Program outcomes, program specific outcomes and course outcome

Department of Physics

Program Outcomes (POs): The Physics department offers B. Sc in Physics

"Physics is the study of nature and its laws (till the most fundamental level), amongst the students. The Program Specific Outcomes (PSOs) and the Course Outcomes (COs) of the individual programs/courses/papers are more or less spun around this theme and are listed below.

Program Specific Outcomes (PSOs): For the Under-Graduate Physics program (B.Sc. Physics for PCM).

PSO1: Understanding the fundamental concepts of Physics and its basic laws.
PSO2: Acquire the necessary mathematical-tools and concepts required for understanding the underlying physics.
PSO3: Acquire theoretical and experimental knowledge/skill related to the physical phenomenon, as well as the ability to connect both (theory & practical).
PS04: Acquire problem solving skills and ability to apply them to real world physical phenomenon.
PS05: Motivation to pursue higher studies (Postgraduate, Research etc.) in Physics.

Course Outcomes (COs): For the Under-Graduate Physics program (B.Sc. Physics for PCM)

B.Sc I year	
Mechanics	Understanding - Frame(s) of Reference, Newton's Laws (along with application for point particles as well as system of particle), (conservative) force and potential energy, Work-Energy Theorem, Rocket motion. Understanding quantities and ideas related to rotational motion- Angular Velocity, Angular momentum, Torque, Moment of Inertia (calculations and related theorems), Conservation of Angular Momentum. Understanding Newton's law of gravitation, Gravitational Field, Potential & Potential Energy, Central force, Kepler's Laws of Planetary motion, Satellite and Planetary orbits and motions. Understanding material properties such as elasticity, stress, strain, various elastic constants and their relationships, Experimental methods to determine the various elastic properties. Understanding fluids at rest (surface tension, excess pressure) as well as in motion (viscosity, flow through capillary tube, Bernoulli's theorem, Poiseuille's formula), Experimental methods to determine surface tension and viscosity.
Electricity and Magnetism	Understanding vector analysis (applying concepts for problem solving), the nabla operator (Gradient, Divergence & Curl), Differentiation and Integration of Vectors (fields), Integral Theorems (Gauss, Stokes, Green and corollaries). Understand the basic concepts of Electrostatics-Field, Flux, Gauss's Theorem with applications, Potential and relation with Field, Potential Energy. Also concept of conductors, dielectrics and capacitance, The Electric-Vector. Understand the basic concepts of Magnetostatics-Biot-Savart's Law and applications, The Lorentz Force law, Div and Curl of magnetic field and the magnetic vector potential, Ampere's circuital law, Magnetism in matter (Magnetization, Permeability, Susceptibility) and

	Types of Magnetic materials (Dia, Para & Ferro). Understanding inductance (self and mutual and induction), Faraday's Law, Lenz' Law & energy conservation, AC circuits- RC, LC and LCR, Resonance. Realizing that EM is contained in the 4 Maxwell's Equations, Understanding equation of continuity, displacement current, Maxwell's correction to Ampere's circuital law. Gain knowledge on EM waves, propagation and their properties using Maxwell's equations, Polarization of EM Waves.
Waves, Oscillations & Acoustics	Understanding Simple Harmonic Motion, the Harmonic Oscillator Equation and solutions, Linearity and Superposition principle, Superposition of Harmonic Oscillations- Collinear (Interference & Beats) and Perpendicular (Lissajous Figures). Understanding waves and wave motion, Waves on a string (travelling and standing), Normalmodes, Group and Phase velocities. Understanding the Fourier Theorem and its applications. Understanding Damped Harmonic Oscillations, Over/Under/Critical damping, Relaxation time, LCR circuit. Understanding Forced Harmonic Oscillations, Transient and Steady state behavior, Resonance and Sharpness, Bandwidth, Quality Factor. Understanding intensity and loudness of sound waves, Decibels, Ultrasonic waves (generation, detection and uses), Building acoustics, Reverberation time and Sabine's formula, (Acoustic) design of buildings.
	The various practical included in the Physics syllabus of B.Sc. 1 are aimed at understanding (and measuring) the phenomenon/ quantities studied in the theory papers (e.g. ideas about Moment of Inertia, Elastic constants, Simple & Compound pendulums, Current, Voltage, Resistances, Solenoid, LCR circuit, SHM, Normal modes of a string etc.). The student should use and develop "hand-skills", observation-skills, mathematical tools (analytical, numerical, graphical etc.) to connect theory with experiments
B. Sc II Year	
Thermal Physics & Statistical Mechanics	Understanding the basic thermodynamic concepts- State variable, Equilibrium, Heat, Work, Zeroth and First Laws and the concepts of Temperature and Internal Energy, Applications of First Law to various processes (Adiabatc, Isothermal etc.), Mayer's relation. Understanding the need of second law of thermodynamics, Reversible & Irreversible processes, Heat Engine and Refrigerator, Second Law of Thermodynamics (in term of Engines and Refrigerators), Concept of Entropy, The Carnot's cycle, Second law in terms of entropy change, Third law of thermodynamics (the Nernst theorem). Understanding the four thermodynamic potentials, The Maxwell's relations and applications (response functions, Joule-Thompson cooling, Calusius- Clapeyron equation etc.) Understanding the Kinetic Theory of Gases (towards a microscopic description), Maxwell's velocity distribution law, transport phenomenon, the classical equipartition theorem and its use to determine specific heats of mono-atomic and diatomic gases. Understanding Blackbody radiation (the first step towards quantum mechanics), Spectral emissive power, Energy Density of Cavity Radiation, The Rayleigh-Jeans Law, Planck's law and deducing Wien's displacement law, Wien's distribution laws (1 st and 2nd), Stefan-Boltzmann law and Rayleigh-Jeans from it
Optics	Understanding Geometrical Optics- Fermat's principle of extremum path and applications, Cardinal points, Combination of Lenses, Lagrange equation of magnification. Understanding optical instruments- Eye pieces (Ramsden's, Huygen's and Gaussian), Aberrations (and types) and their corrections. Understanding the Interference of Light- The superposition principle, Coherence and conditions for interference, Double slit interference, Division of amplitude and division of wavefront, Fresnel's Biprism, Phase change upon reflection, Thin-film interference (Haidenger

	and Fizeau fringes), Newton's rings (theory and experimental setup), The Michelson Interferometer and its (experimental) use, Fabry-Perot interferometer. Understanding diffraction of light- Fresnel diffraction, Half-period zones and zone-plate, Diffraction pattern of edge, slit and wire, Fraunhofer diffraction (single, double and multiple slits), The diffraction grating as a measurement tool. Understanding polarization of light- Transverse EM Wave, Plane polarized light (production and analysis), Malus Law, Brewster's Law, The Nicol Prism, Circularly and Elliptically polarized light, Optical rotation, The polarimeter (experimental setup also).
Solid State Physics	Understanding Crystal Structure, Lattice, Basis, Bravais Lattice, Unit Cell, The seven crystal systems and the fourteen Bravasis lattices; SC, BCC, FCC, HCP and diamond structures, NaCl, CeCl and Zinc Blende structures. Understanding reciprocal lattice, Brillouin Zone, Reciprocal lattices of SC, BCC and FCC lattices, Miller indices, X-ray diffraction, Bragg's Law, Methods of X-ray diffraction (Laue, Powder, Rotating Crystal). Understanding lattice vibrations and phonons (sound quanta), Monoatomic and Diatomic chains, Acoustical and Optical branches, Specific heats of solids (Dulong-Petit, Einstein and Debye theories), the T3 law. Understanding the free electron theory of metals (the electron gas), Lorentz-Drude Theory, Properties of metals (Thermal and Electrical conductivities, Electronic specific heat, Thermionic emission), Widemann-Franz relation, Sommerfeld theory. Understanding the basics of band theory- the Kronig-Penny model, Band gaps, Conductors, Semiconductors and Insulators, Intrinsic and Extrinsic Semiconductors (P & N type), Conductivity, Hall effect and Hall coefficient
Practical (B.Sc. 2 Year)	The various practical included in the Physics syllabus of B.Sc. 2 are aimed at understanding (and measuring) the phenomenon/ quantities studied in the theory papers (e.g. ideas about thermal conductivity, blackbody radiation, calorimetric, statistical probabilities, dispersion, interference, gratings, lens combinations, polarization etc). The student should use and develop "hand-skills", observation-skills, mathematical tools (analytical, numerical, graphical etc.) to connect theory with experiments
B.Sc III Year	
Quantum Mechanics	Understanding the origins of quantum theory- Blackbody radiation and early radiation laws, Planck's (revolutionary) idea (the quantum hypothesis & birth of quantum mechanics), Photoelectric and Compton effects. Understanding the wave nature (and hence dual nature) of matter, De Broglie's idea of matter waves and their wavelength, Davisson-Germer Experiment, Wave-particle duality, The uncertainty principle (position-momentum and Energy-time), Interference experiments with particles. Understanding the Schrodinger's equation (quantum mechanical equation of motion), Time dependent and time-independent versions, Framework of QM (postulates, wavefunctionproperties and physical significance), Probability and Conservation, Operators, Eigenfunctions and Eigenvalues, Expectation values, The free particle wavefunction. Learning to solve the Schrodinger's equation, Stationary states, Boundary conditions lead to quantization, Potential Step & Barrier and transmission, Potential well (infinite and finite depths), The one dimensional harmonic oscillator in QM, Zero point energy. Learning to solve the Schrodinger's equation in three dimensions (for spherically symmetric systems), The Schrodinger's equation for the Hydrogen atom and solving it using separation of variables, Angular

	momentum eigenfunctions (spherical harmonics), Solving the radial equation using Frobenius's method, Emergence of the various quantum numbers (n, l and m)
Modern Physics	Understanding the various atomic models- Thomson, Rutherford and Bohr, the Bohr model and the hydrogen spectra, Other quantum ideas/experiments- Bohr-Sommerfeld model and quantization condition, the Stern-Gerlach experiment and electron spin, Electron magnetic moment, Bohr magneton, Larmor's precession, The vector atom model, Space quantization. Understanding optical spectra (on the basis of the vector atom model), LS and JJ couplings, Selection and Intensity Rules, The fine structure of sodium D lines, Magnetic interactions and Zeeman effect, X-ray spectra and Moseley's Law. Understanding basics of radiation, Absorption and Emission (spontaneous and stimulated), The Einstein's A and B coefficients, Metastable states (long living), Population inversion, Pumping, Lasing action and Laser/Maser. Understanding the atomic nucleus, Constituents of the nucleus, properties, Nature of nuclear force, Binding Energy and BE curve, Stable nuclei, The semi-empirical mass formula, Models of the nucleus (Liquid drop and Shell model). Understanding radioactivity, Decay of nuclei, Radioactive decay law, Mean and half life, alpha, beta and gamma decays and their features, Pauli's neutrino prediction, Ideas of fission and fusion of nuclei, Mass deficit and energy generation, Controlled nuclear fission and the nuclear reactor, Energy production in stars, Particle detectors.
Basic Electronics	Understanding elementary semiconductors and devices (intrinsic, extrinsic- P & N), the PN diode and its characteristics in forward and reverse bias, Zener diode, Optoelectric devices- LEDs, Photodiode and Solar cell. Understanding diode circuits- The rectifier- Half-wave, Full-wave (Centre tapped and Bridge versions), Ripple factor and Efficiency, Filters (C, L, Pi etc.), Clipping and Clamping circuits using diodes, Voltage multipliers, Zener diode and voltage regulation. Understanding transistors and amplifiers- Bipolar Junction transistors (NPN, PNP), Characteristics (input and output) in various configurations (CE, CB & CC), Current gains alpha and beta and their relation, Load line analysis, Q-point, Active, Cutoff and Saturation regions, Transistor biasings; Transistor Amplifiers- Voltage, Current and Power, Class A, B and C amplifiers; The Field Effect Transistor (FET) and the Uni-Junction Transistor (UJT) Understanding Oscillator circuits- Feedback (negative and positive), Birkhausen's criterion, RC (Wein bridge and Phase-Shift) & LC (Collector tuned and Colpitt) oscillators and frequency of oscillation, Crystal oscillators, The Multivibrator and various operation modes (Monostable, Astable and Bistable). Understanding Digital Electronics and Circuits- Number systems (Binary etc.) and conversions, Basic Logic Gates (AND, OR & NOT) and realizations using diodes and transistors, Universal Gates (NAND & NOR), Other gates, Boolean Algebra- De Morgan's Theorem, Simplifying logic circuits, Minterm, Maxterm, SOP and POS, Karnaugh Map, Binary arithmetic (addition, subtraction) using circuits- Half/Full adders, Word (4-bit) binary adder-subtractor
Practical (B.Sc.	The various practical included in the Physics syllabus of B.Sc. 3 are

3rd Year)	aimed at understanding (and measuring) the phenomenon/ quantities studied in the theory papers (e.g. ideas about Energy quanta, quantization, diodes, LEDs, rectifiers, power supplies, transistors, amplifiers, oscillators, logic gates, Boolean algebra, logic circuits etc). The student should use and develop "hand-skills", observation-skills, mathematical tools (analytical, numerical, graphical etc.) to connect theory with experiments.

Department Of Mathematics

Program Outcomes (POs): The Department of Mathematics offers B. Sc in mathematic. At the graduation level specific outcome are as follow:

PO1: HELPED STUDENTS TO CHANGE THEIR ATTITUDE REGARDING CURRENT SYLLABUS AND PREVIOUS KNOWLEDGE.

PO2: MADE MATHEMATICS LITTLE BIT EASY ACCORDING TO THEIR KNOWLEDGE AND INTEREST.

PO3: HELPED STUDENTS TO DEVELOP INTEREST FOR MATHEMATICS SUBJECT BY GIVING THEM WAY.

PO4: TO RELATE MATHEMATICS WITH THEIR EVERY ACTIVITY IN THEIR PHYSICAL WORLD.

Program Specific Outcome:

- HELPED STUDENTS TO UNDERSTAND THE CONCEPT RELATED TO DIFFERENTIAL CALCULUS, INTGRALCALCULUS, TRIGONOMETRY, ALGEBRA, MATRICES, DIFFERENTIA EQUATIONS,REAL ANALYSIS, ADVANCED ALGEBRA, LINEAR ALGEBRA, LINEARPROGRAMMING, COMPLEX ANALYSIS AND NUMERICAL ANALYSIS.
- MADE THEM ABOVE TOPICS INTERESTING ACCORDING TO THEIR NEEDS, KNOWLEDGE ANDINTERESTS.

Course Outcome: For the Under-Graduate Mathematics program (B.Sc. Physics for PCM)

Algebra: The concepts and results of Algebra are fundamental to the study of Mathematics and represent a human achievement of great beauty and power.

Real Analysis

Real Analysis is a major course in Mathematics, traditionally viewed as the difficult subject. Beauty and creativity involved in this important area of mathematics is highly appreciable. **Differential Equations**

After completing the course, students will be able to formulate and solve differential equations arising from changes in physical world.

Mechanics

The objective of the course is to understand how one can use theory of calculus of determine centre of gravity, velocity and acceleration of a particle along a cause etc.

Linear Programming

After studying course, students will be able to formulate a given simplified description of a suitable real world problem as a linear programming model in general, standard canonical forms.

Differential and Integral Calculus

Upon completion of this course, students will be able to interpret a function from an algebraic, numerical, graphical and verbal perspective and extract information relevant to the phenomenon modeled by the function, students also will able to study, how to differentiate and integrate standard functions.

Department Of Chemistry

Purpose of the program and program outcomes

Purpose of the program: The purpose of the undergraduate chemistry program at the university and college level is to prepare our students for all those fields where basic knowledge of chemistry is required including academia for careers as professionals in various industries and research institutions.

Program outcomes: Students will have a firm foundation in the fundamentals and applications of chemical and scientific theories including those in analytical, inorganic, organic and physical chemistry. Students will also be able to design and carry out scientific experiments as well as accurately record and analyze the data of such experiments. Students will develop skill in problem solving, critical thinking and analytical reasoning as applied to scientific problems. Students will be able to explore new areas of research in both chemistry and allied fields of science and technology. Students will appreciate the central role of chemistry in our society and use this as a basis for ethical behavior in issues facing chemists including an understanding of safe handling of chemicals, environmental issues and key issues facing our society in energy, health and medicine. Students will be able to explain why chemistry is an integral activity for addressing social, economic, and environmental problems.

Course outcomes

B. Sc I Year: This course will give the student a basic knowledge of all the fundamental principles of chemistry like atomic structure, molecular polarity, bonding theories of different molecules, resonance concept, hyperconjugation, field effects, periodic properties of more than 111 elements, mechanism of organic reactions, stereochemistry, detailed study of states of matter including kinetic theories of gases, solid and liquid states, chemistry of aliphatic and aromatic compounds, chemical kinetics, its scope and first law of thermodynamics. Student will also be able to understand the qualitative and quantitative chemical analysis of the compounds in the laboratory. This course is definitely going to prepare the students for various fields of chemistry and will give an insight into all the branches of chemistry.

B. Sc II Year: This course will provide the theoretical as well as practical knowledge of handling chemicals, apparatus, equipment and instruments. The knowledge about second law of thermodynamics, chemical equilibrium, phase equilibrium, electrochemistry, coordination chemistry, acid-base theories, chemistry of transition elements, halides, alcohols, phenols, aldehydes, ketones and carboxylic acids will enable the students to work as chemists in various industries. The experimental work during the this course will enhance the skill of the students regarding chemical and physical tests of inorganic as well as organic compounds along with some physical experiments which will be beneficial to achieve their goals in industrial sectors.

B. Sc III Year: This course will introduce very important aspects of modern-day course curriculum, namely, chemistry of nitrogen containing compounds, organometallic, lipids, fats, dyes, paints, reagents in organic synthesis, carbohydrates, proteins, biomolecules, data analysis, nano-chemistry, green chemistry, stability of coordination compounds, cement, paint, ceramics, glass, inorganic fertilizers, radioactivity, corrosion, magnetic behaviour of transition metal complexes, surface chemistry, quantum mechanics, solutions, third law of thermodynamics, photochemistry, and spectroscopic techniques. This knowledge will make the students skilled to work in various chemical industries like cement industries, agro product, paint industries, rubber industries, petrochemical industries, food processing industries, fertilizer industries, pollution monitoring and control agencies etc. It will also enable the students to understand the importance of the biomolecules in biological science and related fields. Upon completion of this course, students will able to employ critical thinking and scientific inquiry in the performance, design, interpretation and documentation of laboratory experiments.

Department of Zoology

Programme Outcome after Certificate Course (First Year):

After completing first year, students are able to get certificate in clinical diagnostics and biochemistry. This will helps students to generate employment in field of clinical and medical lab/institutions/gene bank/stem cell culture/ Pharma companies etc.

Course Outcomes After First Semester

ANIMAL PHYSIOLOGY

1. Understood about the composition of food and mechanism of digestion and absorption of different biomolecules.
2. Attained knowledge of respiration and excretion and understood the mechanism of transport of gases and urine formation.

3. Described the mechanism of circulation and composition of blood
4. Knowledge of neuromuscular coordination.

The entire animal's functions of the body are studied in this part. It includes nutrition, respiration, heart, excretion, nerve physiology etc. in which all structure, function, process and control are to be studied.

BIOCHEMISTRY

All the biochemical components of the body system are studied. It helps the student to get a view about the chemical compositions of different biochemical compounds. It also includes the pathway and chemical which are responsible for the energy production in our body.

1. Described the enzymes, mechanism of enzyme action and factors affecting the enzyme activity
2. Understood the types and importance of vitamins
3. The student will be able to explain the structure, functions and reactions of the various biomolecules.

- Overall the students would have learned the structures and functions of various organs and their organized systems to help a living organism thrive in its environment. The students are expected to have gained considerable knowledge about the role of various chemicals that controls the living systems of an organism.

Programme Outcome After completing B.Sc. in Zoology

This program is one of the most fundamental unit of basic sciences studied at undergraduate level. The program helps to develop scientific tempers and attitudes, which in turn can prove to be beneficial for the society since the scientific developments can make a nation or society to grow at a rapid pace. After studying this program, students will be more equipped to learn and know about different biological systems, their coordination and control as well as evolution, behavior and biological roles of the animals in the ecosystem. Moreover, they will be able to qualitatively and quantitatively analyse evolutionary parameters using various bioinformatics and computational tools used in modern sciences. This will provide them ample opportunities to explore different career avenues. The program will also provide a platform for classical genetics in order to understand distribution or inheritance of different traits and diseases among populations, their ethnicity and correlate with contemporary and modern techniques like genomics, metagenomics, genome editing and molecular diagnostic tools. After completion of this course, students have the option to go for higher studies. After higher studies, students can join as scientist or assistant professor or assistant teacher and can even look for professional job oriented courses, such as Indian Civil Services, Indian Forest Service, Indian Police Service etc. Science graduates can go to serve in industries or may opt for establishing their own industrial unit. Practical and theoretical skills gained in this program will be helpful in designing different public health strategies for social welfare. The program has been designed to provide in-depth knowledge of applied subjects ensuring the inculcation of employment skills so that students can make a career and become an entrepreneur in diverse fields. After the completion of the B.Sc degree there are various other options available for the science students.

Students enrolled in B.Sc. degree program in Zoology will study and acquire complete knowledge of disciplinary as well as allied biological sciences. They are able to correctly use biological instrumentation and proper laboratory techniques. Students will be able to communicate biological knowledge in oral and written form. Students will be able to identify the relationship or synchronization between structure and function at all levels: molecular, cellular, and organismal. Students should be able to identify, classify and differentiate diverse chordates and non-chordates based on their morphological, anatomical and systemic organization. They will also be able to describe economic, ecological and medical significance of various animals in human life. This will create a curiosity and awareness among them to explore the animal diversity and take up wild life photography or wild life exploration as a career option. The procedural knowledge about identifying and classifying animals will provide students professional advantages in teaching, research and taxonomist jobs in various government organizations; including Zoological Survey of India and National Parks/Sanctuaries. Students will be able to apply the scientific method to questions in biology by formulating testable hypotheses, gathering data that address these hypotheses, and analyzing those data to assess the degree to which their scientific work supports their hypotheses. Students will be able to present scientific hypotheses and data both orally and in writing in the formats that are used by practicing scientists. Students will be able to access the primary literature, identify relevant works for a particular topic, and evaluate the scientific content of these works. Acquired practical skills in biotechnology, biostatistics, bioinformatics and molecular biology can be used to pursue career as a scientist in drug development industry in India or abroad. The students will be acquiring basic experimental skills in various techniques in the fields of genetics; molecular biology; biotechnology; qualitative and quantitative microscopy; enzymology and analytical biochemistry. These methodologies will provide an extra edge to our students, who wish to undertake higher studies. Students will be able to use the evidence of comparative biology to explain how the theory of evolution offers the only scientific explanation for the unity and diversity of life on earth. They will be able to use specific examples to explicate how descent with modification has shaped animal morphology, physiology, life history, and behavior. Students will be able to explain how organisms function at the level of the gene, genome, cell, tissue, organ and organ-system. Drawing upon this knowledge, they will be able to give specific examples of the physiological adaptations, development, reproduction and behavior of different forms of life. Students will be able to explicate the ecological interconnectedness of life on earth by tracing energy and nutrient flows through the environment. They will be able to relate the physical features of the environment to the structure of populations, communities, and ecosystems. Students undertaking skill enhancement courses like aquaculture, sericulture and apiculture will inculcate skills involved in rearing fish, bees and silk moth which would help them in starting their own ventures and generating self-employment making them successful entrepreneurs. Acquired skills in diagnostic testing, haematology, histopathology, staining procedures etc. used in clinical and research laboratories will provide them opportunity to work in diagnostic or research laboratory. Candidates find opportunities in government departments, environmental agencies, universities, colleges, biotechnological, pharmaceutical, environmental/ecological fields. There are numerous career opportunities for candidates completing their B.Sc., M.Sc. and Ph.D. in Zoology in public and private sector. Candidates may find jobs as Animal Behaviourist, Conservationist, Wildlife Biologist, Zoo Curator, Wildlife Educator, Zoology faculty, Forensic experts, Lab technicians, Veterinarians etc.

Course Outcome after B.Sc. II Year:

CHORDATA

1. Students will understand and identify the taxonomic status of the entire chordates. They will understand classification, structure, function and biology of chordates of different taxonomic classes.
2. Make able to discuss some and very important phenomena in Chordates.
3. They will also learn some special topics like snake bites, migration of birds, parental care of amphibian etc.

ANIMAL PHYSIOLOGY AND BIOCHEMISTRY

Already discussed above.

MOLECULAR BIOLOGY, BIOTECHNOLOGY AND MICROBIOLOGY

Biological studies needs some equipment's for it analysis of different functions. In this chapter students may understand about the quantitative and qualitative results.

Students will acquire knowledge about replication, transcription, translation, post transcriptional and post translational modifications, gene regulation, DNA repair mechanisms and various molecular tools and techniques like PCR, southern, northern and western blotting, recombinant DNA technology etc. They will also know the various tools and techniques related to bacterial microbiology. They will also

Attained knowledge the history, branches and scope of biotechnology and gene transfer technique. Understood the principle and applications of biotechnology techniques such as PCR and DNA finger etc. They also get the brief knowledge about biotechnological innovations in area of medical, agriculture, industrial and forensic science.

Course Outcome after B.SC. III YEAR

ENDOCRINOLOGY AND APPLIED ZOOLOGY

This paper gives an idea about the glands which works inside the body and secretes a chemical called hormone. How it is classified, how it works and the regulation of these hormones are discussed here. It give a clear picture of its function.

The students are expected to have gained considerable knowledge about the role of various chemicals and hormones that controls the living systems of an organism.

Students will acquired knowledge of applied zoology such as sericulture, lac culture, aqua culture, hatchery management, induced breeding etc. which will help them in starting their own venture and generating self-employment making them successful entrepreneur.

ECOLOGY, CONSERVATION BIOLOGY AND ANIMAL BEHAVIOUR

Understood and appreciate the environment and ecological services of life on earth. Understood the abiotic factors of environment and biogeochemical cycle and intraspecific relationships of animals. Acquired knowledge of ecosystem, food chain, energy flow and productivity and understood pond as a model ecosystem imparted knowledge of habitat ecology, pollution and bioremediation of polluted environment.

Student will be learning the various issues related to biodiversity loss and conservation as well as status, conditions, conservation and management of forests and wildlife. They will also acquire knowledge about Indian wildlife and also about protected areas such as national parks and sanctuaries.

Students will be understanding the various features and aspects of population ecology, community ecology and ecosystem ecology. They might have the knowledge about environmental biology in details. They will acquire knowledge about various tools and techniques of field ecology.

Students will also understand about different animal behavior such as biological rhythms, biological clock and photoperiodism etc.

DEVELOPMENT BIOLOGY AND TOXICOLOGY

Students would have understood the process of development in different animals. Students will learn the different aspects of early, late and post embryonic developments. They also have knowledge about extra- embryonic membrane, placenta, neurulation, primary organizer, induction, differentiation and organogenesis.

TOXICOLOGY

Students will demonstrated an understanding of basic concepts of toxicology and they are able to differentiate between natural, food and chemical toxins. They will also acquire knowledge about environment toxicology. They will also understand detail concepts of air and water pollution. They also learn about pesticides, insecticides, fungicides and herbicides.

Department of Botany

Program Out Comes

The program will increase the ability of critical thinking, development of scientific attitude, handling of problems and generating solutions improve practical skills, enhance communication skills, social interactions and increase awareness in judicious use of plant resources by recognising the ethical value system. The Training provided to the students will make them competent enough for doing jobs in Govt. and private sectors of academia, research and industry along with graduate preparation for national as well as international competitive examinations, especially UGC-CSIR NET, UPSC Civil Services Examination, IFS, BSI, FRI etc. The program is framed to generate self-entrepreneurship and self employability, if multi exit is opted. Life long learning is achieved by drawing attention to the vast world of knowledge of plants and their domestication. Students will be able to know about habit, habitat, morphology, anatomy and reproduction of various plant groups. The program will provide knowledge on plant anatomy, embryology and cytogenetics. Laboratory sessions following theory will provide easy understanding of internal structure of various plant parts, structural organization, reproductive biology and genetics. This program will help students to become a plant morphologist. It will provide expertise in conservation biology and reproduction biology. After completing this course successfully students will be able to contribute in the field of plant sciences. The research project will help to develop research aptitude for higher education and scientific research.

Course Outcomes: 1) Develop understanding about the classification and diversity of different microbes including, viruses, Algae, Fungi and Lichens and their economic importance.

2) Learn host-pathogen relationship and disease management.

3) Develop critical understanding on morphology, anatomy and reproduction of Bryophyta.

4) Understand the instruments, techniques, lab etiquettes and good lab practise for working in a microbiological laboratory.

5) Practical skills in the field and laboratory experiments in Microbiology and Pathology.

6) Develop critical understanding on morphology, anatomy and reproduction of Pteridophytes, Gymnosperms and Angiosperms.

7) Understanding of plant evolution and their transition to land habitat.

8) To learn the major patterns of diversity among plants and the characters and types of data used to classify plants.

9) To discover and use diverse taxonomic resources, reference materials, herbarium collections, publications.

10) Morphology and Anatomy of Dicotyledons and Monocotyledons.

11) Understand the composition, modifications, internal structure and architecture of plants.

12) Understand reproduction and developmental changes in plants.

13) Understand the structure and chemical composition of chromatin and concept of cell division.

14) Interpret the Mendel's principles; acquire knowledge on cytoplasmic inheritance and sex-linked inheritance.

15) Understand the pollination and seed dispersal mechanism.

16) Understand cell structure, nucleic acids, organisation of DNA in prokaryotes and Eukryotes, DNA replication mechanism, genetic code and transcription process.

17) Know about procession and modification of RNA and translation process, function and regulation of expression.

18) Understand the basic tools and techniques used in Plant tissue culture.

19) Know about the importance of medicinal plants and its useful parts, economically important plants in our daily life and also about the traditional medicines and herbs, and its relevance in modern times.

20) Understand the plant breeding systems and heterosis and mutation in plant breeding.

21) Learn the basic structure and function of cells and instruments used in molecular biology.

22) Know about the commercial products produced from plants.

23) Understand about the ethno botanical details of plants.

24) Learn about the chemistry of plants and herbal preparation.

25) Understand the role of physiological and metabolic processes for plant growth and development.

26) Learn the symptoms of mineral deficiency in crops and their management.

27) Assimilate knowledge about Biochemical constitution of plant diversity.

28) Know the role of plants in development of natural products, nutraceuticals, dietary supplements and antioxidants.

29) Acquaint the students with complex interrelationship between organisms and environment.

30) Understand the strategies for sustainable natural resource management and biodiversity conservation.

31) Practical knowledge of the different statistic tools and techniques.

32) Develop conceptual skill about identifying microbes, and bio-fertilizers.

33) Gain knowledge about developing commercial enterprise of bio-fertilizers.

Department Of English

Programme outcomes (POs):

The programme aims to:

- Educate students in both the artistry and utility of the English language through the study of literature and other contemporary forms of culture.
- Graduate students who are capable of performing research, analysis, and criticism of literary and cultural texts from different historical periods and genres. o Assist students in the development of intellectual flexibility, creativity, and cultural literacy so that they may engage in life-long learning
- Develop an appreciation of English language, its connotations and interpret and appreciate the didactic purpose of literature.
- Develop in students a deep-rooted pride in being Indian.
- Unravel the historical, social and cultural context of each literary work and thereby make Connections between literature and society & appreciate literature's ability to empower us emotionally.
- Sensitize students to the aesthetic, cultural and social aspects of literature.
- Present an extensive view of the cultural and social patterns of the society in the specific time and situations in which it flourished resulting in an intellectual and emotional engagement with the work.
- Make students aware of the different kinds of literature written/translated in various English-speaking countries across the world as well as the literature from Asia.
- Develop a more complex understanding of the history, literature, narrative techniques, Drama techniques, kinds of fiction and drama from Britain, America and India.
- Augment the understanding of fundamental tenets of classical literature.
- Develop an understanding of the various connotations of the term "New Literatures" and the difference from other terms like Commonwealth Literature etc.

- Develop an insight regarding the idea of world literature and the pertinent issues of feminism, racism and diasporic relocations.
- Provide job opportunities through "skill-based" courses.
- Instill in students a new zeal and a new vision of life to make them better citizens.
- Recreate a response through creative indulgences like script-writing, dialogue writing, and be able to exploit his/her creative potential through digital media.
- Engage students with various strategies of drafting and revising, style of writing and analytical skills, diagnosing and developing scholarly methodologies, use of language as a means of creative expression, will make them effective thinkers and communicators.
- Empower students with knowledge of existing research methodologies and critical thinking.
- Comprehend and contextualise contemporary films adapted from literature, to describe objectively its importance and usefulness for the society while analysing its plot and characters.
- Comprehend translation as a useful bridge between various linguistic regions.
- Assist students towards English language comprehension, intellectual flexibility, creativity, and cultural literacy so that they may engage in life-long learning.
- Acquire basic skills to pursue translation as research and career.
- Introduce the learners to the nuances of the changing media scenario in terms of production of media content.
- Inculcate in them the skills of reporting, editing and feature writing in print medium to have a career perspective in media and journalism.
- Strengthen their grasp of the interrelationship between Culture and Society.
- Help students prepare for various national and international competitive exams.
- Create a possibility for the students to emerge as prospective writers, editors, content developers, teachers, etc.

Course Outcomes:

- Introduction to English Prose – writers.
- Detailed Study of prose writers like Francis Bacon, Charles Lamb, Addison & Steele, Samuel Johnson, A.G. Gardiner, Oliver Goldsmith, Robert Lynd, Bertrand Russel, M K. Gandhi, Pt. Neharu S. Radhakrishnan, and R. K. Narayan.
- Define and distinguish various types of prose and prose- styles.
- Understand important terms pertaining to prose writings, including various stylistic and figurative
- To develop critical thinking of students
- To enable them to write and appreciate different types of prose¬

Paper II Shakespearean Drama

Course Outcomes:

- To enhance the understanding of Shakespearean drama, its aim and features.
- Gain an introductory knowledge of the development and significance of literature in English.
- To generate the power of understanding of moral, social, political, and cultural vallues of Shakespearean drama.

B. A. Second Year Paper I – Poetry

Course Outcomes:

- Familiarization with poetry, Stanza forms & representative poets of each age.
- To cultivate student centric developments in the field of creativity.

- Study of English Poets – Shakespeare, Keats, Milton, John Donne, Alexander Pope, Thomas Gray, William Blake, Wordsworth, Shalley, Keats, Coleridge, Tennyson, Browning, T. S. Eliot and W.B. Yeats.
- To generate the imaginative thinking amongst the student.
- To promote the poetic writings.
- To introduce the students to the basic elements of poetry- to enrich the students through various perspectives readings in poetry.

Paper II Fiction

Course Outcomes:

- To develop critical thinking and imagination through long and short fiction and to familiarize students with cultural diversity through different representative samples of fiction.
- Introduction to English and Indian Fiction writers like Thomas Hardy and R. K. Narayan.
- Gaining knowledge of the major traditions of English Literature and developing the ability to read texts in relation to their socio-historical and cultural contexts.
- Understanding critical approaches to literature.

B. A. Third Year Paper I – Indian and American Poetry

Course Outcomes:

- Study of Indian English Poets– Toru Dutt, Sarojini Naidu, R.N. Tagore, Nissim Ezekiel, Aurobindo Ghosh, and Kamala Das.
- Study of American Poets – Whitman, Emily Dickinson, Rudyard Kipling, Ezra Pounds Robert Frost and Sylvia Plath.
- Introduction to Indian Writing in English.

Paper II Drama

Course Outcomes:

- Study of Dramatists like G. B. Shaw and J.M. Synge.
- On completion of the course, the students should be familiar with the plays of master-dramatists and will have developed the ability to appreciate and evaluate various types of plays.
- To inhance the thinking power of the students and to connect drama of ideas.

Department of History

Being a subject of social science, history has its own value in society and human life. It helps the students to develop their ethical and social value. They could gather knowledge about the heritage and tradition of their own country and the others.

There is huge potentiality in future of a history student. Various options are opened to history students to choose their career. First of all, history is a subject from primary education level to higher study, so they can engage themselves in teaching profession in primary, secondary and post secondary schools. History is also helpful for those who are preparing for UPSC and UKPSC. A history student may choose his or her career in journalism or any other editorial board. They may get job in museum, archives and libraries. Beside those, in the field of research and archaeology they may proceed.

Program Specific Outcomes (P.S.O.) : –

- Understand the background of Indian customs, religions, administration etc.
- Understand the current existing social, political, religions & economic conditions of people.
- Analyze the relationship between the past and the present.
- Develop practical skills helpful in the study & understanding of historical events.
- Draw historical maps, charts, diagrams etc.
- Develop an interest in the study of History.

Course Outcomes: –

- Political History of Medieval India
  1200 – 1526 A.D. - Source material, historiography, rise of Arab invasion & Turks, Slave Dynasty, Tughlaq Dynasty, Lodhi Dynasty.
- History of World
  Renaissance, Reformation, Rise of National States, Rise of France, Industrial Resolution, Enlightened Despotism, Rise of Modern Russia, Austria, Americal War of Independence, Commercial Resolution, Age of Reason.
- Political History of Medieval India 1526-1740 A.D. Babur, Akbar, Jahangir, Shahjahan, Aurangzeb, Rise of Marathas, Administration.
- History of World 1789 – 1945 A.D.
- French Resolution, Napoleonic Era, Vienna Congress, Concert of Europe, Age of Metternich, Revolutions, Unification of Germany, Eastern Question, Crimean War.
- Political History of Modern India 1740 – 1964 A.D.
- Advent of Europeans, British Raj, Gandhian Movement, Pre and Post partition politics, Development of Science & Technology in Modern India.
- Bismarck, World Wars, Nazi Germany, Disarmament, Fascism, Economic Slump, Cold War, United Nations Organization.

History of India from the Earliest Times up to 1206 CE

Course Outcomes:

- The present course will be useful in providing a comprehensive understanding to the evaluation of early Indian society and the student will be able to identify the forces and factors that shaped the course the course of early Indian history. The students will develop a critical awareness of various categories of sources for the study of ancient Indian history. They will learn the analytical skills to explore the development of India's religious systems and cultural accomplishments in historical perspective. They will be able to explore the connections between multiple causative factors and access their relative historical significance. They will understand the process of the rise and decline of imperial states in early India. This paper is designed to develop the understanding of the process of transition from ancient period to the early medieval period and figure out the key determinations that made this transition possible. It will develop an understanding of the growing culture and political and economic linkages between North and South Indian. The student will also get familiarized with the development of historical processes in Deccan and far south.

History of India from 1206 CE to 1707 CE

- Course Outcomes:
- This paper is designed to develop the understanding of historical processes in India during the period under study. This paper covers the development in the field of art, language,

culture and religious during medieval period. The student will be able to understand the territorial expansion of various Indian kings and impact of Medievalism on Indian Society and Culture. This paper is designed to provide the students with a firm basis for the understanding of the period 1526-1707. By discussing the nature of the social, political and religious foundations of Mughal India as a dynamic process, the student will acquire multifaceted understanding of the factor that shaped state and society in the Mughal period and that were carried into the later colonial state.

History of India from 1707 AD to 1950 AD

- Course Outcomes:
- The students will be able to trace the British Colonial expansion in the political contexts of mid eighteenth to mid nineteenth century India. They will learn about the changes in society, politics, religious and economy during this period. They will also acquire knowledge about the transition of India into a colonized society and economy. This paper is designed to develop an understanding of historical developments in India during the colonial rule. Understanding of the process of domination and resistance in this phase of colonial era shall enhance the student's awareness about modern India. By studying various strands of freedom movement student will be able to appreciate this phase of Indian past.

- **History of Modern World 1453AD 1815AD**
- Course Outcomes:
- This paper is designed to develop an understanding of renaissance and point out the factors for the growth of renaissance. It explains the changes in human thoughts and behavior due to renaissance. The student will be able to learn the rise of reformation movement against the Roman Catholic and how reformation impact globally. It will enable the students to compose an effective narration that analyses the history of western world. They will be able to evaluate the ways in which the history of the early western civilization in forms the current political, cultural and social history of Europe after 15 century and its relationship to the global culture.

History of Modern World 1815AD 1945AD

- Course Outcomes:
- This Course will impart knowledge to the students regarding the political transformations of the modern world that took place from the 18th century till the end of 1945. The students will be able to know about the political history of the world since the end of the First World War focusing on the change and continuity over time and space. The course will impart knowledge on the economic developments of the period in an analytic way.
- Social Economic and Cultural History of India

Department of Economics

OBJECTIVES OF THE PROGRAM

Each program vividly explains its nature and promises the outcomes that are to be accomplished by studying the courses. The Bachelor of Arts with Economics states the attributes that it aims to inculcate at the point of graduation. These attributes encompass values related to wellbeing, emotional stability, critical thinking, social justice and skills for employability. On completion of the program students are expected to have learnt the skills of effective communication, critical thinking, social research methods and social outreach. The qualities expected from the graduates of B.A. (Program) with Economics as subject are:

1. A holistic knowledge and understanding of basic concepts in economics and will be exposed to the real-world data related to industries and society, identifying the problems and working towards their solutions through various analytical and statistical techniques.
2. The capacity to identify, understand and solve the problems of society.
3. The ability to collect, analyze, interpret and present the data and bring out the meaning, correlations and interrelationships.
4. Team building and leadership skills, communication, creative and critical thinking skills and innovative problem-solving skills.

OBJECTIVES OF THE PROGRAM

Microeconomics

OBJECTIVES:-

This course explores the subject matter of Economics giving a brief idea about the mechanism of the market using demand –supply tools with some preliminary understanding of adjustments of market with and without govt. intervention. Besides the course it also introduces the students to the concept of elasticity and it application. This course intends to provide the students with a strong foundation of the micro-aspect of Economics. The course introduces the concepts of rationality which influences the behavior of the economic agents say Consumers and Producers in perfectly competitive commodity market along with explaining the functioning of perfectly competitive input markets. This course completes the foundational background of Micro-economic Theory with specific details of the varied nature and mechanisms of imperfectly competitive commodity markets and factor markets with special emphasis on labour market. This course also introduces the idea about efficiency, Welfare Economics and General equilibrium of exchange with special reference to markets with asymmetric information.

Structure and Problems of Indian Economy

OBJECTIVES:-

The purpose of the course is to provide the students with knowledge about how the Indian economy has progressed since independence. The course intends to highlight certain key issues affecting the Indian economy like demographic transition, poverty, problems related with providing of health and education for all. Besides, concepts like GDP, per-capita GDP and aspects of economic reforms form part of the course.

Macro-Economic: Theory and Public Finance

OBJECTIVES:-

1. The course undertakes an extensive comparative analysis of the Classical and Keynesian models. Besides, the theoretical aspects regarding the role of money in an economy along with its role in the Indian context is discussed at length. In this course, efforts are made to familiarize the students with the post-Keynesian developments taking place with regard to explanation of the cyclical fluctuations of economic activities. Further the concept of micro-foundation of macroeconomics is introduced so that the students have an understanding of the models of aggregate consumption function, investment function, demand for money function and supply of money function which have been developed on the basis of the concept of micro foundation of macroeconomics.
2. This course underlines the various aspects of functioning of the Government including its revenue and expenditure details. It also introduces the idea and characteristics of pure public goods apart from mixed goods and club goods. Discussions on concepts of market failure and externalities and how optimal provisions of public goods can be achieved are a part of the course. Furthermore, the students were also aimed to be exposed to the concepts of canons and principles of taxation, public borrowing and the idea of Fiscal Federalism in the Indian context.

Money Banking and International Economics

OBJECTIVES

1. The students are well trained in modern banking system. The students know how banks are operating of banking and their interaction with the rest of the economy is essential to realize. They know how monetary forces operate through multitude of channels market, nonmarket institutions etc.
2. This course introduces the fundamentals of the Theory of International Trade and intends to develop an understanding of the concepts of Gains from trade, Absolute and Comparative advantages of trade and the building blocks of trade theory. Apart from explaining the relation between trade and factor endowments of the countries, this course intends to explain the applications of the Neo-Classical trade models for developing countries. Besides, the course provides an idea about Trade Policies and International macroeconomic concepts including Balance of Payments.

Basic Quantitative Methods for Economics

OBJECTIVES

The learning objectives include summering the data and to obtain its salient features from the vast mass of original data and to understand the concepts of sampling distributions and their applications in statistical inference.

Economic Development and Planning

OBJECTIVES

The basic purpose of the course is to familiarize the students with specific issues pertaining to the area of Development Economics. At the outset, the course attempts to provide the students with an idea about the meaning of Development. Subsequently, various conceptual issues like poverty and development, effect of population on development, dual economy models, comparative analysis of different developmental strategies and the role of state and institutions in the process of economic development are covered in detail for enabling the students to have a proper understanding of the issues.

Department of Sociology

Programme outcomes (POs):

PO 1- This course will introduce students to key concepts in the discipline of Sociology.

PO2- It will provide them broad knowledge about development of sociological thought.

PO 3- It will give them basic understanding and skill related to social research.

PO 4- It will provide them basic understanding of the Indian society.

PO 5 -It will also sensitize them about social problems.

Programme specific outcomes (PSOs):

PSO- After completion of the course, the students will be able to understand the key concepts in Sociology.

PSO-They would develop keen insights to distinguish between the common-sense knowledge and Sociological knowledge.

PSO-Their sociological knowledge and analytical skills that would enable them to think critically about Indian society and emerging social problems and issues.

. PSO- They will have the knowledge and skill to conduct social research.

PSO- They will have the knowledge of the works of classical sociological thinkers and their contribution in the field of Sociology.

COURSE OUTCOME

COURSE TITLE: THE INTRODUCTRY SOCIOLOGY

COURSE OUTCOME- This Paper will introduce students to new concept of Sociological discipline. These Concepts will enhance the conceptual learning and understanding of the basic concepts used in Sociology. This paper will contribute in enriching the vocabulary and scientific temperament of the students. The course is designed to incorporate all the key concepts of sociology which would enable the learner to develop keen insights to distinguish between the common-sense knowledge and Sociological knowledge.

Course Title: Indian Social System

COURSE OUTCOME-

Students will be able to develop in-depth understanding and get detailed insight into the past and contemporary Indian Society.

- Students will be familiarized about the Traditional Social Institutions of Indian Society in context of continuity and change.

- The programme seeks to build among students the sociological knowledge and analytical skills that would enable them to think critically about Indian society and emerging social issues.

- The ability to formulate effective and convincing written and oral arguments about issues and challenges within Indian Society.

Course Title: Social Change

COURSE OUTCOME-

This Paper is designed in amanner, so that students are in introduced to the concepts related to Social change and Social Movement. This course will introduce students ot the dynamic aspect and dissension tendencies of society. The critical evaluation would enable students to come out with better suggestions, contributing in cohesion of society.

Course Title: Techniques of Social Research

COURSE OUTCOME-

The course 'Techniques of Social Research' aims to enhance the skills of students to understand different techniques of Data collection in Social Sciences. With emphasis on data distribution, Tabulation, analysis and Interpretation of data, it will provide students some basic knowledge regarding diagrammatic and graphic presentation of data. It is structured in a way that it develops a basic understanding about use of elementary statistics in social research.

COURSE TITLE- Development of Sociological Thought

Course Outcomes:

1. To understand the basic requisites of development of Sociology as a discipline.

2. To analyze the work of classical thinkers and their contribution in the field of Sociology.

3. The knowledge of the thinkers (A. Comte, K.Marx, M.Weber& E. Durkheim) would equip the students with theoretical insights to social scenario around them& would familiarize them with different perspectives and theories.

4. Students can distinguish between macro level sociological perspectives, can specify the theoretical components of each perspective, and connect each perspective to their historical and contemporary theorists 5. To understand the emergence of intellectual traditions and also its effects upon the society.

Department of Political Science

Department Political Science - B.A. Course

Program Outcomes:

- Students know the pros and cons of democracy, the sacrifices of freedom fighters.
- Knowledge of India's constitutional and political machinery.
- Inculcation of ethical, moral, philosophical values.
- Knowledge of the main tradition of western political thinkers to political thought.
- Knowledge of the basic concepts, principles & dynamics of public administration.
- Get acquainted with the diverse political systems of the world.
- Understand the ideological orientation of political science.
- Understand International Law, human rights, women's rights & the rights of minorities.
- Understand the cultural, social, political, economic and constitutional environment of Indian Administration.
- Get familiarized with the prospects and problems of rural development in India.

Course Outcomes: –

- **B.A. (Political Science) Political Theory** : Students get knowledge about govt. formation and functioning. They also acquire sense of rights, equality, justice and democracy.
- **B.A. (Political Science) Comparative Governments And Politics**: Constitutional and political aspects of major countries like USA, UK, France, Swiss are imbibed into the minds of students thereby widening their vision.
- **B.A. (Political Science) Representative Political Thinkers**: Various political philosophies are useful for the students, as they get knowledge of state's emergence, individual and state relation and different political and constitutional norms and values. Kautilya, Mannu, who shaped India's path, are taught to the students preaching of such great thinkers prepare students for discussions, debates and speeches.
- **B.A. (Political Science) Indian Government and Politics**: Students come to know how India won her freedom and what are their fundamental rights and duties.
- **B.A. (Political Science) International Politics and Relations**: Students come to know about the conflict and cooperation occurring at world arena, this is how a vision for peace emerges, among them.
- **B.A. (Political Science) Elements Public Administration**: It orients to pursue their career in civil services, and private sector both, thus the country is benefited with the service of energetic youths.

Department Political Science

POST GRADUATE PROGRAMME –COURSE OUTCOME

M.A. POLITICAL SCIENCE

PROGRAMME OUTCOMES

On successful completion of the programme students should be able to:

- Demonstrate knowledge and understanding of the key theories and concepts in Political Science . It also aims at familiarize insights into the theoretical advances in the discipline.
- to enable the students the ability to evaluate theories in the light of empirical evidence or normative propositions.
- Apply appropriate theories to analyze social and political happenings.
- Demonstrate an understanding of the philosophical dimensions of political systems, processes and movements at the local, national and trans-national levels.
- to develop the intellectual ability to undertake inter-disciplinary research.
- Achieve and demonstrate the ability to communicate their ideas effectively using the appropriate language of the discipline.
- Apply critical thinking, communication and analytical skills to address significant issues of concern in society.
- Recognize issues of social justice and inclusive development.

To understand the problems pertains to underdevelopment and uneven development in society.
To inculcate the spirit of just , fare and the reasonable standards among the students.
To understand the issues such as organised group bargaining and political patronage in the society.
COURSE OUTCOME

SEMESTER-1

WESTERN ANCIENT AND MEDIEVAL POLITICAL THOUGHT

To enable the students to understand the political philosophy from ancient Greek period to Medieval period.

2. To understand the different philosophical dimensions of various schools of thought.

3. To familiarise the students regarding different original works of philosophers.

COMPARATIVE POLITICS

1. To enhance the student's understanding of politics, state, government, democracy etc from a comparative perspective.
2. To familiarise the students the relevant theories in Comparative Politics.
3. To familiaris the students the origin of comparative institutions and politics.

INDIAN POLITICS SYSTEM

1. To understand the vibrancy and limits of the democratic practices in India.
2. To understand the students regarding the different social forces which shapes the dynamics of society and politics in India.
3. To enable the students to study the issues such as caste, gender, communalism, linguism, separatism.

LOCAL SELF GOVERNMENT IN INDIA

1. To familiarise the students regarding the concept of decentralisation and devolution of power in India.

2. To enable the students to understand the various constitutional provisions and statutes pertains to decentralized governance in the country.
3. To familiarise the students the programmes such as Panchayati Raj decentralised governance.

SEMESTER-2

WESTERN MODERN POLITICAL THOUGHT

1. To create awareness among students regarding evolving theories and concepts in modern Political Thought.
2. To enable the students to understand different ideological dimensions of modern political philosophy.
3. To enhance the critical capacity among students to learn the working of various political institutions and processes.

MODERN POLITICAL SYSTEM

1. To enable the students regarding the Political systems ,types of consititutions like US,UK.and China To familiarise the students regarding french,Political system ,party system in UK, USA, CHINA and france with constitutionl framework of china

INDIA'S FOREIGN POLICY

1. To enable the students regarding the theoretical assumptions of Indian Foreign policy.
2. To familiarise the students regarding different theories Of Bilateral relations and the India's Foreign policy With Rest of the world.
3. To understand the \Emergin Challenge to india;s Foreing Policy.

RESEARCH METHODOLOGY

1. It familiarise the students regarding various tools and techniques in Social Science.
2. To enable the students to undertake research programmes in Social Science.
3. To Understand the various limitations of research in Social Science.

VIVA-VOCE

1. To rephrase the research problem in social settings.
2. To enable the students to use tools and techniques to undertake a research programme.
3. To enable the students to analyse and interpret research problem in social science.

SEMESTER-3

INDIAN POLITICAL THOUGHT

1. To enable the students to understand the sources of Indian Political Philosophy.
2. To familiarise the students the relevant contributions of Indian Political Philosophy to the realm of political thought.

.To introduce the students regarding the various philosophical underpinning of

INTERNATIONAL RELATIONS

1. To enable the students regarding the theoretical assumptions of International Relations and Politics.
2. To familiarise the students regarding different theories and the relvant debates in the discipline of International Politics.
3. To understand the students regarding the evolving nature of international systems, institution and processes.

PUBLIC ADMINISTRATION:

1. To understand the theories and concepts of Public Administration.
2. to enable the students to understand the pre-requisites for effective and just administration at various levels.
3. to know the theoretical and practical manifestations of different concepts in administrative theory.

INTERNATIONAL ORGANIZATION

1.To understand students the nature, and role of various international organisations and regional gatherings such as UN, ASEAN, etc.
3.To familiarise the students the issues related to UN and relevance of the UN in present era.

SEMESTER-4

INTERNATIONAL RELATIONS

1. To enable the students regarding the theoretical assumptions of International theory and Politics.
2. To familiarise the students regarding different Approaches And Methods of International Politics.
3. To understand the students regarding the Newly evolving Contex of Non state actors in international Politics.

POLITICAL PHILOSOPHY OF MAHATMA GANDHI

1. To familiarise the students the ideological basis of Gandhian political philosophy.
2. To enable the students to understand the different dimensions of Gandhian Thought.
3. To enable the students regarding the relevance of Gandhian philosophy in the contemporary society and politics.

HUMAN RIGHTS

1.To facilitates the study of the concept of Human Rights and its development in the context of world order.
2.It familiarise the students regarding the UN charter and universal Declaration of human right.
3.It enables the students to understand the role of judiciary in the protection of bare minimum rights of downtrodden sections in the country.

VIVA-VOCE

1. To rephrase the research problem in social settings.
2. To enable the students to use tools and techniques to undertake a research programme.
3. To enable the students to analyse and interpret research problem in social science.

Department of Sanskrit

कार्यक्रम परिणाम – Program outcome

1. साहित्य मानव संवेदना की अभिव्यक्ति का प्रमुख स्त्रोत रहा है। कलाओं में यह सम्पूर्ण कला है।

2. साहित्य समाज का दर्पण है। स्नातक उपाधि में इस विषय के चयन एवं अध्ययन से विद्यार्थी को साहित्य के सागोपांग महत्व का ज्ञान होगा।

3. सहज एवं स्वाभाविक रूप से भाशा–कौशल प्राप्त कर उनमें प्रभावशाली अभिव्यक्ति की क्षमता उत्पन्न होगी।

4. आत्मविश्वास से युक्त एवं नेतृत्व क्षमता के धारक होंगे।

5. मूल्यपरक व्यक्तित्व से युक्त होकर भारतीयता के बोध के साथ वैश्विक नागरिक के रूप में भावी चुनौतियां का सामना करने में सक्षम होंगे।

6. विद्यार्थी संघ लोक सेवा आयोग एवं प्रादेशिक लाके सेवा आयोगों के परीक्षा पाठ्यकम में सम्मिलित संस्कृत साहित्य की आधार एवं अनिवार्य शिक्षा प्राप्त करेगें।

7. विद्यार्थियों को लेखन, वाचन एवं अध्ययन की दृष्टि से भाषागत दक्षता प्राप्त होगी।

➢

Course outcome

विद्यार्थी संस्कृत साहित्य का सामान्य परिचय प्राप्त कर नीतिकाव्य से परिचित हो सकेंगे। तथा नीतिकाव्य में प्रयुक्त नैतिक शिक्षा का बोध कर सकेंगे।

संस्कृत व्याकरण का सामान्य ज्ञान प्राप्त कर उसकी वैज्ञानिकता से सुपरिचित हो सकेंगे। जिससे संस्कृत वर्णों के शुद्ध उच्चारण कौशल का विकास होगा।

स्वर, व्यजंन एवं विसर्ग संधि का विशिष्ट ज्ञान एवं उनके अनुप्रयोग का कौशल विकसित होगा ।

संस्कृतभाषा को पढकर स्नातक–कलावर्ग के अतिरिक्त वाणिज्य एवं विज्ञानवर्ग के विद्यार्थी भी अपना लक्ष्य पूर्ण कर सकते हैं।

संस्कृतभाषा के अध्ययन से विद्यार्थी अन्य भाषा के स्रोत को सरलता से समझ सकते हैं।

संस्कृत भाषा सर्वज्ञानमय है जिसके सम्बर्धन एवं प्रचार–प्रसार की दिशा में राष्ट्रिय संस्कृत संस्थान द्वारा किया जा रहा प्रयास अत्यन्त सराहनीय है । संस्कृत भाषा को सर्वजनस्पर्शी बनाने हेतु संस्कृत सम्भाषण परम आवश्यक है। इससे संस्कृत भाषा जन–जन की व्यवहारिक भाषा बन सकेगी तथा संस्कृत भाषा में निबद्ध ज्ञान सबके लिए ग्राह्य हो सकेगा।

विद्यार्थी संगणक का सामान्य ज्ञान प्राप्त कर, अधिगम क्षमता में वृद्धि हेतु इसका उपयोग करने में सक्षम होंगे।

पारंपरिक एवं वैश्विक ज्ञान में सामंजस्य बनाकर ज्ञान की अभिवृद्धि करने एवं जीविकोपार्जन के नए मार्ग खोजने का कौशल विकसित होगा।

भारतीय ज्ञान परम्परा के प्रस्तावित पाठय्कम में वेद एवं ब्राह्मण ग्रन्थों का सामान्य अध्ययन, आरण्यक और उपनिषद् का सामान्य अध्ययन, पुराण एवं धर्मशास्त्र का सामान्य अध्ययन, रामायण एवं महाभारत का सामान्य अध्ययन, भारतीय दर्शन का सामान्य अध्ययन एवं नीति कथाओं का अध्ययन–पचंतंत्र के परिपेक्ष्य में सम्मिलित किया गया है। जिनके अध्ययन से छात्रों में वैज्ञानिक चिन्तन, रचनात्मकता, तार्किक शक्ति, कल्पना शक्ति एवं नैतिक मूल्यों का समावेश हो सके।

विद्यार्थी संस्कृत महाकाव्य मे प्रयुक्त रस, छन्द, अलंकारों को समझने की क्षमता प्राप्त करेंगे।

संस्कृत महाकाव्यों में निहित सूक्ति एवं सुभाषित वाक्यों के माध्यम से विद्यार्थियों का नैतिक एवं चारित्रिक उन्नयन होंगा।

संस्कृत नाटक के अध्ययन से विद्यार्थी संस्कृत नाट्य साहित्य को सामान्य रूप से समझने में सक्षम होंगे।

विद्यार्थी नित्य नैमित्तिक अनुष्ठान विधि को जानकर जीवन को नियमबद्ध एवं आचरणशील बनाने में समर्थ होंगे।

भारतीय ज्ञान परम्परा के अन्तर्गत निर्धारित पाठ्यक्रम आरण्यक एवं उपनिषद् के सामान्य अध्ययन से विद्यार्थी वैदिक संस्कृति का ज्ञान प्राप्त कर सकेंगे।

विद्यार्थी संस्कृत साहित्य का सामान्य परिचय प्राप्त कर नीतिकाव्य से परिचित हो सकेंगे। तथा नीतिकाव्य में प्रयुक्त नैतिक शिक्षा का बोध कर सकेंगे।
संस्कृत व्याकरण का सामान्य ज्ञान प्राप्त कर उसकी वैज्ञानिकता से सुपरिचित हो सकेंगे। जिससे संस्कृत वर्णों के शुद्ध उच्चारण कौशल का विकास होगा।
स्वर, व्यजंन एवं विसर्ग संधि का विशिष्ट ज्ञान एवं उनके अनुप्रयोग का कौशल विकसित होगा ।
संस्कृतभाषा को पढकर स्नातक–कलावर्ग के अतिरिक्त वाणिज्य एवं विज्ञानवर्ग के विद्यार्थी भी अपना लक्ष्य पूर्ण कर सकते हैं।
संस्कृतभाषा के अध्ययन से विद्यार्थी अन्य भाषा के स्रोत को सरलता से समझ सकते हैं।
संस्कृत भाषा सर्वज्ञानमय है जिसके सम्बर्धन एवं प्रचार–प्रसार की दिशा में राष्ट्रिय संस्कृत संस्थान द्वारा किया जा रहा प्रयास अत्यन्त सराहनीय है । संस्कृत भाषा को सर्वजनस्पर्शी बनाने हेतु संस्कृत सम्भाषण परम आवश्यक है। इससे संस्कृत भाषा जन–जन की व्यवहारिक भाषा बन सकेगी तथा संस्कृत भाषा में निबद्ध ज्ञान सबके लिए ग्राह्य हो सकेगा।
विद्यार्थी संगणक का सामान्य ज्ञान प्राप्त कर, अधिगम क्षमता में वृद्धि हेतु इसका उपयोग करने में सक्षम होंगे। पारंपरिक एवं वैश्विक ज्ञान में सामंजस्य बनाकर ज्ञान की अभिवृद्धि करने एवं जीविकोपार्जन के नए मार्ग खोजने का कौशल विकसित होगा।
भारतीय ज्ञान परम्परा के प्रस्तावित पाठय्क्रम में वेद एवं ब्राह्मण ग्रन्थों का सामान्य अध्ययन, आरण्यक और उपनिषद् का सामान्य अध्ययन, पुराण एवं धर्मशास्त्र का सामान्य अध्ययन, रामायण एवं महाभारत का सामान्य अध्ययन, भारतीय दर्शन का सामान्य अध्ययन एवं नीति कथाओं का अध्ययन–पचंतंत्र के परिपेक्ष्य में सम्मिलित किया गया है। जिनके अध्ययन से छात्रों में वैज्ञानिक चिन्तन, रचनात्मकता, तार्किक शक्ति, कल्पना शक्ति एवं नैतिक मूल्यों का समावेश हो सके।
विद्यार्थी संस्कृत महाकाव्य मे प्रयुक्त रस, छन्द, अलंकारों को समझने की क्षमता प्राप्त करेंगे।
संस्कृत महाकाव्यों में निहित सूक्ति एवं सुभाषित वाक्यों के माध्यम से विद्यार्थियों का नैतिक एवं चारित्रिक उन्नयन होंगा।
संस्कृत नाटक के अध्ययन से विद्यार्थी संस्कृत नाट्य साहित्य को सामान्य रूप से समझने में सक्षम होंगे।
विद्यार्थी नित्य नैमित्तिक अनुष्ठान विधि को जानकर जीवन को नियमबद्ध एवं आचरणशील बनाने में समर्थ होंगे।
भारतीय ज्ञान परम्परा के अन्तर्गत निर्धारित पाठ्यक्रम आरण्यक एवं उपनिषद् के सामान्य अध्ययन से विद्यार्थी वैदिक संस्कृति का ज्ञान प्राप्त कर सकेंगे।

Department Of Hindi

COURSE INTRODUCTION

Programme Outcomes (POs):

1. साहित्य मानव संवेदना की अभिव्यक्ति का प्रमुख स्रोत रहा है। कलाओं में यह सम्पूर्ण कला है। साहित्य समाज का प्रतिदर्श है। स्नातक उपाधि में इस विषय के चयन व अध्ययन से शिक्षार्थी को साहित्य के सांगोपांग महत्व का ज्ञान होता है।
2. शिक्षार्थी को राष्ट्र की सर्वप्रमुख भाषा हिन्दी के अत्यन्त समृद्ध साहित्य के सम्पूर्णस्वरूप का ज्ञान होता है।
3. शिक्षार्थी को हिन्दी साहित्य की सभी प्रमुख विधाओं का ज्ञान होता है, जिससे उसमें रचनात्मकता का प्रस्फुटन एवं विकास होता है।
4. शिक्षार्थी को जीवन के आजीविकोपार्जनसम्बन्धी पक्ष के रूप में हिन्दी के प्रयोजन मूलक स्वरूप व महत्व का ज्ञान एवं प्रशिक्षण होता है।
5. साहित्य के अध्ययन में अन्य अनुशासनों के सन्दर्भ यथा सामाजिक, मनोवैज्ञानिक, राजनीतिक, आर्थिक, ऐतिहासिक, पर्यावरणीय आदि समाहित होते हैं। स्नातक में हिन्दीसाहित्य का चयन शिक्षार्थी को समग्र रूप से शिक्षित करता है।
6. शिक्षार्थी संघ लोक सेवा आयोग एवं प्रादेशिक लोक सेवा आयोगों के परीक्षा पाठ्यक्रम में सम्मिलित हिन्दी साहित्य की आधार व अनिवार्य शिक्षा प्राप्त करता है।

Programme Specific Outcomes (PSOs):
UG I Year / Certificate courseArts with Hindi

1. शिक्षार्थी स्नातक प्रमाण पत्र पाठ्यक्रम के अन्तर्गतमुख्य विषय के रूप में हिन्दी की प्राचीन एवं मध्यकालीन कविता तथा कथा साहित्य का आधारभूत ज्ञान प्राप्त करेगा।
2. शिक्षार्थी स्नातक प्रमाण पत्र पाठ्यक्रम के अन्तर्गत वैकल्पिक/सहायक विषय के रूप में हिन्दी व्याकरण का ज्ञान एवं व्यावहारिक प्रशिक्षण प्राप्त करेगा। विकल्प के रूप में यह चयन प्रतियोगी परीक्षाओं में सहायक एवं उपयोगी सिद्ध होगा ।
3. शिक्षार्थी प्रमाण् पत्र वर्ष में एवं कौशल संवर्द्धन पाठ्यक्रम के रूप में प्रयोजन मूलक हिन्दी का ज्ञान एवं व्यावहारिक प्रशिक्षण प्राप्त करेगा।
4. प्रथम वर्ष में शिक्षा में बाधा हो जाने की स्थिति में शिक्षार्थी हिन्दी तथा अन्य विषयोंके साथ स्नातक प्रमाण-पत्र प्राप्त करेगा, जिसका लाभ उसे आजाविका प्राप्त करने में प्राप्त होगा।

Programme specific outcomes (PSOs):

UG II Year/ (Diploma in ARTS with Hindi

1. शिक्षार्थी स्नातकडिप्लोमा पाठ्यक्रम के अन्तर्गतमुख्य विषय के रूप में हिन्दी की रीतिकालीन कविता व काव्यांग परिचय तथा नाटक एवं स्मारक साहित्य का आधारभूत ज्ञान प्राप्त करेगा।
2. शिक्षार्थी स्नातक डिप्लोमा पाठ्यक्रम के अन्तर्गत वैकल्पिक/सहायक विषय के रूप में हिन्दी भाषा के स्वरूप का ज्ञान एवं व्यावहारिक प्रशिक्षण प्राप्त करेगा। विकल्प के रूप में यह चयन प्रतियोगी परीक्षाओं में सहायक एवं उपयोगी सिद्ध होगा ।
3. शिक्षार्थी डिप्लोमा वर्ष में एवं कौशल संवर्द्धन पाठ्यक्रम के रूप में हिन्दी पत्रकारिता का ज्ञान एवं व्यावहारिकप्रशिक्षण प्राप्त करेगा।
4. शिक्षा में बाधा हो जाने की स्थिति में शिक्षार्थी हिन्दी तथा अन्य विषयोंके साथ स्नातक डिप्लोमा प्राप्त करेगा, जिसका लाभ उसे आजीविका प्राप्त करने में प्राप्त होगा।

Programme specific outcomes (PSOs):

UG III Year / Bachelor of ARTS with Hindi

1. शिक्षार्थी स्नातक उपाधि वर्ष पाठ्यक्रम के अन्तर्गतमुख्य विषय के रूप में हिन्दी की द्विवेदीयुगीन, छायावादीतथा छायावादोत्तर एवं समकालीन कविता, हिन्दीनिबन्ध एवं लोक-साहित्य का आधारभूत ज्ञान प्राप्त करेगा।
2. शिक्षार्थी के पास उपधि वर्ष में विगत वर्षों के अध्ययन से हिन्दीसाहित्य के विविध पक्षों तथा उनके अकादमिक स्वरूप ज्ञान होगा, उसे हिन्दी भाषा के व्याकरण एवं स्वरूप का ज्ञान होगा, उसे कार्यालयीहिन्दीतथा पत्रकारिता जैसे रोजगारपरक विषयों का ज्ञान होगा और वह आगे की शिक्षा एवं शोध के लिए भाषा तथा साहित्य के उच्चस्तरीय आधारभूत ज्ञान व कुशलता के साथ उपाधि प्राप्त करेगा।

Prgramme and Course Outcome for MA

प्रथम वर्ष (प्रथम सत्र)

पहला प्रश्न पत्र — हिन्दी साहित्य का इतिहास (आरम्भ से रीतिकाल तक)
दूसरा प्रश्न पत्र — आदिकालीन एवं निर्गुण काव्य
तीसरा प्रश्न पत्र — मध्यकालीन सगुण एवं रीतिकालीन काव्य
चौथा प्रश्न पत्र — हिन्दी साहित्य का इतिहास (भारतेन्दु युग से अब तक)

द्वितीय सत्र

पांचवा प्रश्न पत्र — भारतीय काव्य शास्त्र एवं हिन्दी आलोचना
छठवां प्रश्न पत्र — आधुनिक गद्य (निबन्ध, नाटक एवं अन्य गद्य विधाऐं)
सातवां प्रश्न पत्र — उपन्यास एवं कथा साहित्य
आठवां प्रश्न पत्र — पाश्चात्य काव्य शास्त्र
नौवां प्रश्न पत्र — आधुनिक काव्य (भारतेन्दु युग से उत्तर छायावाद तक)

द्वितीय वर्ष (तृतीय सत्र)

दसवां प्रश्न पत्र — भाषा विज्ञान एवं हिन्दी भाषा
ग्यारहवां प्रश्न पत्र — आधुनिक काव्य (छायावादोत्तर हिन्दी कविता)
बारहवां प्रश्न पत्र — (विकल्प) (क) लघु शोध प्रबन्ध
(ख) भारतीय साहित्य
(ग) जयशंकर प्रसाद
(घ) चंद्रकुंवर बर्तवाल
तेरहवां प्रश्न पत्र — (विकल्प) (क) सूरदास
(ख) तुलसीदास
(ग) हिन्दी नाटक और रंगमंच
(घ) प्रेमचन्द

चतुर्थ सत्र

चौदहवां प्रश्न पत्र — भाषा विज्ञान और हिन्दी भाषा
पन्द्रहवां प्रश्न पत्र — प्रयोजन मूलक हिन्दी और मीड़िया लेखन
सोलहवां प्रश्न पत्र — (विकल्प) (क) संस्कृत
(ख) गढ़वाली लोक साहित्य
(ग) अनुवाद : सिद्धान्त और प्रयोग
सत्रहवां प्रश्न पत्र — (विकल्प) (क) जनपदीय भाषा साहित्य (गढ़वाली भाषा साहित्य)
(ख) हिन्दी आलोचना साहित्य
(ग) अनुसंधान : प्रविधि और प्रक्रिया
अठ्ठारहवां प्रश्न पत्र — मौखिकी

Department of Hindi