomotion, respiration, and excretion.	PSO-1	PO-1, 4	R, U, An
I	24MZO9102T	Mendalian, Microbial and Human Genetics	1. Understand basic patterns of inheritance and gene mapping. 2. Explain genotype-phenotype relationships and mutations. 3. Grasp concepts of human chromosomal disorders.	PSO-2	PO-1, 2, 4	R, U, A, An
I	24MZO9103T	Fundamentals of Biochemistry	1. Study structure and function of biomolecules (carbohydrates, lipids, proteins). 2. Understand enzyme kinetics and metabolic pathways like Glycolysis. 3. Analyze bioenergetics and oxidative phosphorylation.	PSO-3	PO-2, 4	U, A, An, E

I	24MZO9104P	Zoology Laboratory (Practical)	1. Perform collection and culture of animals (Amoeba, Paramecium). 2. Conduct dissections and anatomical studies of invertebrates.	PSO-1, 6	PO-4, 8	A, Ap
I	24MZO9105T	Wild Life Biology (Elective)	1. Learn principles of conservation biology and biodiversity. 2. Study national parks, wildlife sanctuaries, and IUCN categories.	PSO-4	PO-5, 7	R, U, E
II	24MZO9201T	Research Methodology	1. Develop skills in scientific research design and data analysis.	PSO-7	PO-4	U, A, An, E
II	24MZO9202T	Cell and Molecular Biology	1. Analyze cellular structures, organelles, and molecular processes.	PSO-5	PO-1, 2, 4	R, U, An
II	24MZO9203T	Animal Physiology	1. Understand physiological mechanisms in various animal groups.	PSO-8	PO-1, 4	R, U, An
II	24MZO9204P	Zoology Laboratory II	1. Practical application of cell biology and physiology concepts.	PSO-6	PO-4, 8	A, Ap

II	24MZO9205T	Basics of Immunology (Elective)	1. Understand immune system components and defense mechanisms.	PSO-8	PO-1, 4	R, U, An
III	24MZO9301T	Tools and Techniques	1. Gain proficiency in laboratory instrumentation and analytical tools.	PSO-7	PO-4, 8	U, A, Ap
III	24MZO9302T	Evolution and Biology of Chordates	1. Study the origin, evolution, and comparative anatomy of chordates.	PSO-1	PO-1, 4	R, U, An
III	24MZO9303T	Specialization Elective	1. Advanced study in Environmental Biology, Entomology, or Cell Biology.	PSO-8	PO-1, 2, 4, 5, 8	U, A, An, E
IV	-	Dissertation / Project Work	1. Conduct independent research and produce a scholarly thesis.	PSO-7, 8	PO-4, 7, 8	A, An, E, C

Master of Computer Application (MCA)

Programme Outcomes (PO's)

Successful completion of Master of Computer Application (MCA) program will make the students proficient in the following areas:

S.No.	Program Outcome
PO 1	Apply knowledge of computing fundamentals, mathematics, and domain-specific concepts to solve complex software problems.
PO 2	Identify, formulate, and analyze computing problems to reach substantiated conclusions using fundamental principles of mathematics and computer science.
PO 3	Design solutions for complex problems and system components that meet specified needs with appropriate consideration for public health, safety, and cultural societal needs.
PO 4	Use research-based knowledge and methods including design of experiments, analysis of data, and synthesis of information to provide valid conclusions.
PO 5	Create, select, and apply appropriate techniques, resources, and modern IT tools (including prediction and modeling) to complex computing activities.

PO 6	Apply ethical principles and commit to professional ethics, responsibilities, and norms of the professional computing practice.
PO 7	Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.
PO 8	Demonstrate knowledge and understanding of computing and management principles to manage projects as a member or leader in a team.
PO 9	Communicate effectively with the computing community and with society at large, such as being able to comprehend and write effective reports and design documentation.
PO 10	Understand and assess societal, health, safety, legal, and cultural issues and the consequent responsibilities relevant to professional computing practice.
PO 11	Function effectively as an individual and as a member or leader in diverse teams and in multidisciplinary environments.
PO 12	Identify a timely opportunity and using innovation to pursue that opportunity to create value and wealth for the betterment of the individual and society.

MCA

Programme Specific Outcomes (PSOs)

PSO No.	Programme Specific Outcomes (PSOs)
PSO-1	Students will be able to understand and apply fundamental concepts of Computer Science such as programming, data structures, algorithms, and computer architecture.
PSO-2	Students will acquire proficiency in various programming languages such as C, C++, Java, Python, and other modern languages to develop efficient software solutions.
PSO-3	Students will be able to design, implement, and manage databases using DBMS concepts, normalization techniques, and SQL for effective data handling.
PSO-4	Students will develop skills in web technologies and will be able to design and develop dynamic, secure, and scalable web-based applications using modern tools and frameworks.
PSO-5	Students will be able to apply software development life cycle (SDLC) principles, project management techniques, and teamwork skills to solve real-world computing problems.
PSO-6	Students will gain knowledge of cybersecurity concepts, information security practices, ethical hacking fundamentals, and IT laws such as the Information Technology Act.
PSO-7	Students will be prepared for higher education, research, entrepreneurship, or employment in the IT industry with strong technical, analytical, and professional skills.

Semester	Course Code	Course Title	Course Outcomes on completing the course, the student will be able to:	PSO addressed	PO addressed	Cognitive levels (R/U/A/An/E/C)
I	MCA 121	Data Structures using C++	Understand and apply data structures such as arrays, stacks, queues, linked lists, trees, and algorithms using C++ for problem solving.	PSO-1, PSO-2	PO-2	U, A, An
	MCA 122	Database Management Systems	Design and manage relational databases using DBMS concepts, normalization, and SQL queries.	PSO-3	PO-3	U, A, An
	MCA 123	Web Development	Design and develop dynamic and interactive web applications using modern web technologies.	PSO-4	PO-3	U, A, C
	MCA 124	Computer Networks	Explain networking concepts, protocols, OSI & TCP/IP models, and data communication techniques.	PSO-1	PO-1	R, U, An
	MCA 125	Mathematical Foundations of Computer Science	Apply mathematical and logical foundations to analyze computational problems and algorithms.	PSO-1	PO-2	U, A

	MCA 126	Software Project Management	Apply software project management principles including planning, scheduling, risk analysis, and team coordination.	PSO-5	PO-4	U, An
II	MCA 221	Python Programming	Understand and apply Python programming concepts, data structures, and libraries to solve real-world computational problems.	PSO-1, PSO-2	PO-2	U, A, An
	MCA 222	Operating Systems	Understand operating system concepts including process management, memory management, scheduling, and file systems.	PSO-1	PO-1	R, U, An
	MCA 223	Object Oriented Programming Using Java	Apply object-oriented programming principles using Java to develop robust and reusable software applications.	PSO-1, PSO-2	PO-2	U, A, An
	MCA 224	Full Stack Development	Design and develop end-to-end web applications using front-end, back-end technologies, and databases.	PSO-2, PSO-4	PO-3	U, A, C
	MCA 225	Cloud Computing	Understand and apply cloud computing concepts, service models, and deployment strategies for scalable applications.	PSO-3	PO-4	U, A, An

	Course Code	Course Title	Course Outcome	PSO	PO	Cognitive Level
	MCA 226	Cyber Security and Digital Forensics	Understand cyber security principles and apply digital forensic techniques to investigate cyber incidents.	PSO-5	PO-6	U, An, E
III	MCA 321	Mobile Application Development	Design and develop mobile applications using modern mobile platforms, frameworks, and APIs to solve real-world problems.	PSO-2, PSO-4	PO-3	U, A, C
	MCA 322	Information Security	Understand information security principles, threats, cryptographic techniques, and security mechanisms to protect information systems.	PSO-3	PO-6	U, An
	MCA 323	Data Science	Apply data science techniques including data analysis, visualization, and basic machine learning to extract insights from data.	PSO-2, PSO-3	PO-2	U, A, An
	MCA 324	Internet of Things	Understand and apply IoT concepts, architectures, sensors, and communication protocols for smart applications.	PSO-4	PO-3	U, A, An
	MCAE333A	Soft Computing	Understand and apply soft computing techniques such as fuzzy logic, neural networks, and genetic algorithms to solve complex problems.	PSO-2	PO-2	U, A, An

	MCA 321	Mobile Application Development	Design and develop mobile applications using modern mobile platforms, frameworks, and APIs to solve real-world problems.	PSO-2, PSO-4	PO-3	U, A, C
IV	MCA 421	Artificial Intelligence & Machine Learning	Understand and apply artificial intelligence and machine learning techniques to build predictive and intelligent systems.	PSO-2, PSO-3	PO-2	U, A, An
	MCA 422	Ethical Hacking	Understand ethical hacking methodologies and apply security testing techniques to identify and mitigate system vulnerabilities.	PSO-3	PO-6	U, A, An
	MCA 423	Industrial Project	Apply software engineering, project management, and problem-solving skills to design and implement a real-world industrial project.	PSO-5	PO-4	A, An, C
	MCA 423	Industrial Project	Apply software engineering, project management, and problem-solving skills to design and implement a real-world industrial project.	PSO-5	PO-4	A, An, C

Master of Commerce (M.Com) EAFM

Programme Outcomes (PO's)

Successful completion of Master of Commerce (M.Com) EAFM program will make the students proficient in the following areas:

S.No.	Program Outcomes
PO 1	Acquire in-depth theoretical and practical knowledge of economic administration, financial management, and banking systems.
PO 2	Develop the ability to analyze complex economic data and financial statements to draw meaningful conclusions for business growth.
PO 3	Apply economic theories and financial tools to solve real-world business problems and assist in strategic decision-making.
PO 4	Cultivate research skills to conduct independent studies in the fields of economics, rural development, and finance.
PO 5	Understand the impact of global economic trends, international trade, and foreign exchange on the domestic economy.
PO 6	Evaluate the ethical implications of financial decisions and understand the role of economics in sustainable social development.
PO 7	Demonstrate the ability to present complex financial reports and economic policies clearly to both technical and non-technical audiences.
PO 8	Prepare for professional careers in banking, corporate finance, investment analysis, and government economic services.

M.COM - EAFM

Programme Specific Outcomes (PSO's)

PSO No.	Programme Specific Outcomes (PSOs)
PSO-1	Demonstrate advanced knowledge of economic theory, public finance, and financial management relevant to economic administration.
PSO-2	Apply quantitative, statistical, and analytical tools for economic analysis, research, and policy evaluation.
PSO-3	Analyze and evaluate fiscal, monetary, and development policies with reference to national and state economies.
PSO-4	Develop professional competence in financial planning, budgeting, auditing, and control within public and private organizations.
PSO-5	Interpret and apply economic laws, taxation provisions, financial regulations, and government policies in administrative decision-making.
PSO-6	Enhance research, critical thinking, and problem-solving skills to address contemporary economic and financial issues ethically.
PSO-7	Demonstrate leadership, ethical awareness, and administrative capability for careers in finance, public services, academia, and research.

Semester	Course Code	Course Title	Course Outcomes on completing the course, the student will be able to:	PSO addressed	PO addressed	Cognitive levels (R/U/A/An/E/C)
PG SEM I	24MEM9101T	Micro Economics	Understand advanced concepts of consumer behavior and demand analysis	PSO-1	PO1	R, U
			Analyze production, cost, and revenue theories	PSO-2	PO2, PO4	An
			Evaluate price determination under various market structures	PSO-3	PO4	E
			Apply microeconomic tools to real-world economic problems	PSO-4	PO5	Ap
			Critically assess welfare economics and efficiency of markets	PSO-6	PO5	E
PG SEM I	24MEM9102T	Financial Management And Control	Understand objectives and scope of financial management	PSO-1	PO1	R, U

			Apply capital budgeting techniques for investment decisions	PSO-2	PO3	Ap
			Analyze financial control tools and performance measures	PSO-3	PO4	An
			Evaluate working capital and dividend decisions	PSO-4	PO5	E
			Design financial control strategies for organizations	PSO-7	PO5	C
PG SEM I	24MEM9103T	Public Enterprises In India	Understand the role and significance of public enterprises in India	PSO-1	PO1	R, U
			Analyze organization, management, and performance of public enterprises	PSO-2	PO4	An
			Evaluate financial and administrative control mechanisms	PSO-3	PO5	E
			Assess reforms, disinvestment, and privatization policies	PSO-5	PO5	An, E

			Critically examine challenges faced by public enterprises	PSO-6	PO5	E
PG SEM I	24MEM9104T	Industrial Economics	Understand theories of industrial organization	PSO-1	PO1	R, U
			Analyze industrial structure, conduct, and performance	PSO-2	PO4	An
			Evaluate pricing practices and competition policies	PSO-3	PO5	E
			Assess industrial growth and productivity trends	PSO-4	PO5	An
			Examine industrial policy and regulatory framework in India	PSO-5	PO5	E
PG SEM I	24MEM9105T	Economic Environment In India	Understand structural features of the Indian economy	PSO-1	PO1	R, U
			Analyze trends in agriculture, industry, and services sectors	PSO-2	PO4	An
			Evaluate fiscal, monetary, and trade policies	PSO-3	PO5	E

			Assess issues of poverty, unemployment, and inequality	PSO-6	PO5	An
			Critically analyze contemporary economic challenges	PSO-7	PO5	E
PG SEM II	24MEM9201T	Economic Administration And Policy	Understand concepts, scope, and significance of economic administration	PSO-1	PO1	R, U
			Analyze administrative machinery and policy formulation process	PSO-2	PO4	An
			Evaluate implementation and effectiveness of economic policies	PSO-3	PO5	E
			Examine role of public institutions in economic governance	PSO-4	PO5	An
			Critically assess contemporary economic policy issues	PSO-6	PO5	E

PG SEM II	24MEM9202T	Indian Banking System	Understand evolution, structure, and functions of Indian banking system	PSO-1	PO1	R, U
			Analyze the role of RBI in banking regulation and control	PSO-2	PO4	An
			Examine credit creation, risk management, and banking reforms	PSO-3	PO5	An
			Evaluate digital banking, financial inclusion, and payment systems	PSO-4	PO5	E
			Assess challenges and future prospects of Indian banking	PSO-6	PO5	E
PG SEM II	24MEM9203T	Co Operative Sector Management	Understand principles, structure, and objectives of co-operative institutions	PSO-1	PO1	R, U
			Analyze management and governance of co-operative organizations	PSO-2	PO4	An
			Evaluate financial management and audit practices in co-operatives	PSO-3	PO5	E

				PSO-4	PO5	An
			Examine role of co-operatives in rural and economic development	PSO-4	PO5	An
			Critically assess problems and reforms in co-operative sector	PSO-6	PO5	E
PG SEM II	24MEM9204T	Macro Economics	Understand macroeconomic concepts such as national income and employment	PSO-1	PO1	R, U
			Analyze theories of consumption, investment, and business cycles	PSO-2	PO4	An
			Evaluate monetary and fiscal policy tools	PSO-3	PO5	E
			Examine inflation, unemployment, and stabilization policies	PSO-4	PO5	An
			Critically assess macroeconomic issues in developing economies	PSO-6	PO5	E
PG SEM II	24MEM9208T	Development Economics	Understand concepts, indicators, and theories of economic development	PSO-1	PO1	R, U

			Analyze issues of poverty, inequality, and unemployment	PSO-2	PO4	An
			Evaluate role of planning, human development, and institutions	PSO-3	PO5	E
			Examine development strategies in India and other developing nations	PSO-4	PO5	An
			Critically assess sustainable and inclusive development challenges	PSO-7	PO5	E
PG SEM III	24MEM9301T	Indian Economy	Understand structural features and sectoral composition of the Indian economy	PSO-1	PO1	R, U
			Analyze trends in agriculture, industry, and service sectors	PSO-2	PO4	An
			Evaluate fiscal, monetary, and trade policies in India	PSO-3	PO5	E

			Examine issues of poverty, unemployment, and inequality	PSO-6	PO5	An
			Critically assess contemporary economic challenges	PSO-7	PO5	E
PG SEM III	24MEM9302T	Financial Analysis And Control	Understand concepts and techniques of financial analysis	PSO-1	PO1	R, U
			Apply ratio analysis, cash flow, and fund flow techniques	PSO-2	PO3	Ap
			Analyze financial statements for decision-making	PSO-3	PO4	An
			Evaluate financial performance and control mechanisms	PSO-4	PO5	E
			Design financial control strategies for organizations	PSO-7	PO5	C
PG SEM III	24MEM9304T	Economic Growth And Development	Understand theories and concepts of economic growth and development	PSO-1	PO1	R, U

			Analyze factors influencing economic growth	PSO-2	PO4	An
			Evaluate development strategies and models	PSO-3	PO5	E
			Examine role of institutions, technology, and human capital	PSO-4	PO5	An
			Critically assess development challenges in developing economies	PSO-6	PO5	E
PG SEM III	24MEM9305T	Industrial Development In Rajasthan	Understand industrial structure and resources of Rajasthan	PSO-1	PO1	R, U
			Analyze industrial policies and growth trends	PSO-2	PO4	An
			Evaluate role of MSMEs and industrial clusters	PSO-3	PO5	E

			Examine challenges and opportunities of industrialization	PSO-4	PO5	An
			Critically assess state industrial development strategies	PSO-6	PO5	E
PG SEM III	24MEM9306T	Administration Of Public Enterprises	Understand principles and structure of public enterprise administration	PSO-1	PO1	R, U
			Analyze management, governance, and accountability systems	PSO-2	PO4	An
			Evaluate financial and administrative control mechanisms	PSO-3	PO5	E
			Examine reforms, disinvestment, and privatization policies	PSO-5	PO5	An, E
			Critically assess performance and challenges of public enterprises	PSO-6	PO5	E
PG SEM III	24MEM9307T	International Finance And Trade	Understand theories and principles of international trade and finance	PSO-1	PO1	R, U

			Analyze balance of payments and exchange rate systems	PSO-2	PO4	An
			Evaluate trade policies, WTO agreements, and globalization	PSO-3	PO5	E
			Examine international financial institutions and capital flows	PSO-4	PO5	An
			Critically assess challenges of global trade and financial integration	PSO-7	PO5	E
PG SEM IV	24MEM9402T	Indian Economic Development And Policy	Understand development strategies and policy framework in India	PSO-1	PO1	R, U
			Analyze planning models and sectoral development policies	PSO-2	PO4	An
			Evaluate fiscal, monetary, and trade policies	PSO-3	PO5	E

			Examine inclusive growth, sustainability, and social justice issues	PSO-6	PO5	An
			Critically assess recent economic reforms and policy outcomes	PSO-7	PO5	E
PG SEM IV	24MEM9403T	Economic Of Rajasthan	Understand economic structure and resources of Rajasthan	PSO-1	PO1	R, U
			Analyze agriculture, industry, and service sector performance	PSO-2	PO4	An
			Evaluate state development policies and planning	PSO-3	PO5	E
			Examine socio-economic issues and regional imbalances	PSO-6	PO5	An
			Critically assess challenges and future prospects of Rajasthan's economy	PSO-7	PO5	E
PG SEM IV	24MEM9401T	Research Methodology	Understand research design, types, and methods	PSO-1	PO1	R, U

				Apply data collection techniques and sampling methods	PSO-2	PO3	Ap
				Analyze data using statistical and analytical tools	PSO-3	PO4	An
				Evaluate research findings and interpret results	PSO-6	PO5	E
				Design and present a research proposal or dissertation	PSO-7	PO5	C

Master of English Literature (M.A)

Programme Outcomes (PO's)

Successful completion of Master of **English Literature** (M.A) program will make the students proficient in the following areas:

S.No.	Program Outcomes
PO 1	Demonstrate a comprehensive understanding of English literature from the Anglo-Saxon period to the contemporary era, including various genres, movements, and traditions.
PO 2	Apply diverse theoretical frameworks (such as Post-colonialism, Feminism, Psychoanalysis, etc.) to analyze and interpret complex literary texts.
PO 3	Develop the ability to formulate research questions, conduct independent literary research, and adhere to academic writing ethics and citation styles (like MLA or APA).
PO 4	Express complex ideas, arguments, and creative interpretations clearly and persuasively in both written and oral formats.
PO 5	Evaluate how literature reflects and shapes social, cultural, and political identities across different global contexts and historical periods.
PO 6	Develop a nuanced sensitivity to the structure, style, and beauty of language, fostering a lifelong engagement with the arts.

PO 7	Understand the ethical dimensions of literature and the responsibility of the writer/critic in addressing human rights, environmental issues, and social justice.
PO 8	Acquire transferable skills suitable for careers in academia, publishing, creative writing, journalism, content development, and public relations.

MA English Literature

Programme Specific Outcomes (PSOs)

S.No.	Programme Specific Outcomes (PSOs)
PSO–1: Advanced Literary Knowledge	Develop comprehensive knowledge of British, American, Indian, World, Postcolonial and Contemporary literatures across genres including poetry, drama, fiction, prose and literary theory.
PSO–2: Critical and Theoretical Competence	Demonstrate advanced understanding and application of classical and modern literary theories including Indian poetics, structuralism, post-structuralism, feminism, Marxism, postcolonialism, eco-criticism, and cultural studies.
PSO–3: Analytical and Interpretative Skills	Exhibit the ability to critically analyze, interpret and evaluate literary texts using appropriate theoretical frameworks, contextual approaches, and interdisciplinary perspectives.
PSO–4: Research and Methodological Proficiency	Apply research methodologies, identify research gaps, formulate research questions, conduct literature review, and produce scholarly dissertations with proper academic citation and ethical research practices.
PSO–5: Comparative and Global Perspective	Develop comparative understanding of literatures across cultures, languages and historical periods, including translated works and world literature traditions.
PSO–6: Academic Writing and Communication Skills	Demonstrate advanced academic writing, argumentation, presentation, and communication skills suitable for higher research, teaching, civil services, and professional careers.
PSO–7: Ethical, Social and Humanistic Awareness	Integrate literary knowledge with human values, gender sensitivity, environmental awareness, emotional intelligence, and global citizenship, fostering socially responsible and ethically grounded individuals.

Semester	Course Code	Course Title	Course Outcomes	PSO Addressed	PO Addressed	Cognitive Levels
I	24MEN9101T	Basic Grammar Structure	1. Identify and construct different sentence types.	PSO-1,2,3,4,5,6	PO-1,2,3	R,U,A,An
			2. Apply coordination and subordination correctly.			
			3. Understand functional concepts like request, order, question, condition, purpose etc.			
			4. Transform sentences (simple, compound, complex).			
			5. Use active/passive voice and direct/indirect speech correctly.			
			6. Apply correct tense usage in communication.			
			7. Develop reading comprehension skills.			
			8. Write formal and informal letters effectively.			
			9. Develop précis writing skills.			
I	24MEN9102T	The Renaissance and Reformation Literature	1. Understand major features of Renaissance and Reformation literature.	PSO-1,2,3,4,5	PO-1,2,3,4	R,U,An,E
			2. Analyze Chaucer's Prologue to The Canterbury Tales in historical context.			

			3. Critically examine Marlowe's Dr. Faustus and Webster's The Duchess of Malfi.				
			4. Interpret Shakespeare's Othello in relation to Renaissance tragedy.				
			5. Analyze Ben Jonson's Every Man in His Humour and Bacon's essays.				
			6. Evaluate metaphysical poetry of John Donne.				
			7. Appreciate Edmund Spenser's contribution to pastoral poetry.				
			8. Develop critical and comparative analytical skills.				
I	24MEN9103T	Restoration to The Romantic Period	1. Understand major literary trends from Restoration to the Romantic period.	PSO-1,2,3,4,5	PO-1,2,3,4	R,U,An,E	
			2. Analyze Milton, Dryden and Pope in the context of Restoration poetry.				
			3. Examine Pre-Romantic and Romantic poetry of Collins, Gray and Wordsworth.				
			4. Interpret Coleridge, Shelley and Keats with reference to Romantic imagination.				
			5. Analyze Mary Shelley's Frankenstein as a Romantic novel.				

			6. Evaluate prose essays of Charles Lamb and William Hazlitt.				
			7. Develop comparative and critical analytical skills.				
I	24MES9104T	The Victorian to Modern Period	1. Understand major literary trends from the Victorian to Modern period.	PSO-1,2,3,4,5	PO-1,2,3,4	R,U,An,E	
			2. Analyze Victorian poetry of Browning and Tennyson.				
			3. Examine the poetry of Hopkins and Elizabeth Barrett Browning.				
			4. Interpret Matthew Arnold and Christina Rossetti within a Victorian context.				
			5. Analyze Dickens' Bleak House and Hardy's Tess of the D'Urbervilles.				
			6. Develop critical and comparative analytical skills.				
I	24MEN9105T	American Literature	1. Understand major literary movements in American literature.	PSO-1,2,3,4,5	PO-1,2,3,4	R,U,An,E	
			2. Analyze poetry of Emily Dickinson, Robert Frost, and Walt Whitman.				
			3. Examine essays of Emerson and Thoreau in Transcendental context.				

			4. Interpret Melville's Bartleby, the Scrivener.			
			5. Analyze modern American drama of Arthur Miller and Eugene O'Neill.			
			6. Critically evaluate Hawthorne's The Scarlet Letter and Steinbeck's The Grapes of Wrath.			
			7. Develop comparative and analytical literary skills.			
II	24MEN9201T	Literary Criticism	1. Understand major concepts in Indian literary criticism including Bhartrhari, Anandavardhana and Kuntaka.	PSO-1,2,3,4,5,6	PO-1,2,3,4	R,U,An,E,C
			2. Analyze classical Western criticism of Aristotle and Longinus.			
			3. Interpret Renaissance and Romantic criticism of Sidney, Shelley and Arnold.			
			4. Examine modern criticism including I. A. Richards, Cleanth Brooks and Northrop Frye.			
			5. Apply various theoretical approaches in literary analysis.			
			6. Develop analytical, evaluative and research-oriented critical skills.			

II	24MEN9202T	20th Century Literature	1. Understand major literary movements of the twentieth century including Modernism and Postmodernism.	PSO-1,2,3,4,5	PO-1,2,3,4	R,U,An,E,C
			2. Analyze poetry of Auden, Yeats and T. S. Eliot in a modernist context.			
			3. Examine modern drama of Shaw, Osborne and Beckett.			
			4. Interpret modern fiction of Joyce, Fitzgerald and Orwell.			
			5. Evaluate prose writings of H. G. Wells, Bertrand Russell and Virginia Woolf.			
			6. Develop critical, comparative and research-oriented analytical skills.			
II	24MEN9203T	Postmodern Literature	1. Understand major characteristics of Postmodern literature and theory.	PSO-1,2,3,4,5	PO-1,2,3,4	R,U,An,E,C
			2. Analyze poetry of Seamus Heaney, Philip Larkin and Carol Ann Duffy.			
			3. Examine postmodern fiction of John Fowles and Kurt Vonnegut.			
			4. Interpret postmodern drama of Pinter, Brecht and Stoppard.			

			5. Evaluate contemporary prose writings including Martin Amis and Martin Luther King Jr.			
			6. Develop critical, comparative and research-oriented analytical skills.			
II	24MEN9204T	Post Colonial Literature	1. Understand key concepts and developments in Postcolonial literature.	PSO-1,2,3,4,5,6	PO-1,2,3,4	R,U,An,E,C
			2. Analyze selected poems of R. Parthasarathy, Sri Aurobindo and Judith Wright.			
			3. Examine postcolonial novels of Adichie, Ben Okri and Chinua Achebe.			
			4. Interpret theoretical writings of Amitav Ghosh, Robin Cohen and Ngũgĩ wa Thiong'o.			
			5. Evaluate prose writings of Ashis Nandy, Jean Arasanayagam and Derek Walcott.			
			6. Apply postcolonial theory in critical and comparative literary analysis.			
II	24MEN9206T	Indian Classics in Translation	1. Understand major Indian classical texts in translation.	PSO-1,2,3,4,5,6	PO-1,2,3,4	R,U,An,E,C
			2. Analyze Valmiki's Ramayana (Bal Kand) and the Bhagavad Gita (Chapters I & II).			

			3. Examine classical Sanskrit works such as Meghdoot and Mrichhakatikam.			
			4. Interpret modern Indian classics like Chemeen and Devdas.			
			5. Analyze short stories of Manto and Tagore.			
			6. Develop comparative and critical analytical skills in translation studies.			
III	24MEN9301T	Modern Literary Theory and Criticism	1. Understand major developments in twentieth-century literary theory.	PSO-1,2,3,4,5,6	PO-1,2,3,4	R,U,An,E,C
			2. Analyze psychoanalytic and Marxist criticism through Trilling and Wilson.			
			3. Examine structuralism and linguistics through Saussure and Culler.			
			4. Interpret stylistics and deconstruction through Widdowson and Derrida.			
			5. Apply feminist and reader-response theories through Showalter and Fish.			
			6. Develop advanced analytical, evaluative and research-oriented critical skills.			
III	24MEN9302T	Research Methodology	1. Understand the definition, scope and types of research.	PSO-1,2,3,4,5,6,7	PO-1,2,3,4	R,U,A,An,E,C

			2. Differentiate qualitative, quantitative and mixed research approaches.			
			3. Identify research gaps and frame research questions.			
			4. Conduct systematic review of literature using print and digital sources.			
			5. Apply appropriate methodological frameworks.			
			6. Use MLA, APA and Chicago citation styles correctly.			
			7. Develop plagiarism awareness and ethical research practices.			
			8. Prepare and draft research papers and dissertations.			
III	24MEN9303T	World Literature in English Translation	1. Understand major works of World Literature in translation.	PSO-1,2,3,4,5,6	PO-1,2,3,4	R,U,An,E,C
			2. Analyze classical and modern drama such as Oedipus Rex and A Doll's House.			
			3. Examine modern fiction including The Outsider and Metamorphosis.			
			4. Interpret Indian translated works of Mohan Rakesh, Bhishm Sahni and Usha Priyamvada.			

			5. Analyze selected poems of Pablo Neruda in global context.			
			6. Develop comparative and cross-cultural analytical skills.			
III	24MEN9304T	Women's and Gender Studies	1. Understand key concepts of sex, gender, sexuality and patriarchy.	PSO-1,2,3,4,5,6	PO-1,2,3,4	R,U,An,E,C
			2. Analyze feminist texts such as A Room of One's Own and The Creation of Patriarchy.			
			3. Examine issues of oppression, masculinity and intersectional identities.			
			4. Interpret literary works by Mahasweta Devi and Alice Walker.			
			5. Apply queer theory and transgender studies perspectives.			
			6. Develop critical and research-oriented analytical skills in gender studies.			
III	24MEN9306T	Literature and Environment	1. Understand foundational concepts of environmental responsibility and ecocriticism.	PSO-1,2,3,4,5,6	PO-1,2,3,4	R,U,An,E,C
			2. Analyze ecological essays of Rachel Carson and Aldo Leopold.			

			3. Interpret environmental themes in poetry by A.K. Ramanujan, Walter de la Mare and D.H. Lawrence.			
			4. Examine environmental perspectives in essays by Thoreau, Nehru and Mahadevi Verma.			
			5. Analyze short stories including Panchatantra tales, Jim Corbett and D.R. Sharma.			
			6. Apply eco-critical frameworks in literary and cultural analysis.			
III	24MEN9307T	Colonial Discourse and Postcolonial Discourse	1. Understand foundational concepts of colonial and postcolonial studies.	PSO-1,2,3,4,5,6	PO-1,2,3,4	R,U,An,E,C
			2. Analyze theoretical writings of Spivak, Fanon, Achebe and Bhabha.			
			3. Interpret key concepts such as mimicry, hybridity and subalternity.			
			4. Examine George Lamming's In the Castle of My Skin.			
			5. Apply postcolonial discourse analysis in literary criticism.			
			6. Develop critical and research-oriented analytical skills.			

IV	24MEN9401T	Contemporary Literature	1. Understand key concepts in contemporary and postmodern literature.	PSO-1,2,3,4,5,6	PO-1,2,3,4	R,U,An,E,C
			2. Analyze essays by Fredric Jameson and Giorgio Agamben.			
			3. Examine modern drama of Eugène Ionesco and Edward Albee.			
			4. Interpret contemporary fiction of Kazuo Ishiguro and Orhan Pamuk.			
			5. Analyze selected poetry of Ted Hughes, Margaret Atwood and Carl Sandburg.			
			6. Develop critical and research-oriented analytical skills.			
IV	24MEN9403T	Short Stories	1. Understand the definition and constituent elements of the short story.	PSO-1,2,3,4,5,6	PO-1,2,3,4	R,U,An,E,C
			2. Analyze classic short stories by Maupassant, Chekhov and Tolstoy.			
			3. Examine psychological and symbolic narratives of Poe, O. Henry and Gilman.			
			4. Interpret modern and postcolonial short fiction by Hemingway, Achebe and Mukherjee.			

			5. Analyze Indian short stories by Ismat Chughtai, R.K. Narayan and Amrita Pritam.				
			6. Develop critical, comparative and research-oriented analytical skills in short fiction.				
IV	24MEN9404T	Essays	1. Understand the definition, kinds and styles of essay writing.	PSO-1,2,3,4,5,6	PO-1,2,3,4	R,U,An,E,C
			2. Analyze essays by Richard Steele and Stephen Leacock.			
			3. Examine social and political essays by Aldous Huxley and George Orwell.			
			4. Interpret philosophical and educational essays by Swami Vivekananda and C. Rajagopalachari.			
			5. Apply rhetorical and stylistic techniques in essay analysis.			
			6. Develop critical and research-oriented analytical skills in prose writing.			
IV	24MEN9401D	Research Dissertation	1. Identify and select a major author for in-depth study.	PSO-1,2,3,4,5,6,7	PO-1,2,3,4	R,U,A,An,E,C
			2. Formulate research questions and objectives.			
			3. Conduct comprehensive review of literature.			

			4. Apply relevant theoretical and methodological frameworks.			
			5. Develop analytical and interpretative arguments.			
			6. Draft, revise and finalize a structured research dissertation.			
			7. Demonstrate academic integrity and proper citation practices.			

Master of Arts (M.A) Geography

Programme Outcomes (PO's)

Successful completion of Master of Geography (M.A) program will make the students proficient in the following areas:

S. No.	Program Outcomes
PO 1 (Disciplinary Knowledge)	Understand the definition, nature, and scope of Geography as a scientific discipline.
PO 2 (Historical Awareness)	Trace the contribution of Greeks, Romans, and Arab scholars to early geography.
PO 3 (Critical Thinking)	Evaluate the impact of the Renaissance on the development of Classical Modern Geography.
PO 4 (Analytical Reasoning)	Analyze dualisms in geography, such as Systematic vs. Regional and Qualitative vs. Quantitative.
PO 5 (Scientific Reasoning)	Understand the transition from Positivism to Behaviorism and Humanistic Geography.
PO 6 (Social Awareness)	Discuss the emergence of Welfare Geography, Feminism, and Radical Geography.
PO 7 (Theoretical Synthesis	Synthesize various geographical thoughts to explain modern-day spatial phenomena.

Program Specific Outcomes (PSOs)

S. No.	Program Specific Outcomes
PSO 1	Describe the development of geography in ancient India and the classical period.
PSO 2	Compare the German School (Ratzel, Hetner) with the French School (Blache, Brunhes).
PSO 3	Analyze the influence of British and American geographers on 20th-century spatial science.
PSO 4	Critique the concept of Neo-determinism and the changing paradigms of the man-environment relationship.
PSO 5	Evaluate the role of the Quantitative Revolution in making geography a more rigorous science.
PSO 6	Explain the philosophical foundations of Structuralism and Postmodernism in geography.
PSO 7	Assess the relevance of classical modern geographers like Humboldt and Ritter to contemporary study.

Semester	Course Code	Course Title	Course Outcomes (CO)	PSO Addressed	PO Addressed	Cognitive Levels
I (MA)	24MGS9101T	Geographical Thoughts	**CO 1:** Define the scope of geography and trace early contributions from Greeks and Romans.	PSO 1	PO 1, 2	Remembering
			CO 2: Explain the Arab contribution and the impact of the Renaissance on classical geography.	PSO 1	PO 2, 3	Understanding
			CO 3: Compare the methodologies of major European and American schools of thought.	PSO 2, 3	PO 3	Analyzing
			CO 4: Evaluate the works of foundational figures like Humboldt, Ritter, and Ratzel.	PSO 7	PO 3	Evaluating
			CO 5: Contrast dualisms such as Systematic vs. Regional and Physical vs. Human geography.	PSO 4	PO 4	Analyzing
			CO 6: Analyze modern shifts from Quantitative Revolution to Humanism and Radicalism.	PSO 5, 6	PO 5, 6	Analyzing
			CO 7: Critically assess the paradigms of Postmodernism and Structuralism in current geography.	PSO 6	PO 7	Evaluating
I (MA)	24MGS9102T	Geomorphology	**CO 1:** Define the nature and scope of geomorphology and its historical development.	PSO 1	PO 1	Remembering

			CO 2: Analyze theories of crustal movement including Plate Tectonics and Sea Floor Spreading.	PSO 2	PO 4	Analyzing
			CO 3: Explain the mechanisms of endo-genetic forces such as earthquake and volcanic activity.	PSO 6	PO 4	Understanding
			CO 4: Evaluate different models of landscape evolution and slope development (Davis, Penck, King).	PSO 4	PO 3	Evaluating
			CO 5: Contrast the erosional and depositional works of water, wind, waves, and glaciers.	PSO 3	PO 5	Analyzing
			CO 6: Assess geomorphological hazards and develop mitigation strategies for human welfare.	PSO 5	PO 2, 6	Evaluating
			CO 7: Apply geomorphological knowledge to analyze environmental issues like land subsidence.	PSO 7	PO 7	Applying
I (MA)	24MGS9103T	Climatology &	CO 1: Define the scope of Climatology and the structure of the atmosphere.	PSO 1	PO 1	Remembering
			CO 2: Analyze the mechanism of monsoons and global jet streams.	PSO 2, 3	PO 4	Analyzing
			CO 3: Compare the climatic classification models of Koppen and Thornthwaite.	PSO 4	PO 3	Analyzing
			CO 4: Evaluate current issues like Ozone depletion, Acid Rain, and Urban Heat Islands.	PSO 7	PO 2, 6	Evaluating

			CO 5: Illustrate the relief features and distribution of salinity in major oceans.	PSO 5	PO 1	Understanding
			CO 6: Analyze theories of tides and the formation of coral reefs (Darwin, Daly, Murray).	PSO 6	PO 3	Analyzing
			CO 7: Assess the impact of sea-level changes and the potential of the Blue Economy.	PSO 7	PO 6	Evaluating
I (MA)	24MGS9104T	Environmental Geography	**CO 1:** Define the scope of Environmental Geography and describe ecosystem components.	PSO 1	PO 1	Remembering
			CO 2: Illustrate energy flow, food chains, and geo-chemical cycles (Carbon, Nitrogen, Oxygen).	PSO 1	PO 4, 5	Understanding
			CO 3: Analyze the causes and impacts of urban environmental problems and land degradation.	PSO 2	PO 2	Analyzing
			CO 4: Evaluate the techniques and approaches of Environmental Impact Assessment (EIA).	PSO 4	PO 3	Evaluating
			CO 5: Assess contemporary global issues like the Greenhouse Effect, Ozone Depletion, and Acid Rain.	PSO 5	PO 2	Evaluating
			CO 6: Compare international environmental treaties and Sustainable Development Goals (SDG) 2030.	PSO 6	PO 6	Analyzing
			CO 7: Analyze the salient features of Indian environmental laws and national conservation flagship programs.	PSO 7	PO 7	Analyzing

I (MA)	24MGS9105T	Biogeography	**CO 1:** Define the scope of Biogeography and explain the concept of the Ecological Niche.	PSO 1	PO 1	Remembering
			CO 2: Analyze the debate between Ecology and History in Biogeography and Phylogeography.	PSO 2	PO 3	Analyzing
			CO 3: Categorize the Five Kingdom System and the seven levels of biological taxonomy.	PSO 3	PO 4	Understanding
			CO 4: Apply Raunkiaer's and Grime's classification methods to plant and animal interactions.	PSO 4	PO 7	Applying
			CO 5: Explain the processes of speciation, adoption, and evolution within the biosphere.	PSO 5	PO 5	Understanding
			CO 6: Analyze the drivers of species extinction and the phases of ecological succession.	PSO 6	PO 2	Analyzing
			CO 7: Evaluate the role of paleobiogeography in understanding modern species distribution.	PSO 7	PO 1	Evaluating
II (MA)	24MGS9201T	Research Methodology	**CO 1**: Define the meaning and characteristics of research and its various approaches.	PSO 1	PO 1	Remembering
			CO 2: Construct a research design including problem formulation and objective setting.	PSO 2	PO 2, 3	Creating
			CO 3: Formulate and test null and alternative hypotheses using appropriate statistical measures.	PSO 4	PO 4	Applying

			CO	PSO	PO	Level
			CO 4: Distinguish between qualitative, quantitative, and mixed research methods.	PSO 3	PO 5	Analyzing
			CO 5: Execute data collection through field work, observations, and structured questionnaires.	PSO 3, 4	PO 5	Applying
			CO 6: Analyze datasets using bivariate, multivariate, and significance tests (t, Z, F).	PSO 5	PO 6	Analyzing
			CO 7: Evaluate research ethics and compose reports using standard citation styles (APA, MLA).	PSO 6, 7	PO 7	Evaluating
	24MGS9202T	Human Geography	**CO 1:** Define the nature and scope of Human Geography and its core paradigms.	PSO 1	PO 1, 3	Remembering
			CO 2: Analyze the physical and socio-economic characteristics of major world tribes and races.	PSO 2	PO 4	Analyzing
			CO 3: Evaluate the concept of Optimum Population and the Population-Resource relationship.	PSO 3, 7	PO 5	Evaluating
			CO 4: Illustrate the morphology and hierarchy of rural and urban settlements.	PSO 4	PO 6	Understanding
			CO 5: Apply theories of urban growth, such as the Rank-Size Rule and Primate City concept.	PSO 4	PO 7	Applying
			CO 6: Analyze the types, causes, and consequences of global migration and "Brain Drain."	PSO 5	PO 2, 5	Analyzing

			CO 7: Assess modern trends in urbanization and associated environmental and social problems.	PSO 6	PO 2	Evaluating
	24MGS9203T	Population Geography	CO1: Explain the evolution of population geography and evaluate data sources like Census.	PSO2, PSO7	PO1, PO5	L2 (Understand), L5 (Evaluate)
			CO2: Analyze spatial patterns of world and national population distribution/density.	PSO1, PSO5	PO2, PO3	L4 (Analyze)
			CO3: Critically examine population theories including Malthus, Marx, and Demographic Transition.	PSO2, PSO4	PO2, PO7	L4 (Analyze), L5 (Evaluate)
			CO4: Measure and interpret components of change like fertility, mortality, and migration.	PSO2, PSO6	PO3, PO4	L3 (Apply), L4 (Analyze)
			CO5: Appraise India's population characteristics including age-sex structure and literacy.	PSO6, PSO7	PO1, PO4	L5 (Evaluate)
			CO6: Categorize world population-resource regions and contemporary demographic issues.	PSO3, PSO4	PO2, PO6	L4 (Analyze), L5 (Evaluate)
			CO7: Formulate strategies for population management in alignment with SDGs 2030.	PSO3, PSO7	PO3, PO6	L6 (Create)
	24MGS9204T	Urban Geography	CO1: Explain the nature, scope, and ecological processes of urban centers.	PSO6	PO1	**L2: Understand**

			CO2: Analyze the spatial patterns of urbanization in the world and India.	PSO1	PO2, PO4	**L4: Analyze**
			CO3: Evaluate urban land use models and the concept of the Central Business District (CBD).	PSO2	PO1, PO2	**L5: Evaluate**
			CO4: Apply theories of settlement systems, including Rank-Size Rule and Central Place Theory.	PSO3, PSO7	PO4, PO5	**L3: Apply**
			CO5: Examine the morphology and social segregation of Indian cities (Case studies: Jaipur/Chandigarh).	PSO4	PO1, PO7	**L4: Analyze**
			CO6: Assess urban environmental problems like heat islands and solid waste issues.	PSO6	PO3, PO6	**L5: Evaluate**
			CO7: Create strategic outlines for urban area development aligned with Smart City Mission and SDG Goal 11.	PSO5	PO3	**L6: Create**
	24MGS9205T	Social & Cultural Geography	CO1: Define the nature and scope of social geography and the concept of social well-being.	PSO1, PSO2	PO1, PO7	**L2: Understand**
			CO2: Analyze social problems such as poverty, crime, and social inequalities in a spatial context.	PSO2	PO3, PO6	**L4: Analyze**
			CO3: Classify world races and analyze the socio-cultural characteristics of Indian tribal groups.	PSO3, PSO7	PO2, PO5	**L4: Analyze**
			CO4: Evaluate the theories of cultural determinism and the processes of cultural adaptation and diffusion.	PSO4, PSO5	PO1, PO4	**L5: Evaluate**

			CO5: Examine the impact of the Industrial Revolution and Globalization on cultural development.	PSO5	PO4, PO7	**L4: Analyze**
			CO6: Distinguish between cultural hearths, realms, and regions across the world.	PSO5	PO1, PO2	**L4: Analyze**
			CO7: Assess the contemporary challenges of racism, terrorism, and cultural conflicts in the modern world.	PSO6	PO3, PO6	**L5: Evaluate**
III	24MGS9301T	Advanced Geography of India	**CO1:** Explain the geological structure and its relation to mineral distribution and physiographic divisions.	PSO1, PSO7	PO1, PO4	**L2: Understand**
			CO2: Analyze the mechanism of the Monsoon and its impact on seasonal weather characteristics.	PSO3	PO1, PO2	**L4: Analyze**
			CO3: Evaluate problems of soil erosion, deforestation, and drainage patterns in India.	PSO7	PO6	**L5: Evaluate**
			CO4: Analyze multipurpose projects and address problems of floods and droughts.	PSO2	PO3	**L4: Analyze**
			CO5: Apply knowledge of agricultural revolutions to analyze major crop distributions.	PSO4	PO2, PO3	**L3: Apply**
			CO6: Assess the industrial regions and the distribution of power and mineral resources.	PSO1, PSO6	PO4	**L5: Evaluate**

			CO7: Create a demographic profile of India to address population problems and human resource development.	PSO5	PO5, PO7	**L6: Create**
	24MGS9302T	Principles and Theories of Economic Geography	**CO1:** Explain the nature, scope, and spatial structure of various world economies.	PSO1, PSO3	PO1	**L2: Understand**
			CO2: Analyze recent trends in economic geography and classify world economic systems.	PSO1, PSO7	PO1, PO4	**L4: Analyze**
			CO3: Evaluate theories and models of development to address regional disparities.	PSO2	PO2, PO3	**L5: Evaluate**
			CO4: Apply economic location theories (Weber, Losch, Von Thunen) to spatial planning.	PSO4	PO5	**L3: Apply**
			CO5: Analyze decision-making processes from a location-behavioral perspective.	PSO6	PO2, PO5	**L4: Analyze**
			CO6: Assess the characteristics of diverse economic regions and their global importance.	PSO7	PO4	**L5: Evaluate**
			CO7: Create impact assessments of WTO, Globalization, and Liberalization on local economies.	PSO5	PO3, PO6	**L6: Create**
	24MGS9303T	Agricultural Geography	**CO1:** Explain the nature, scope, and significance of agricultural geography and the origin of agriculture.	PSO1, PSO5	PO1	**L2: Understand**

			CO2: Analyze physical (topography, climate) and socio-economic factors affecting agricultural practices.	PSO5, PSO7	PO2	**L4: Analyze**
			CO3: Evaluate the Von-Thunen theory of land use and its contemporary modifications.	PSO2	PO2, PO6	**L5: Evaluate**
			CO4: Measure agricultural productivity, crop concentration, and intensity using quantitative techniques.	PSO3	PO4, PO5	**L3: Apply**
			CO5: Delineate agricultural regions based on Whittlesey's classification and land carrying capacity.	PSO4	PO4	**L4: Analyze**
			CO6: Assess new perspectives in agriculture concerning food security and sustainable systems.	PSO6	PO6, PO7	**L5: Evaluate**
			CO7: Create strategies for strengthening sustainable agricultural systems in the global economy.	PSO6	PO3	**L6: Create**
	24MGS9304T	Industrial Geography	CO1: Explain the evolution of industrialization and the core concepts of industrial geography and entrepreneurship.	PSO1	PO1, PO7	**L2: Understand**
			CO2: Analyze the various location factors of industries and the new trends emerging in the field.	PSO2	PO1, PO2	**L4: Analyze**
			CO3: Delineate industrial regions and complexes in India, such as the Hooghly and Damodar regions.	PSO3, PSO7	PO3, PO5	**L4: Analyze**

			CO4: Assess the impact of Industrial Policies, Liberalization, Privatization, and Globalization on national development.	PSO5	PO4, PO6	**L5: Evaluate**
			CO5: Apply the concept of optimum location and multi-location industries to manufacturing sectors.	PSO4	PO2, PO5	**L3: Apply**
			CO6: Evaluate the characteristics and spatial distribution of major sectors like Iron & Steel, Textiles, and Cotton.	PSO6	PO4, PO6	**L5: Evaluate**
			CO7: Create strategic outlines for Special Economic Zones (SEZs) and Industrial Corridors for regional growth.	PSO5, PSO7	PO3	**L6: Create**
	24MGS9305T	Settlement Geography	**CO1:** Explain the nature, scope, and significance of settlement geography and the theories of its evolution.	PSO1	PO1	**L2: Understand**
			CO2: Analyze the site, location, types, and spatial distribution patterns of rural settlements.	PSO2	PO2	**L4: Analyze**
			CO3: Examine the morphology and architectural styles of house types in varied geographical environments.	PSO5	PO6	**L4: Analyze**
			CO4: Evaluate the origin and growth of cities across ancient, medieval, and modern periods.	PSO1, PSO6	PO4	**L5: Evaluate**
			CO5: Apply functional classification methods to Indian cities and analyze urban expansion factors.	PSO3	PO5	**L3: Apply**

			CO6: Appraise settlement hierarchy theories, including Christaller's Central Place Theory and Losch's application.	PSO4	PO4	**L5: Evaluate**
			CO7: Formulate planning strategies for rural service centers and address contemporary settlement policies.	PSO7	PO3	**L6: Create**
	24MGS9306T	**Regional Planning and Development**	**CO1:** Explain the conceptual and theoretical frameworks of regional planning and the role of geography in plan preparation.	PSO1, PSO7	PO1	**L2: Understand**
			CO2: Analyze the indicators and processes of regional development and disparities in India.	PSO2	PO2	**L4: Analyze**
			CO3: Examine different types of regions and utilize scientific methods for regionalization and demarcation.	PSO3	PO4	**L4: Analyze**
			CO4: Evaluate spatial theories of growth, specifically the Growth Pole and Growth Centre models.	PSO4	PO2	**L5: Evaluate**
			CO5: Apply modern technologies like RS, GPS, and GIS to address regional development challenges.	PSO6	PO5	**L3: Apply**
			CO6: Appraise regional planning case studies such as the Tennessee Valley Authority (USA) and the National Capital Region (India).	PSO6	PO6	**L5: Evaluate**
			CO7: Formulate sustainable environmental planning strategies for specific planning regions.	PSO3	PO3	**L6: Create**

	24MGS9307T	Statistical Methods in Geography	**CO1:** Explain the basic concepts of statistical geography and identify types of geographical data.	PSO1	PO1	**L2: Understand**
			CO2: Apply sampling methods for efficient and representative data collection.	PSO1	PO5	**L3: Apply**
			CO3: Present data through graphical formats like Histograms, Ogive curves, and Frequency polygons.	PSO5	PO6	**L3: Apply**
			CO4: Analyze measures of central tendency (Mean, Median, Mode) and dispersion (Standard Deviation).	PSO2, PSO3	PO4	**L4: Analyze**
			CO5: Examine spatial relationships using Rank Correlation and Co-efficient of Variation.	PSO4	PO2	**L4: Analyze**
			CO6: Evaluate statistical significance through the Chi-square test and other hypothesis testing steps.	PSO6, PSO7	PO7	**L5: Evaluate**
			CO7: Create a comprehensive statistical research framework to test geographical hypotheses.	PSO6	PO3	**L6: Create**
IV	**24MGS9401T**	**Political Geography**	**CO1:** Explain the nature, scope, and evolution of schools of thought in political geography.	PSO1, PSO7	PO1	**L2: Understand**
			CO2: Analyze the state-physical, human, and economic elements that constitute the geographical basis of politics.	PSO7	PO4	**L4: Analyze**

			CO3: Critically analyze the methodology of political geography and the functional unified theory.	PSO2	PO2	**L4: Analyze**
			CO4: Evaluate the concepts of frontiers, boundaries, and systems approaches in political geography.	PSO5	PO6	**L5: Evaluate**
			CO5: Apply global strategic views (Mackinder and Spykman) to understand the changing patterns of world power.	PSO4	PO5	**L3: Apply**
			CO6: Assess the impact of Colonialism, Neo-colonialism, and Federalism on global governance.	PSO3	PO6	**L5: Evaluate**
			CO7: Create a geopolitical profile of India and the SAARC region, emphasizing maritime and regional significance.	PSO6	PO3, PO7	**L6: Create**
	24MGS9402T	Geography of Rajasthan	**CO1:** Explain the physiography, relief, and drainage systems of Rajasthan.	PSO1	PO1	**L2: Understand**
			CO2: Analyze the causes of desertification and drought, and evaluate soil erosion and conservation strategies.	PSO1	PO2, PO6	**L4: Analyze**
			CO3: Evaluate the impact of major irrigation projects like Indira Gandhi Canal and Chambal Valley on regional development.	PSO2	PO1, PO6	**L5: Evaluate**
			CO4: Apply knowledge of energy resources (Solar, Wind, Hydro) to assess the state's power production potential.	PSO4	PO4	**L3: Apply**

				PSO	PO	
			CO5: Analyze the distribution of agriculture crops and identify problems in dairy and livestock development.	PSO3	PO2, PO3	**L4: Analyze**
			CO6: Assess the socio-economic status and distribution of major tribal groups like Bhils, Meenas, and Garasias.	PSO5	PO5	**L5: Evaluate**
			CO7: Create a profile of settlement patterns and house types based on regional building materials.	PSO7	PO7	**L6: Create**
	24MGS9403T	Geography of Water Resources	**CO1:** Explain the definition, scope, and inventory of water resources at world and national levels.	PSO1	PO1	**L2: Understand**
			CO2: Analyze the groundwater hydrological cycle and the consequences of groundwater overexploitation.	PSO2	PO4	**L4: Analyze**
			CO3: Examine water-related problems including pollution, salinity, alkalinity, and their impact on agriculture.	PSO7	PO2, PO6	**L4: Analyze**
			CO4: Evaluate methods for flood and drought management and traditional water conservation techniques.	PSO3, PSO4	PO2	**L5: Evaluate**
			CO5: Apply participatory approaches and integrated basin planning for sustainable water usage.	PSO5	PO5	**L3: Apply**
			CO6: Assess the causes and effects of the contemporary water crisis and inter-regional water disputes.	PSO6	PO6	**L5: Evaluate**

			CO	PSO	PO	Level
			CO7: Create strategic frameworks for watershed management and environmental disaster mitigation in Rajasthan.	PSO4	PO3, PO7	**L6: Create**
	24MGS9404T	**Basics of Remote Sensing**	**CO1:** Explain the meaning, scope, and historical development of remote sensing and its core components.	PSO1	PO1	**L2: Understand**
			CO2: Analyze Electromagnetic Radiation (EMR) characteristics and the significance of various spectral regions.	PSO4, PSO7	PO4	**L4: Analyze**
			CO3: Evaluate different types of remote sensing platforms, sensors, and satellite orbits.	PSO2	PO6	**L5: Evaluate**
			CO4: Analyze the geometry and image formation of aerial photography, including relief displacement.	PSO5	PO2	**L4: Analyze**
			CO5: Apply elements of image recognition and interpretation to identify features on aerial photographs.	PSO3	PO5	**L3: Apply**
			CO6: Assess digital image processing techniques, including supervised and unsupervised classification.	PSO6	PO5, PO6	**L5: Evaluate**
			CO7: Create a remote sensing-based framework for resource conservation and regional planning applications.	PSO1	PO3, PO7	**L6: Create**