Syllabus for the post of Principal

I Prospective on Education and Leadership:

A	**Understanding the Learner**
	▪ Concept of growth, maturation and development, principles and debates of development, ▪ Development tasks and challenges with special reference to the foundational, preparatory, middle and secondary school children ▪ Domains of Development: Physical, Cognitive, Socio-emotional, Moral etc., deviations in development and its implications. ▪ Role of Primary and Secondary Socialization agencies. Steps to ensure Home school continuity. ▪ Mental Health and Well Being.
B	**Understanding Teaching Learning**
I II	Theoretical perspectives on Learning -Behaviorism, Cognitivism and Constructivism with special reference to their implications for: • The role of Principal • Role of Vice-Principal and HM • The role of teacher • The role of learner • Nature of teacher-student relationship • Innovative Pedagogical Practices • Productive Classroom environment • Understanding of discipline, power etc. Factors affecting learning and their implications for: • Designing classroom instructions, • Planning student activities and, • Creating learning spaces in school
C	**Planning and Organization of Teaching-Learning**
	• Concept of Syllabus and Curriculum, Overt and Hidden Curriculum • Preparation of School Time-table • Foundational Literacy and Numeracy, Early Childhood Care and Education • Competency Based Lesson Planning. • Competency Based Assessment • Instructional Material and Resources • Digital Technology in Teaching Learning • Classroom Observation, Feedback and Follow-up, Reflections and Dialogues as a means of constructivist teaching
D	**Creating Conducive Learning Environment**
	• Inclusive Education: The concepts of Diversity, disability and Inclusion, implications of disability as social construct, types of disabilities-their identification and interventions • Concept of School Mental Health & Well Being. Addressing the curative, preventive and promotive dimensions of mental health for all students and staff. Provisioning for guidance and counselling. • Developing School and community as a learning resource. • Right of Person with Disability Act-2016 as amended from time to time.
E	**School Organization and Leadership**

	• Leader as reflective practitioner, team builder, initiator, coach and mentor. • Perspectives on School Leadership: instructional, distributed and transformative • Vision building, goal setting and creating a School development Plan • Using School Processes and forums for strengthening teaching learning-Annual Calendar, time-tabling, parent teacher forums, school assembly, teacher development forums, using achievement data for improving teaching –learning, School Self-Assessment and Improvement • Creating partnerships with community, industry and other neighboring schools and Higher Education Institutes – forming learning communities, • School Accreditation.
F	**Perspectives in Education**
	• Role of school in achieving aims of education. • Educational Policies of Govt of India • National Education Policy-2020 • National Curriculum Framework Foundational Stage-2022 • National Curriculum Framework for School Education-2023 • NIPUN Bharat Mission • Guiding Principles for Child Rights, Protecting and provisioning for rights of children to safe and secure school environment, • Right of Children to free and Compulsory Education Act, 2009, • Historically studying the National Policies in education with special reference to school education; • School Curriculum Principles**:** Perspective, Learning and Knowledge, Curricular Areas, School Stages – Pedagogy & Assessment

II Management, Supervision and Leadership

Management: its nature and scope; The Management Processes; Planning, Organization, Staffing, Directing and Controlling; The Role of a Manager in an Organization. Leadership: The Tasks of a Leader, Leadership Styles; Leadership Theories; A successful Leader versus an effective Leader. Human Resource Development: Concept of HRD; Goals of HRD; Performance Appraisal — Potential appraisal and development — Feedback and Performance Counseling —Career Planning — Training and Development — Rewards — Employee Welfare. Motivation, Morale and_ Incentives: Theories of Motivation; How Managers Motivate; Concept of Morale; Factors determining morale; Role of Incentives in Building up Morale. Communication: Steps in the Communication Process; Communication Channels; Oral versus Written Communication; Verbal versus non-verbal Communication; upward, downward and lateral Communication; Barriers to Communication, Role of Information Technology. Class Observation and School Supervision. Ethics in School Management. Emotional Intelligence.

III Administration and Finance

- Office Procedure & Office Management
- CCS (CCA) Rules 1965
- CCS (Conduct) Rules 1964
- Fundamental & Supplementary Rules
- TA Rules
- Leave Travel Concession Rule.
- Principles of School Budget
- Medical Attendance Rules & CGHS
- Right to Information Act 2005
- Contract Labour (Abolition and Regulation) Act, 1970
- Income Tax & GST
- POSH & POCSO Acts
- MoE, NCPCR and NDMA guidelines for school safety and security
- Constitutional Provisions for PwBD, EWS, SC/ST and other disadvantageous groups
- General Financial Rules – 2017
- CCS(Pension) Rules 2021, NPS
- Human Rights

Syllabus – Lecturer (Mathematics)

Sets:

Sets and their representations, Empty set, Finite and Infinite sets, Equal sets, Subsets. Subsets of a set of real numbers especially intervals (with notations). Universal set. Venn diagrams. Union and Intersection of sets. Difference of sets. Complement of a set. Properties of Complement.

Relations & Functions:

Ordered pairs. Cartesian product of sets. Number of elements in the Cartesian product of two finite sets. Cartesian product of the set of reals with itself (upto R x R x R). Definition of relation, pictorial diagrams, domain, co-domain and range of a relation. Function as a special type of relation. Pictorial representation of a function, domain, co-domain and range of a function. Real valued functions, domain and range of these functions, constant, identity, polynomial, rational, modulus, signum, exponential, logarithmic and greatest integer functions, with their graphs. Sum, difference, product and quotients of functions.

Trigonometric Functions

Positive and negative angles. Measuring angles in radians and in degrees and conversion from one measure to another. Definition of trigonometric functions with the help of unit circle. Truth of the identity $\sin 2x + \cos 2x = 1$, for all x. Signs of trigonometric functions. Domain and range of trigonometric functions and their graphs. Expressing $\sin(x \pm y)$ and $\cos(x \pm y)$ in terms of sinx, siny, cosx & cosy and their simple applications. Identities related to sin2x, cos2x, tan2 x, sin3x, cos3x and tan3x.

Complex Numbers and Quadratic Equations

Need for complex numbers, especially $\sqrt{-1}$, to be motivated by inability to solve some of the quardratic equations. Algebraic properties of complex numbers. Argand plane

Linear Inequalities

Linear inequalities. Algebraic solutions of linear inequalities in one variable and their representation on the number line.

Permutations and Combinations

Fundamental principle of counting. Factorial n. (n!) Permutations and combinations, derivation of Formulae for nPr and nCr and their connections, simple applications.

Binomial Theorem

Historical perspective, statement and proof of the binomial theorem for positive integral indices.
Pascal's triangle, simple applications.

Sequence and Series

Sequence and Series. Arithmetic Progression (A. P.). Arithmetic Mean (A.M.) Geometric Progression (G.P.), general term of a G.P., sum of n terms of a G.P., infinite G.P. and its sum, geometric mean (G.M.), relation between A.M. and G.M.

Straight Lines

Slope of a line and angle between two lines. Various forms of equations of a line: parallel to axis, point -slope form, slope-intercept form. Distance of a point from a line.

Conic Sections

Sections of a cone: circles, ellipse, parabola, hyperbola, a point, a straight line and a pair of intersecting lines as a degenerated case of a conic section. Standard equations and simple properties of parabola, ellipse and hyperbola. Standard equation of a circle.

Introduction to Three-dimensional Geometry

Coordinate axes and coordinate planes in three dimensions. Coordinates of a point. Distance between two points.

Limits and Derivatives

Derivative introduced as rate of change both as that of distance function and geometrically. Intuitive idea of limit. Limits of polynomials and rational functions trigonometric, exponential and logarithmic functions. Definition of derivative relate it to scope of tangent of the curve, derivative of sum, difference, product and quotient of functions. Derivatives of polynomial and trigonometric functions.

Statistics

Measures of Dispersion: Range, Mean deviation, variance and standard deviation of ungrouped/grouped data.

Probability

Random experiments; outcomes, sample spaces (set representation). Events; occurrence of events, 'not', 'and' and 'or' events, exhaustive events, mutually exclusive events, Axiomatic (set theoretic) probability, connections with other theories of earlier classes. Probability of an event, probability of 'not', 'and' and 'or' events.

Relations and Functions

Types of relations: reflexive, symmetric, transitive and equivalence relations. One to one and onto functions.

Inverse Trigonometric Functions

Definition, range, domain, principal value branch. Graphs of inverse trigonometric functions.

Matrices

Concept, notation, order, equality, types of matrices, zero and identity matrix, transpose of a

matrix, symmetric and skew symmetric matrices. Operation on matrices: Addition and multiplication and multiplication with a scalar. Simple properties of addition, multiplication and scalar multiplication. On commutativity of multiplication of matrices and existence of non-zero matrices whose product is the zero matrix (restrict to square matrices of order 2). Invertible matrices and proof of the uniqueness of inverse, if it exists; (Here all matrices will have real entries).

Determinants

Determinant of a square matrix (up to 3 x 3 matrices), minors, co-factors and applications of determinants in finding the area of a triangle. Adjoint and inverse of a square matrix. Consistency, inconsistency and number of solutions of system of linear equations by examples, solving system of linear equations in two or three variables (having unique solution) using inverse of a matrix.

Continuity and Differentiability

Continuity and differentiability, derivative of composite functions, chain rule, derivative of inverse trigonometric functions, derivative of implicit functions. Concept of exponential and logarithmic functions. Derivatives of logarithmic and exponential functions. Logarithmic differentiation, derivative of functions expressed in parametric forms. Second order derivatives.

Applications of Derivatives

Applications of derivatives: rate of change of bodies, increasing/decreasing functions, maxima and minima (first derivative test motivated geometrically and second derivative test given as a provable tool). Simple problems (that illustrate basic principles and understanding of the subject as well as real-life situations).

Integrals

Integration as inverse process of differentiation. Integration of a variety of functions by substitution, by partial fractions and by parts, Evaluation of simple integrals of the following types and problems based on them.

$$\int \frac{dx}{x^2 \pm a^2}, \int \frac{dx}{\sqrt{x^2 \pm a^2}}, \int \frac{dx}{\sqrt{a^2 - x^2}}, \int \frac{dx}{ax^2 + bx + c}, \int \frac{dx}{\sqrt{ax^2+bx+c}}$$

$$\int \frac{px + q}{ax^2 + bx + c} dx, \int \frac{px + q}{\sqrt{ax^2+bx + c}} dx, \int \sqrt{a^2 \pm x^2}\, dx, \int \sqrt{x^2 - a^2}\, dx$$

$$\int \sqrt{ax^2 + bx + c}\, dx,$$

Fundamental Theorem of Calculus. Basic Properties of definite integrals and evaluation of definite integrals;

Applications of the Integrals

Applications in finding the area under simple curves, especially lines, circles/ parabolas/ellipses (in standard form only)

Differential Equations

Definition, order and degree, general and particular solutions of a differential equation. Solution of differential equations by method of separation of variables, solutions of homogeneous differential equations of first order and first degree. Solutions of linear differential equation of the type: dy /dx + py = q, where p and q are functions of x or constants. d*x*/ d*y* + px = q, where p and q are functions of y or constants.

Vectors

Vectors and scalars, magnitude and direction of a vector. Direction cosines and direction ratios

of a vector. Types of vectors (equal, unit, zero, parallel and collinear vectors), position vector of a point, negative of a vector, components of a vector, addition of vectors, multiplication of a vector by a scalar, position vector of a point dividing a line segment in a given ratio. Definition, Geometrical Interpretation, properties and application of scalar (dot) product of vectors, vector (cross) product of vectors.

Three - dimensional Geometry

Direction cosines and direction ratios of a line joining two points. Cartesian equation and vector equation of a line, skew lines, shortest distance between two lines. Angle between two lines.

Linear Programming

Introduction, related terminology such as constraints, objective function, optimization, graphical method of solution for problems in two variables, feasible and infeasible regions (bounded or unbounded), feasible and infeasible solutions, optimal feasible solutions (up to three non-trivial constraints).

Probability

Conditional probability, multiplication theorem on probability, independent events, total probability,
Bayes' theorem, Random variable and its probability distribution, mean of random variable.

Units and Measurements

Need for measurement: Units of measurement; systems of units; SI units, fundamental and derived units, significant figures. Dimensions of physical quantities, dimensional analysis and its applications.

Motion in a Straight Line

Frame of reference, Motion in a straight line, Elementary concepts of differentiation and integration for describing motion, uniform and non- uniform motion, and instantaneous velocity, uniformly accelerated motion, velocity - time and position-time graphs, Relations for uniformly accelerated motion.

Motion in a Plane

Scalar and vector quantities; position and displacement vectors, general vectors and their notations; equality of vectors, multiplication of vectors by a real number; addition and subtraction of vectors, Unit vector; resolution of a vector in a plane, rectangular components, Scalar and Vector product of vectors. Motion in a plane, cases of uniform velocity and uniform acceleration, projectile motion, uniform circular motion.

Laws of Motion:

Intuitive concept of force, Inertia, Newton's first law of motion; momentum and Newton's second law of motion; impulse; Newton's third law of motion. Law of conservation of linear momentum and its applications. Equilibrium of concurrent forces, Static and kinetic friction, laws of friction, rolling friction, lubrication. Dynamics of uniform circular motion: Centripetal force, examples of circular motion- vehicle on a level circular road, vehicle on a banked road.

Work, Energy and Power:

Work done by a constant force and a variable force; kinetic energy, work-energy theorem, power, Notion of potential energy, potential energy of a spring, conservative forces: non-conservative forces, motion in a vertical circle; elastic and inelastic collisions in one and two dimensions.

Motion of System of Particles and Rigid Body & System of Particles and Rotational Motion

Centre of mass of a two-particle system, momentum conservation and Centre of mass motion, Centre of mass of a rigid body; centre of mass of a uniform rod, Moment of a force, torque, angular momentum, law of conservation of angular momentum and its applications, Equilibrium of rigid bodies, rigid body rotation and equations of rotational motion, comparison of linear and rotational motions. Moment of inertia, radius of gyration, values of moments of inertia for simple geometrical objects.

Gravitation:

Kepler's laws of planetary motion, universal law of gravitation, Acceleration due to gravity and its variation with altitude and depth. Gravitational potential energy and gravitational potential, escape velocity, orbital velocity of a satellite.

Mechanical Properties of Solids

Elasticity, Stress-strain relationship, Hooke's law, Young's modulus, bulk modulus, shear modulus of rigidity, Poisson's ratio; elastic energy.

Mechanical Properties of Fluids

Pressure due to a fluid column; Pascal's law and its applications -hydraulic lift and hydraulic brakes, effect of gravity on fluid pressure, Viscosity, stokes' law, terminal velocity, streamline and turbulent flow, critical velocity, Bernoulli's theorem and its simple applications, Surface energy and surface tension, angle of contact, excess of pressure across a curved surface, application of surface tension ideas to drops, bubbles and capillary rise.

Thermal Properties of Matter

Heat, temperature, thermal expansion; thermal expansion of solids, liquids and gases, anomalous expansion of water; specific heat capacity; Cp, Cv - calorimetry; change of state - latent heat capacity. Heat transfer-conduction, convection and radiation, thermal conductivity, qualitative ideas of Blackbody radiation, Wein's displacement Law, Stefan's law.

Thermodynamics

Thermal equilibrium and definition of temperature, zeroth law of thermodynamics, heat, work and internal energy, first law of thermodynamics, second law of thermodynamics: gaseous state of matter, change of condition of gaseous state -isothermal, adiabatic, reversible, irreversible, and cyclic processes.

Behavior of Perfect Gases and Kinetic Theory of Gases:

Equation of state of a perfect gas, work done in compressing a gas, Kinetic theory of gases - assumptions, concept of pressure. Kinetic interpretation of temperature; rms speed of gas molecules; degrees of freedom, law of equi-partition of energy and application to specific heat capacities of gases; concept of mean free path, Avogadro's number.

Oscillations and Waves:

Periodic motion - time period, frequency, displacement as a function of time, periodic functions and their application, Simple harmonic motion (S.H.M) and its equations of motion; phase; oscillations of a loaded spring- restoring force and force constant; energy in S.H.M. Kinetic and potential energies; simple pendulum -its time period. Transverse and longitudinal waves, speed of travelling wave, displacement relation for a progressive wave, principle of superposition of waves, reflection of waves, standing waves in strings and organ pipes, fundamental mode and harmonics, Beats.

Electric Charges and Fields:

Electric charges, Conservation of charge, Coulomb's law-force between two point charges, forces between multiple charges; superposition principle and continuous charge distribution, Electric field, electric field due to a point charge, electric field lines, electric dipole, electric field due to a dipole, torque on a dipole in uniform electric field. Electric flux, statement of Gauss's theorem and its applications to find field due to infinitely long straight wire, uniformly charged infinite plane sheet and uniformly charged thin spherical shell-field inside and outside.

Magnetism and Matter

Bar magnet, bar magnet as an equivalent solenoid (qualitative treatment only), magnetic field intensity due to a magnetic dipole (bar magnet) along its axis and perpendicular to its axis (qualitative treatment only), torque on a magnetic dipole (bar magnet) in a uniform magnetic field (qualitative treatment only), magnetic field lines. Magnetic properties of materials- Para-, dia- and ferro - magnetic substances with examples, Magnetization of materials, effect of temperature on magnetic properties.

Electromagnetic Induction and Alternating Currents

Electromagnetic induction; Faraday's laws, induced EMF and current; Lenz's Law, Self and mutual induction, Alternating Current Alternating currents, peak and RMS value of alternating current/voltage; reactance and impedance; LCR series circuit, resonance, power in AC circuits, power factor, wattless current, AC generator, Transformer.

Electromagnetic Waves

Basic idea of displacement current, Electromagnetic waves, their characteristics, their transverse nature (qualitative idea only). Electromagnetic spectrum (radio waves, microwaves, infrared, visible, ultraviolet, X-rays, gamma rays) including elementary facts about their uses.

Ray Optics and Optical Instruments Ray Optics:

Reflection of light, spherical mirrors, mirror formula, refraction of light, total internal reflection and optical fibers, refraction at spherical surfaces, lenses, thin lens formula, lens maker's formula, magnification, power of a lens, combination of thin lenses in contact, refraction of light through a prism. Optical instruments: Microscopes and astronomical telescopes (reflecting and refracting) and their magnifying powers.

Wave optics:

Wave front and Huygen's principle, reflection and refraction of plane wave at a plane surface using wave fronts, Proof of laws of reflection and refraction using Huygen's principle. Interference, Young's double slit experiment and expression for fringe width, coherent sources and sustained interference of light, diffraction due to a single slit, width of central maxima.

Dual Nature of Radiation and Matter:

Dual nature of radiation, Photoelectric effect, Hertz and Lenard's observations; Einstein's photoelectric equation-particle nature of light, Experimental study of photoelectric effect Matter waves-wave nature of particles, de-Broglie relation.

Atoms & Nuclei:

Alpha-particle scattering experiment; Rutherford's model of atom; Bohr model of hydrogen atom, Expression for radius of nth possible orbit, velocity and energy of electron in its orbit, hydrogen line spectra, Composition and size of nucleus, nuclear force Mass-energy relation, mass defect; binding energy per nucleon and its variation with mass number; nuclear fission, nuclear fusion.

Semiconductor Electronics:

Energy bands in conductors, semiconductors and insulators, Intrinsic and extrinsic semiconductors- p and n type, p-n junction Semiconductor diode - I-V characteristics in forward and reverse bias, application of junction diode -diode as a rectifier.

Basic Concepts of Chemistry

General Introduction: Importance and scope of Chemistry. Nature of matter, laws of chemical combination, Dalton's atomic theory: concept of elements, atoms and molecules. Atomic and molecular masses, mole concept and molar mass, percentage composition, empirical and molecular formula, chemical reactions, stoichiometry and calculations based on stoichiometry.

Structure of Atom

Discovery of Electron, Proton and Neutron, atomic number, isotopes and isobars. Thomson's model and its limitations. Rutherford's model and its limitations, Bohr's model and its limitations, concept of shells and subshells, dual nature of matter and light, de Broglie's relationship, Heisenberg uncertainty principle, concept of orbitals, quantum numbers, shapes of s, p and d orbitals, rules for filling electrons in orbitals - Aufbau principle, Pauli's exclusion principle and Hund's rule, electronic configuration of atoms, stability of half-filled and completely filled orbitals.

Classification of Elements and Periodicity in Properties

Significance of classification, brief history of the development of periodic table, modern periodic law and the present form of periodic table, periodic trends in properties of elements -atomic radii, ionic radii, inert gas radii, Ionization enthalpy, electron gain enthalpy, electronegativity, valency. Nomenclature of elements with atomic number greater than 100.

Chemical Bonding and Molecular Structure

Valence electrons, ionic bond, covalent bond, bond parameters, Lewis structure, polar character of covalent bond, covalent character of ionic bond, valence bond theory, resonance, geometry of covalent molecules, VSEPR theory, concept of hybridization, involving s, p and d orbitals and shapes of some simple molecules, molecular orbital theory of homonuclear diatomic molecules (qualitative idea only), Hydrogen bond.

Chemical Thermodynamics

Concepts of System and types of systems, surroundings, work, heat, energy, extensive and intensive properties, state functions. First law of thermodynamics -internal energy and enthalpy, heat capacity and specific heat, measurement of ΔU & ΔH, Hess's law of constant heat summation, enthalpy of bond of dissociation, combustion, formation, atomization, sublimation, phase transition, ionization, solution and dilution. Second law of Thermodynamics, Introduction of entropy as a state function, Gibb's energy change for spontaneous and nonspontaneous processes, criteria for equilibrium. Third law of thermodynamics.

Equilibrium

Equilibrium in physical and chemical processes, dynamic nature of equilibrium, law of mass action, equilibrium constant, factors affecting equilibrium - Le Chatelier's principle, ionic equilibrium- ionization of acids and bases, strong and weak electrolytes, degree of ionization, ionization of poly basic acids, acid strength, concept of pH, hydrolysis of salts (elementary idea), buffer solution, Henderson Equation, solubility product, common ion effect (with illustrative examples).

Redox Reactions

Concept of oxidation and reduction, redox reactions, oxidation number, balancing redox reactions, in terms of loss and gain of electrons and change in oxidation number, applications of redox reactions.

Organic Chemistry -Some Basic Principles and Techniques

General introduction, methods of purification, qualitative and quantitative analysis, classification and IUPAC nomenclature of organic compounds. Electronic displacements in a

covalent bond: inductive effect, electromeric effect, resonance and hyper conjugation.

Homolytic and heterolytic fission of a covalent bond: free radicals, carbocations, carbanions, electrophiles and nucleophiles, types of organic reactions.

Classification of Hydrocarbons

Aliphatic Hydrocarbons:

Alkanes - Nomenclature, isomerism, conformation (ethane only), physical properties, chemical reactions including free radical mechanism of halogenation, combustion and pyrolysis. Alkenes - Nomenclature, structure of double bond (ethene), geometrical isomerism, physical properties, methods of preparation, chemical reactions: addition of hydrogen, halogen, water, hydrogen halides (Markovnikov's addition and peroxide effect), ozonolysis, oxidation, mechanism of electrophilic addition. Alkynes - Nomenclature, structure of triple bond (ethyne), physical properties, methods of preparation, chemical reactions: acidic character of alkynes, addition reaction of - hydrogen, halogens, hydrogen halides and water.

Aromatic Hydrocarbons: Introduction, IUPAC nomenclature, benzene: resonance, aromaticity, chemical properties: mechanism of electrophilic substitution. Nitration, sulphonation, halogenation, Friedel Craft's alkylation and acylation, directive influence of functional group in monosubstituted benzene. Carcinogenicity and toxicity.

Solutions

Types of solutions, expression of concentration of solutions of solids in liquids, solubility of gases in liquids, solid solutions, Raoult's law, colligative properties - relative lowering of vapour pressure, elevation of boiling point, depression of freezing point, osmotic pressure, determination of molecular masses using colligative properties, abnormal molecular mass, Van't Hoff factor.

Electrochemistry

Redox reactions, EMF of a cell, standard electrode potential, Nernst equation and its application to chemical cells, Relation between Gibbs energy change and EMF of a cell, conductance in electrolytic solutions, specific and molar conductivity, variations of conductivity with concentration, Kohlrausch's Law, electrolysis and law of electrolysis (elementary idea), dry cell-electrolytic cells and Galvanic cells, lead accumulator, fuel cells, corrosion.

Chemical Kinetics

Rate of a reaction (Average and instantaneous), factors affecting rate of reaction: concentration, temperature, catalyst; order and molecularity of a reaction, rate law and specific rate constant, integrated rate equations and half-life (only for zero and first order reactions), concept of collision theory (elementary idea, no mathematical treatment), activation energy, Arrhenius equation.

d and f Block Elements

General introduction, electronic configuration, occurrence and characteristics of transition metals, general trends in properties of the first-row transition metals – metallic character, ionization enthalpy, oxidation states, ionic radii, colour, catalytic property, magnetic properties, interstitial compounds, alloy formation, preparation and properties of $K_2Cr_2O_7$ and $KMnO_4$. **Lanthanoids** – Electronic configuration, oxidation states, chemical reactivity and lanthanoid contraction and its consequences. **Actinoids -** Electronic configuration, oxidation states and comparison with lanthanoids.

Coordination Compounds

Coordination compounds - Introduction, ligands, coordination number, colour, magnetic properties and shapes, IUPAC nomenclature of mononuclear coordination compounds. Bonding, Werner's theory, VBT, and CFT; structure and stereoisomerism, importance of coordination compounds (in qualitative analysis, extraction of metals and biological system).

Haloalkanes and Haloarenes.

Haloalkanes: Nomenclature, nature of C–X bond, physical and chemical properties, optical rotation

mechanism of substitution reactions. **Haloarenes:** Nature of C–X bond, substitution reactions (Directive influence of halogen in monosubstituted compounds only). Uses and environmental effects of - dichloromethane, trichloromethane, tetrachloromethane, iodoform, freons, DDT.

Alcohols, Phenols and Ethers

Alcohols: Nomenclature, methods of preparation, physical and chemical properties (of primary alcohols only), identification of primary, secondary and tertiary alcohols, mechanism of dehydration, uses with special reference to methanol and ethanol. **Phenols:** Nomenclature, methods of preparation, physical and chemical properties, acidic nature of phenol, electrophillic substitution reactions, uses of phenols. **Ethers:** Nomenclature, methods of preparation, physical and chemical properties, uses.

Aldehydes, Ketones and Carboxylic Acids

Aldehydes and Ketones: Nomenclature, nature of carbonyl group, methods of preparation, physical and chemical properties, mechanism of nucleophilic addition, reactivity of alpha hydrogen in aldehydes, uses. **Carboxylic Acids:** Nomenclature, acidic nature, methods of preparation, physical and chemical properties; uses.

Amines

Amines: Nomenclature, classification, structure, methods of preparation, physical and chemical properties, uses, identification of primary, secondary and tertiary amines. Diazonium salts: Preparation, chemical reactions and importance in synthetic organic chemistry.

Biomolecules

Carbohydrates - Classification (aldoses and ketoses), monosaccahrides (glucose and fructose), D-L configuration oligosaccharides (sucrose, lactose, maltose), polysaccharides (starch, cellulose, glycogen); Importance of carbohydrates. **Proteins -**Elementary idea of - amino acids, peptide bond, polypeptides, proteins, structure of proteins - primary, secondary, tertiary structure and quaternary structures (qualitative idea only), denaturation of proteins; enzymes. Hormones - Elementary idea excluding structure. **Vitamins -** Classification and functions. Nucleic Acids: DNA and RNA.

The Living World

Biodiversity; Need for classification; three domains of life; taxonomy and systematics; concept of species and taxonomical hierarchy; binomial nomenclature

Biological Classification

Five kingdom classification; Salient features and classification of Monera, Protista and Fungi into major groups; Lichens, Viruses and Viroids.

Plant Kingdom

Classification of plants into major groups; Salient and distinguishing features and a few examples of Algae, Bryophyta, Pteridophyta, Gymnospermae (Topics excluded – Angiosperms, Plant Life Cycle and Alternation of Generations)

Animal Kingdom

Salient features and classification of animals, non-chordates up to phyla level and chordates up to class level (salient features and at a few examples of each category).

Morphology of Flowering Plants

Morphology of different parts of flowering plants: root, stem, leaf, inflorescence, flower, fruit and seed. Description of families: Solanaceae

Anatomy of Flowering Plants

Anatomy and functions of tissue systems in dicots and monocots.

Structural Organisation in Animals

Morphology, Anatomy and functions of different systems (digestive, circulatory, respiratory, nervous and reproductive) of frog.

Cell-The Unit of Life

Cell theory and cell as the basic unit of life, structure of prokaryotic and eukaryotic cells; Plant cell and animal cell; cell envelope; cell membrane, cell wall; cell organelles - structure and function; endomembrane system- endoplasmic reticulum, ribosomes, golgi bodies, lysosomes, vacuoles; mitochondria, plastids, microbodies; cytoskeleton, cilia, flagella, centrioles (ultrastructure and function); nucleus.

Biomolecules

Chemical constituents of living cells: biomolecules, structure and function of proteins, carbohydrates, lipids, nucleic acids; Enzymes - properties, enzyme action.

Cell Cycle and Cell Division

Cell cycle, mitosis, meiosis and their significance

Photosynthesis in Higher Plants

Photosynthesis as a means of autotrophic nutrition; site of photosynthesis, pigments involved in photosynthesis (elementary idea); photochemical and biosynthetic phases of photosynthesis; cyclic and non-cyclic photophosphorylation; chemiosmotic hypothesis; photorespiration; C3 and C4 pathways; factors affecting photosynthesis.

Respiration in Plants

Exchange of gases; cellular respiration - glycolysis, fermentation (anaerobic), TCA cycle and electron transport system (aerobic); energy relations - number of ATP molecules generated; amphibolic pathways; respiratory quotient.

Plant - Growth and Development

Seed germination; phases of plant growth and plant growth rate; conditions for growth;

differentiation, dedifferentiation and redifferentiation; sequence of developmental processes in a plant cell; growth regulators - auxin, gibberellin, cytokinin, ethylene, ABA.

Breathing and Exchange of Gases

Introduction to respiratory organs in animals; Respiratory system in humans; mechanism of breathing and its regulation in humans - exchange of gases, transport of gases and regulation of respiration, respiratory volumes; disorders related to respiration - asthma, emphysema, occupational respiratory disorders.

Body Fluids and Circulation

Composition of blood, blood groups, coagulation of blood; composition of lymph and its function; human circulatory system - Structure of human heart and blood vessels; cardiac cycle, cardiac output, ECG; double circulation; regulation of cardiac activity; disorders of circulatory system - hypertension, coronary artery disease, angina pectoris, heart failure.

Excretory Products and their Elimination

Modes of excretion - ammonotelism, ureotelism, uricotelism; human excretory system – structure and function; urine formation, osmoregulation; regulation of kidney function - renin - angiotensin, atrial natriuretic factor, ADH, diabetes insipidus; micturition; role of other organs in excretion; disorders - uremia, renal failure, renal calculi, nephritis; dialysis and artificial kidney, kidney transplant.

Locomotion and Movement

Types of movement – amoeboid, ciliary, flagellar, muscular; skeletal muscle, contractile proteins and muscle contraction; skeletal system and its functions; joints; disorders of muscular and skeletal systems - myasthenia gravis, tetany, muscular dystrophy, arthritis, osteoporosis, gout.

Neuron and nerves; Nervous system in humans - central nervous system and peripheral nervous system; generation and conduction of nerve impulse; visceral nervous system.

Chemical Coordination and Integration

Endocrine glands and hormones; human endocrine system - hypothalamus, pituitary, pineal, thyroid, parathyroid, thymus, adrenal, pancreas, gonads; hormones of heart, kidney and gastrointestinal tract; mechanism of hormone action (elementary idea); role of hormones as messengers and regulators, hypo - and hyperactivity and related disorders; dwarfism, acromegaly, cretinism, goiter, exophthalmic goiter, diabetes, Addison's disease.

Neural Control and Coordination

Sexual Reproduction in Flowering Plants

Flower structure; development of male and female gametophytes; pollination - types, agencies and examples; outbreeding devices; pollen-pistil interaction; double fertilization; post fertilization events - development of endosperm and embryo, development of seed and formation of fruit; special modes- apomixis, parthenocarpy, polyembryony; Significance of seed dispersal and fruit formation.

Human Reproduction

Male and female reproductive systems; microscopic anatomy of testis and ovary; gametogenesis - spermatogenesis and oogenesis; menstrual cycle; fertilisation, embryo development upto blastocyst formation, implantation; pregnancy and placenta formation ; parturition ; lactation .

Reproductive Health

Need for reproductive health and prevention of Sexually Transmitted Diseases (STDs); birth control - need and methods; medical termination of pregnancy (MTP); amniocentesis; infertility and assisted reproductive technologies - IVF, ZIFT, GIFT

Principles of Inheritance and Variation

Heredity and variation, Mendelian inheritance; deviations from Mendelism – incomplete dominance, co-dominance, multiple alleles and inheritance of blood groups, pleiotropy; elementary idea of polygenic inheritance; chromosome theory of inheritance; chromosomes and

genes; linkage and crossing over; Sex determination - in human being, birds and honey bee; sex linked inheritance - haemophilia, colour blindness; Mendelian disorders in humans –thalassemia; chromosomal disorders in humans; Down's syndrome, Turner's and Klinefelter's syndromes.

Molecular Basis of Inheritance

Structure of DNA and RNA; DNA packaging; Search for genetic material and DNA as genetic 8 material; DNA replication; Central Dogma; transcription, genetic code, translation; gene expression and regulation - lac operon; Human genome project; DNA fingerprinting.

Evolution

Origin of life; biological evolution and evidences for biological evolution (paleontology, comparative anatomy, embryology and molecular evidences); adaptive radiation; Darwin's theory of evolution; mechanism of evolution - variation (mutation and recombination) and natural selection with examples, types of natural selection; Gene flow and genetic drift; Hardy - Weinberg's principle; human evolution

Human Health and Diseases

Pathogens; parasites causing human diseases (malaria, dengue, chikungunya, filariasis, ascariasis, typhoid, pneumonia, common cold, amoebiasis, ring worm) and their control; Basic concepts of immunology - vaccines; cancer, HIV and AIDS; Adolescence - drug and alcohol abuse.

Biotechnology - Principles and Processes

Genetic Engineering (Recombinant DNA Technology).

Biotechnology and its Application

Application of biotechnology in health and agriculture: genetically modified organisms - Bt crops; Human insulin, gene therapy; molecular diagnosis; transgenic animals; biosafety issues, biopiracy and patents.

Organisms and Populations

Population interactions - mutualism, competition, predation, parasitism, commensalism; population attributes - growth, birth rate and death rate, age distribution.

Ecosystem

Ecosystem, productivity and decomposition; energy flow; pyramids of number, biomass, energy.

Biodiversity and Conservation

Biodiversity - Concept, levels, patterns, importance; loss of biodiversity; biodiversity conservation; hotspots, endangered organisms, extinction, Red Data Book, Sacred Groves, biosphere reserves, national parks, wildlife, sanctuaries and Ramsar sites.

Syllabus –Lecturer (IP)

Computer Systems and Organization

- Basic Computer Organization: Introduction to computer system, hardware, software, input device, output device, CPU, memory (primary, cache and secondary), units of memory (Bit, Byte, KB, MB, GB, TB, PB)
- Types of software: system software (operating systems, system utilities, device drivers), programming tools and language translators (assembler, compiler & interpreter), application software
- Operating system (OS): functions of operating system, OS user interface
- Boolean logic: NOT, AND, OR, NAND, NOR, XOR, truth table, De Morgan's laws and logic circuits
- Number system: Binary, Octal, Decimal and Hexadecimal number system; conversion between number systems.
- Encoding schemes: ASCII, ISCII and UNICODE (UTF8, UTF32)

Computational Thinking and Programming

- Introduction to problem solving: Steps for problem solving (analysing the problem, developing an algorithm, coding, testing and debugging). representation of algorithms using flow chart and pseudo code, decomposition
- Familiarization with the basics of Python programming: Introduction to Python, features of Python, executing a simple "hello world" program, execution modes: interactive mode and script mode, Python character set, Python tokens (keyword, identifier, literal, operator, punctuator), variables, concept of l-value and r-value, use of comments
- Knowledge of data types: number (integer, floating point, complex), boolean, sequence (string, list, tuple), none, mapping (dictionary), mutable and immutable data types
- Operators: arithmetic operators, relational operators, logical operators, assignment operator, augmented assignment operators, identity operators (is, is not), membership operators (in, not in)
- Expressions, statement, type conversion & input/output: precedence of operators, expression, evaluation of expression, python statement, type conversion (explicit & implicit conversion), accepting data as input from the console and displaying output
- Errors: syntax errors, logical errors, runtime errors
- Flow of control: introduction, use of indentation, sequential flow, conditional and iterative flow control
- Conditional statements: if, if-else, if-elif-else, flowcharts, simple programs: e.g.: absolute value, sort 3 numbers and divisibility of a number
- Iterative statements: for loop, range function, while loop, flowcharts, break and continue statements, nested loops, suggested programs: generating pattern, summation of series, finding the factorial of a positive number etc
- Strings: introduction, indexing, string operations (concatenation, repetition, membership & slicing), traversing a string using loops, built-in functions: len(), capitalize(), title(), lower(), upper(), count(), find(), index(), endswith(), startswith(), isalnum(), isalpha(), isdigit(), islower(), isupper(), isspace(), lstrip(), rstrip(), strip(), replace(), join(), partition(), split()
- Lists: introduction, indexing, list operations (concatenation, repetition, membership & slicing), traversing a list using loops, built-in functions: len(), list(), append(), extend(), insert(), count(), index(), remove(), pop(), reverse(), sort(), sorted(), min(), max(), sum(); nested lists, suggested programs: finding the maximum, minimum, mean of numeric values stored in a list; linear search on list of numbers and counting the frequency of elements in a list
- Tuples: introduction, indexing, tuple operations (concatenation, repetition, membership & slicing), built-in functions: len(), tuple(), count(), index(), sorted(), min(), max(), sum(); tuple assignment, nested tuple, suggested programs: finding the minimum, maximum, mean of values stored in a tuple; linear search on a tuple of numbers, counting the frequency of

elements in a tuple

- Dictionary: introduction, accessing items in a dictionary using keys, mutability of dictionary (adding a new item, modifying an existing item), traversing a dictionary, built-in functions: len(), dict(), keys(), values(), items(), get(), update(), del(), clear(), fromkeys(), copy(), pop(), popitem(), setdefault(), max(), min(), count(), sorted(), copy(); suggested programs : count the number of times a character appears in a given string using a dictionary, create a dictionary with names of employees, their salary and access them
- Introduction to Python modules: Importing module using 'import ' and using from statement, Importing math module (pi, e, sqrt, ceil, floor, pow, fabs, sin, cos, tan); random module (random, randint, randrange), statistics module (mean, median,mode)

Society, Law and Ethics

- Digital Footprints
- Digital society and Netizen: net etiquettes, communication etiquettes, social media etiquettes
- Data protection: Intellectual Property Right (copyright, patent, trademark), violation of IPR (plagiarism, copyright infringement, trademark infringement), open source softwares and licensing (Creative Commons, GPL and Apache)
- Cyber-crime: definition, hacking, eavesdropping, phishing and fraud emails, ransomware, preventing cyber crime
- Cyber safety: safely browsing the web, identity protection, confidentiality, cyber trolls and bullying.
- Safely accessing web sites: malware, viruses, trojans, adware
- E-waste management: proper disposal of used electronic gadgets
- Indian Information Technology Act (IT Act)
- Technology & Society: Gender and disability issues while teaching and using computers

Computational Thinking and Programming – 2

- Functions: types of function (built-in functions, functions defined in module, user defined functions), creating user defined function, arguments and parameters, default parameters, positional parameters, function returning value(s), flow of execution, scope of a variable (global scope, local scope)
- Introduction to files, types of files (Text file, Binary file, CSV file), relative and absolute paths
- Text file: opening a text file, text file open modes (r, r+, w, w+, a, a+), closing a text file, opening a file using with clause, writing/appending data to a text file using write() and writelines(), reading from a text file using read(), readline() and readlines(), seek and tell methods, manipulation of data in a text file
- Binary file: basic operations on a binary file: open using file open modes (rb, rb+, wb, wb+, ab, ab+), close a binary file, import pickle module, dump() and load() method, read, write/create, search, append and update operations in a binary file
- CSV file: import csv module, open / close csv file, write into a csv file using csv.writerow() and read from a csv file using csv.reader( )

Computer Networks

- Evolution of networking: introduction to computer networks, evolution of networking (ARPANET, NSFNET, INTERNET)
- Data communication terminologies: concept of communication, components of data communication (sender, receiver, message, communication media, protocols), measuring capacity of communication media (bandwidth, data transfer rate), IP address, switching techniques (Circuit switching, Packet switching)
- Transmission media: Wired communication media (Twisted pair cable, Co-axial cable, Fiber-optic cable), Wireless media (Radio waves, Micro waves, Infrared waves)
- Network devices (Modem, Ethernet card, RJ45, Repeater, Hub, Switch, Router, Gateway, WIFI card)
- Network topologies and Network types: types of networks (PAN, LAN, MAN, WAN),

networking topologies (Bus, Star, Tree)

- Network protocol: HTTP, FTP, PPP, SMTP, TCP/IP, POP3, HTTPS, TELNET, VoIP, wireless/mobile communication protocol such as GSM, GPRS and WLL
- Introduction to web services: WWW, Hyper Text Markup Language (HTML), Extensible Markup Language (XML), domain names, URL, website, web browser, web servers, web hosting

Database Management

- Database concepts: introduction to database concepts and its need
- Relational data model: relation, attribute, tuple, domain, degree, cardinality, keys (candidate key, primary key, alternate key, foreign key)
- Structured Query Language: introduction, Data Definition Language and Data Manipulation Language, data type (char(n), varchar(n), int, float, date), constraints (not null, unique, primary key), create database, use database, show databases, drop database, show tables, create table, describe table, alter table (add and remove an attribute, add and remove primary key), drop table, insert, delete, select, operators (mathematical, relational and logical), aliasing, distinct clause, where clause, in, between, order by, meaning of null, is null, is not null, like, update command, delete command, aggregate functions (max, min, avg, sum, count), group by, having clause, joins: cartesian product on two tables, equi-join and natural join
- Interface of python with an SQL database: connecting SQL with Python, performing insert, update, delete queries using cursor, display data by using fetchone(), fetchall(), rowcount, creating database connectivity applications

Introduction to Computer System

- Introduction to computers and computing: evolution of computing devices, components of a computer system and their interconnections, Input/Output devices.
  - Computer Memory: Units of memory, types of memory – primary and secondary, data deletion, its recovery and related security concerns. Software: purpose and types – system and application software, generic and specific purpose software.

Introduction to Python

- Basics of Python programming, Python interpreter - interactive and script mode, the structure of a program, indentation, identifiers, keywords, constants, variables, types of operators, precedence of operators, data types, mutable and immutable data types, statements, expressions, evaluation of expressions, comments, input and output statements, data type conversion, debugging, control statements: if-else, for loop Lists: list operations - creating, initializing, traversing and manipulating lists, list methods and built-in functions.: len(), list(), append(), extend(), insert(), count(), find(), remove(), pop(), reverse(), sort(), sorted(), min(), max(), sum()
- Dictionary: concept of key-value pair, creating, initializing, traversing, updating and deleting elements, dictionary methods and built-in functions: len(), dict(), keys(), values(), items(), get(), update(), clear(), del()

Database concepts and the Structured Query Language

- Database Concepts: Introduction to database concepts and its need, Database Management System. Relational data model: concept of attribute, domain, tuple, relation, candidate key, primary key, alternate key, foreign key.
- Advantages of using Structured Query Language, Data Definition Language, Data Query Language and Data Manipulation Language, Introduction to MySQL, creating a database using MySQL, Data Types
- Definition Commands: CREATE TABLE
- Data Query Commands: SELECT-FROM- WHERE
- Data Manipulation Commands: INSERT

Emerging Trends

Artificial Intelligence, Machine Learning, Natural Language Processing, Immersive experience (AR, VR), Robotics, Big data and its characteristics, Internet of Things (IoT), Sensors, Smart cities, Cloud Computing and Cloud Services (SaaS, IaaS, PaaS); Grid Computing, Block chain technology.

Data Handling using Pandas

- Introduction to Python libraries- Pandas, Matplotlib.
- Data structures in Pandas - Series and Data Frames.
- Series: Creation of Series from – ndarray, dictionary, scalar value; mathematical operations; Head and Tail functions; Selection, Indexing and Slicing.
- Data Frames: creation - from dictionary of Series, list of dictionaries, Text/CSV files; display; iteration; Operations on rows and columns: add, select, delete, rename; Head and Tail functions; Indexing using Labels, Boolean Indexing;
- Importing/Exporting Data between CSV files and Data Frames.
- Data Visualization Purpose of plotting; drawing and saving following types of plots using Matplotlib – line plot, bar graph, histogram Customizing plots: adding label, title, and legend in plots

Database Query using SQL

- Math functions: POWER (), ROUND (), MOD ().
- Text functions: UCASE ()/UPPER (), LCASE ()/LOWER (), MID ()/SUBSTRING ()/SUBSTR (), LENGTH (), LEFT (), RIGHT (), INSTR (), LTRIM (), RTRIM (), TRIM ().
- Date Functions: NOW (), DATE (), MONTH (), MONTHNAME (), YEAR (), DAY (), DAYNAME ().
- Aggregate Functions: MAX (), MIN (), AVG (), SUM (), COUNT (); using COUNT (*).
- Querying and manipulating data using Group by, Having, Order by.

Introduction to Computer Networks

- Introduction to networks, Types of network: LAN, MAN, WAN.
- Network Devices: modem, hub, switch, repeater, router, gateway
- Network Topologies: Star, Bus, Tree, Mesh.
- Introduction to Internet, URL, WWW, and its applications- Web, email, Chat, VoIP.
- Website: Introduction, difference between a website and webpage, static vs dynamic web page, web server and hosting of a website.
- Web Browsers: Introduction, commonly used browsers, browser settings, add-ons and plug- ins, cookies.

Societal Impacts

- Digital footprint, net and communication etiquettes, data protection, intellectual property rights (IPR), plagiarism, licensing and copyright, free and open source software (FOSS), cybercrime and cyber laws, hacking, phishing, cyber bullying, overview of Indian IT Act.
- E-waste: hazards and management.
- Awareness about health concerns related to the usage of technology.

Syllabus - Lecturer (Commerce)

Accountancy

Introduction to Accounting

- Accounting- concept, meaning, as a source of information objectives, advantages and limitations, types of accounting information; users of accounting information and their needs. Qualitative Characteristics of Accounting Information. Role of Accounting in Business.
- Basic Accounting Terms- Business Transaction, entity, Capital, Drawings. Liabilities (Non-Current and Current). Assets (Non-Current, Current); Fixed assets (Tangible and Intangible), Expenditure (Capital and Revenue), Expense, Revenue, Income, Profit, Gain, Loss, Purchase, Sales, Goods, Stock, Debtor, Creditor, Voucher, Discount (Trade discount and Cash Discount)

Theory Base of Accounting

- Fundamental accounting assumptions: GAAP: Concept
- Business Entity, Money Measurement, Going Concern, Accounting Period, Cost Concept, Dual Aspect, Revenue Recognition, Matching, Full Disclosure, Consistency, Conservatism, Materiality and Objectivity System of Accounting. Basis of Accounting: cash basis and accrual basis
- Accounting Standards: Applicability of IndAS
- Goods and Services Tax (GST): Characteristics and Advantages.

Recording of Business Transactions

- Voucher and Transactions: Source documents and Vouchers, Preparation of Vouchers, Accounting Equation Approach: Meaning and Analysis, Rules of Debit and Credit.
- Recording of Transactions: Books of Original Entry- Journal
- Special Purpose books
- Cash Book: Simple, cash book with bank column and petty cashbook
- Purchases book
- Sales book
- Purchases return book
- Sales return book
- Journal Proper
- Ledger: Format, Posting from journal and subsidiary books, Balancing of accounts
- Bank Reconciliation Statement:
  - Need and preparation, Bank Reconciliation, Statement with Adjusted Cash Book
- Depreciation, Provisions and Reserves
  - Depreciation: Meaning, Features, Need, Causes, factors
  - Other similar terms: Depletion and Amortisation
  - Methods of Depreciation: i. Straight Line Method (SLM)

    ii. Written Down Value Method (WDV)
- Difference between SLM and WDV;
- Advantages of SLM and WDV Accounting treatment of depreciation
  i. Charging to asset account
  ii. Creating provision for depreciation/accumulated depreciation account
  iii. Treatment for disposal of asset
- Provisions and Reserves: Difference
- Types of Reserves: i. Revenue reserve ii. Capital reserve iii. General reserve iv. Specific reserve v. Secret Reserve

- Difference between capital and revenue reserve

Trial balance and Rectification of Errors

- Trial balance: objectives and meaning &preparation
- Errors: types-errors of omission, commission, principles, and compensating; their effect on Trial Balance. Detection and rectification of errors; preparation of suspense account.

Financial Accounting – II

- Financial Statements Meaning, objectives, and importance; Revenue and Capital Receipts; Revenue and Capital Expenditure;
- Deferred Revenue expenditure.
- Trading and Profit and Loss Account: Gross Profit, Operating profit and Net profit. Preparation.
- Balance Sheet: need, grouping and marshalling of assets and liabilities. Preparation.
- Adjustments in preparation of financial statements with respect to closing stock, outstanding expenses, prepaid expenses, accrued income, income received in advance, depreciation, bad debts, provision for doubtful debts, provision for discount on debtors, Abnormal loss, Goods taken for personal use/staff welfare, interest on capital and managers commission.
- Preparation of Trading and Profit and Loss account and Balance Sheet of a sole proprietorship with adjustments.

Accounting for Partnership Firms

- Partnership: features, Partnership Deed. Provisions of the Indian Partnership Act 1932 in the absence of partnership deed.
- Fixed v/s fluctuating capital accounts. Preparation of Profit and Loss Appropriation account- division of profit among partners, guarantee of profits.
- Past adjustments (relating to interest on capital, interest on drawing, salary and profit sharing ratio). Goodwill: meaning, nature, need, factors affecting and methods of valuation - average profit, super profit and capitalization.

Accounting for Partnership firms - Reconstitution and Dissolution.

- Change in the Profit Sharing Ratio among the existing partners - sacrificing ratio, gaining ratio, accounting for revaluation of assets and reassessment of liabilities and treatment of reserves, accumulated profits and losses. Preparation of revaluation account and balance sheet.
- Admission of a partner - effect of admission of a partner on change in the profit sharing ratio, treatment of goodwill (as per AS 26), treatment for revaluation of assets and reassessment of liabilities, treatment of reserves, accumulated profits and losses, adjustment of capital accounts and preparation of capital, current account and balance sheet.

Retirement and death of a partner

- effect of retirement / death of a partner on change in profit sharing ratio, treatment of goodwill (as per AS 26), treatment for revaluation of assets and reassessment of liabilities, adjustment of accumulated profits, losses and reserves, adjustment of capital accounts and preparation of capital, current account and balance sheet. Preparation of loan account of the retiring partner.
- Calculation of deceased partner's share of profit till the date of death. Preparation of deceased partner's capital account and his executor's account.

Dissolution of a partnership firm:

- Meaning of dissolution of partnership and partnership firm, types of dissolution of a firm. Settlement of accounts - preparation of realization account, and other related accounts: capital accounts of partners and cash/bank a/c (excluding piecemeal distribution, sale to a company and insolvency of partner(s)).

Accounting for Share Capital

- Features and types of companies
- Share and share capital: nature and types.
- Accounting for share capital: issue and allotment of equity and preferences shares. Public subscription of shares - over subscription and under subscription of shares; issue at par and at premium, calls in advance and arrears (excluding interest), issue of shares for consideration other than cash.
- Concept of Private Placement and Employee. Stock Option Plan (ESOP), Sweat Equity.
- Accounting treatment of forfeiture and reissue of shares. Disclosure of share capital in the Balance Sheet of a company.

Accounting for Debentures

- Debentures: Meaning, types, Issue of debentures at par, at a premium and at a discount. Issue of debentures for consideration other than cash; Issue of debentures with terms of redemption; debentures as collateral security-concept, interest on debentures. Writing off discount / loss on issue of debentures.

Financial statements of a Company:

- Meaning, Nature, Uses and importance of financial Statement.
- Statement of Profit and Loss and Balance Sheet in prescribed form with major headings and sub headings (as per Schedule III to the Companies Act, 2013)
- Financial Statement Analysis: Meaning, Significance Objectives, importance and limitations.
- Tools for Financial Statement Analysis: Cash flow analysis, ratio analysis.
- Accounting Ratios: Meaning, Objectives, Advantages, classification and computation.
- Liquidity Ratios: Current ratio and Quick ratio.
- Solvency Ratios: Debt to Equity Ratio, Total Asset to Debt Ratio, Proprietary Ratio and Interest Coverage Ratio. Debt to Capital Employed Ratio.
- Activity Ratios: Inventory Turnover Ratio, Trade Receivables Turnover Ratio, Trade Payables Turnover Ratio, Fixed Asset Turnover Ratio, Net Asset Turnover Ratio and Working Capital Turnover Ratio.
- Profitability Ratios: Gross Profit Ratio, Operating Ratio, Operating Profit Ratio, Net Profit Ratio and Return on Investment.

Cash Flow Statement

- Meaning, objectives Benefits, Cash and Cash Equivalents, Classification of Activities and preparation

Business Studies

Foundation of Business

- Meaning and features

Evolution and Fundamentals of Business

History of Trade and Commerce in India: Indigenous Banking System, Rise of Intermediaries, Transport, Trading Communities: Merchant Corporations, Major Trade Centres, Major Imports and Exports, Position of Indian Sub-Continent in the World Economy. Business–meaning and Characteristics, Business- profession and employment-Concept, Objectives of business Classification of business activities - Industry and Commerce, Industry-types: primary, secondary, tertiary Meaning and subgroups, Commerce-trade: (types-internal, external; wholesale and retail) and auxiliaries to trade; (banking, insurance, transportation, warehousing, communication, and advertising) – meaning, Business risk-Concept

Forms of Business organizations

Sole Proprietorship-Concept, merits and limitations, Partnership-Concept, types, merits and

limitation of partnership, registration of a partnership firm, partnership deed. Types of partners. Hindu Undivided Family Business: Concept. Cooperative Societies-Concept, merits, and limitations. Company - Concept, merits and limitations; Types: Private, Public and One Person Company – Concept. Formation of company - stages, important documents to be used in formation of a company. Choice of form of business organization

Public, Private and Global Enterprises

Public sector and private sector enterprises – Concept. Forms of public sector enterprises: Departmental Undertakings, Statutory. Corporations and Government Company. Global Enterprises – Feature. Public private partnership – concept

Business Services

Business services – meaning and types. Banking: Types of bank accounts - savings, current, recurring, fixed deposit and multiple option deposit account. Banking services with particular reference to Bank Draft, Bank Overdraft, Cash credit. E-Banking meaning, Types of digital payments. Insurance – Principles. Types – life, health, fire and marine insurance – concept. Postal Service-Mail, Registered Post, parcel, Speed Post, Courier-meaning

Emerging Modes of Business

E-business: concept, scope and benefits

Social Responsibility of Business **and Business Ethics**

Concept of social responsibility. Case of social responsibility. Responsibility towards owners, investors, consumers, employees, government and community. Role of business in environment protection. Business Ethics - Concept and Elements.

Finance and Trade-Sources of Business Finance

Concept of business finance. Owners' funds- equity shares, preferences share, retained earnings. Borrowed funds: debentures and bonds, loan from financial institution and commercial banks, public deposits, trade credit, Inter Corporate Deposits (ICD).

Small Business and Enterprises

Entrepreneurship Development (ED): Concept, Characteristics and Need. Process of Entrepreneurship Development: Start-up India Scheme, ways to fund start-up. Intellectual Property Rights and Entrepreneurship. Small scale enterprise as defined by MSMED Act 2006 (Micro, Small and Medium Enterprise Development Act). Role of small business in India with special reference to rural areas. Government schemes and agencies for small scale industries: National Small Industries Corporation (NSIC) and District Industrial Centre (DIC) with special reference to rural, backward areas.

Internal Trade

Internal trade - meaning and types services rendered by a wholesaler and a retailer. Types of retail-trade-Itinerant and small scale fixed shops retailers. Large scale retailers-Departmental stores, chain stores – concept. GST (Goods and Services Tax): Concept and key-features.

International trade:

Concept and benefits. Export trade – Meaning and procedure. Import Trade - Meaning and procedure. Documents involved in International Trade; indent, letter of credit, shipping order, shipping bills, mate's receipt (DA/DP). World Trade Organization (WTO) meaning and objectives.

Nature and Significance of Management

Management - concept, objectives, and importance. Management as Science, Art and Profession. Levels of Management. Management functions-planning, organizing, staffing, directing and controlling. Coordination- concept and importance.

Principles of Management

Principles of Management- concept and significance. Fayol's principles of management. Taylor's
Scientific management- principles and techniques.

Business Environment

Business Environment- concept and importance Dimensions of Business Environment- Economic, Social, Technological, Political and Legal. Demonetization - concept and features.

Planning

Concept, importance and limitation. Planning process. Single use and standing plans. Objectives, Strategy, Policy, Procedure, method Rule, budget and Programme.

Organising

Concept and importance. Organising Process. Structure of organisation- functional and divisional concept. Formal and informal organisation- concept. Delegation: concept, elements and importance. Decentralization: concept and importance.

Staffing

Concept and importance of staffing. Staffing as a part of Human Resource Management concept. Staffing process. Recruitment process. Selection – process. Training and Development - Concept and importance, Methods of training - on the job and off the job - vestibule training, apprenticeship training and internship training.

Directing

Concept and importance. Elements of Directing. Motivation - concept, Maslow's hierarchy of needs, Financial and non-financial incentives. Leadership - concept, styles - authoritative, democratic and laissez faire. Communication - concept, formal and informal communication; barriers to effective communication, how to overcome the barriers.

Controlling

Controlling - Concept and importance. Relationship between planning and controlling. Steps in process of control.

Financial Management

Concept, role and objectives of Financial Management. Financial decisions: investment, financing and dividend- Meaning and factors affecting. Financial Planning - concept and importance. Capital Structure – concept and factors affecting capital structure. Fixed and Working Capital - Concept and factors affecting their requirements.

Financial Markets

Financial Markets: Concept. Money Market: Concept. Capital market and its types (primary and secondary). Stock Exchange - Functions and trading procedure. Securities and Exchange Board of India(SEBI)-objectives and functions

Marketing

Marketing – Concept, functions and philosophies. Marketing Mix – Concept and elements. Product - branding, labelling and packaging – Concept. Price - Concept, Factors determining price. Physical Distribution – concept, components and channels of distribution. Promotion – Concept and elements; Advertising, Personal Selling, Sales Promotion and Public Relations

Consumer Protection

Concept and importance of consumer protection. The Consumer Protection Act, 2019: Meaning of consumer. Rights and responsibilities of consumers Who can file a complaint? Redressal machinery Remedies available. Consumer awareness - Role of consumer organizations and Non-Governmental Organizations (NGOs)

Syllabus – Lecturer (Economics)

Introduction

Meaning, scope, functions and importance of statistics in Economics

Collection, Organisation and Presentation of data

- Collection of data - sources of data - primary and secondary; how basic data is collected with concepts of Sampling; methods of collecting data; some important sources of secondary data: Census of India and National Sample Survey Organisation.
- Organisation of Data: Meaning and types of variables; Frequency Distribution.
- Presentation of Data: Tabular Presentation and Diagrammatic Presentation of Data: (i) Geometric forms (bar diagrams and pie diagrams), (ii) Frequency diagrams (histogram, polygon and Ogive) and (iii) Arithmetic line graphs (time series graph).

Statistical Tools and Interpretation

- Measures of Central Tendency- Arithmetic mean, median and mode
- Correlation – meaning and properties, scatter diagram; Measures of correlation - Karl Pearson's method (two variables ungrouped data) Spearman's rank correlation.
- Introduction to Index Numbers - meaning, types - wholesale price index, consumer price index and index of industrial production, uses of index numbers; Inflation and index numbers.

Introduction to Microeconomics

- Meaning of microeconomics and macroeconomics; positive and normative economics
- What is an economy? Central problems of an economy: what, how and for whom to produce; concepts of production possibility frontier and opportunity cost.

Consumer's Equilibrium and Demand

- Consumer's equilibrium - meaning of utility, marginal utility, law of diminishing marginal utility, conditions of consumer's equilibrium using marginal utility analysis.
- Indifference curve analysis of consumer's equilibrium-the consumer's budget (budget set and budget line), preferences of the consumer (indifference curve, indifference map) and conditions of consumer's equilibrium.
- Demand, market demand, determinants of demand, demand schedule, demand curve and its slope, movement along and shifts in the demand curve; price elasticity of demand - factors affecting price elasticity of demand; measurement of price elasticity of demand – percentage-change method and total expenditure method.

Producer Behaviour and Supply

- Meaning of Production Function – Short-Run and Long-Run
- Total Product, Average Product and Marginal Product.
- Returns to a Factor
- Cost: Short run costs - total cost, total fixed cost, total variable cost; Average cost; Average fixed cost, average variable cost and marginal cost-meaning and their relationships.
- Revenue - total, average and marginal revenue - meaning and their relationship.
- Producer's equilibrium-meaning and its conditions in terms of marginal revenue marginal cost. Supply, market supply, determinants of supply, supply schedule, supply curve and its slope, movements along and shifts in supply curve, price elasticity of supply; measurement of price elasticity of supply - percentage-change method.

Forms of Market and Price Determination under Perfect Competition with simple applications.

- Perfect competition - Features; Determination of market equilibrium and effects of shifts

in demand and supply.

- Simple Applications of Demand and Supply: Price ceiling, price floor.

National Income and Related Aggregates

- Basic concepts in macroeconomics: consumption goods, capital goods, final goods, intermediate goods; stocks and flows; gross investment and depreciation.
- Circular flow of income (two sector model); Methods of calculating National Income - Value Added or Product method, Expenditure method, Income method.
- Aggregates related to National Income: Gross National Product (GNP), Net National Product (NNP), Gross Domestic Product (GDP) and Net Domestic Product (NDP) - at market price, at factor cost; Real and Nominal GDP.
- GDP and Welfare

Money and Banking

- Money – meaning and functions, supply of money - Currency held by the public and net demand deposits held by commercial banks.
- Money creation by the commercial banking system.
- Central bank and its functions (example of the Reserve Bank of India): Bank of issue, Govt. Bank, Banker's Bank, Control of Credit through Bank Rate, CRR, SLR, Repo Rate and Reverse Repo Rate, Open Market Operations, Margin requirement.

Determination of Income and Employment

- Aggregate demand and its components.
- Propensity to consume and propensity to save (average and marginal).
- Short-run equilibrium output; investment multiplier and its mechanism.
- Meaning of full employment and involuntary unemployment.
- Problems of excess demand and deficient demand; measures to correct them - changes in government spending, taxes and money supply.

Government Budget and the Economy

- Government budget - meaning, objectives and components.
- Classification of receipts - revenue receipts and capital receipts;
- Classification of expenditure – revenue expenditure and capital expenditure.
- Balanced, Surplus and Deficit Budget – measures of government deficit.

Balance of Payments

- Balance of payments account - meaning and components;
- Balance of payments – Surplus and Deficit
- Foreign exchange rate - meaning of fixed and flexible rates and managed floating.
- Determination of exchange rate in a free market, Merits and demerits of flexible and fixed exchange rate. Managed Floating exchange rate system

Development Experience (1947-90) and Economic Reforms since 1991:

- A brief introduction of the state of Indian economy on the eve of independence. Indian economic system and common goals of Five Year Plans.
- Main features, problems and policies of agriculture (institutional aspects and new agricultural strategy), industry (IPR 1956; SSI – role & importance) and foreign trade.
- Economic Reforms since 1991:

  Features and appraisals of liberalisation, globalisation and privatisation (LPG policy); Concepts of demonetization and GST

Current challenges facing Indian Economy

- Human Capital Formation: How people become resource; Role of human capital in economic development; Growth of Education Sector in India

- Rural development: Key issues - credit and marketing - role of cooperatives; agricultural diversification; alternative farming - organic farming
- Employment: Growth and changes in work force participation rate in formal and informal sectors; problems and policies
- Sustainable Economic Development: Meaning, Effects of Economic Development on Resources and Environment, including global warming

Development Experience of India:

- A comparison with neighbours
- Issues: economic growth, population, sectoral development and other Human Development Indicators

Syllabus – Lecturer (Geography)

Geography as a Discipline

- Geography as an integrating discipline, as a science of spatial attributes
- Branches of Geography: Physical Geography and Human Geography

The Earth

- Origin and evolution of the earth
- Interior of the earth Earthquakes and volcanoes: causes, types and effects
- Distribution of oceans and continents : Wegener's continental drift theory and plate tectonics

Landforms

- Geomorphic processes: weathering; mass wasting; erosion and deposition; soil- formation
- Landforms and their evolution- Brief erosional and depositional features

Climate

- Atmosphere- composition and structure; elements of weather and climate
- Solar Radiation-Insolation-angle of incidence and distribution; heat budget of the earth-heating and cooling of atmosphere (conduction, convection, terrestrial radiation and advection); temperature- factors controlling temperature; distribution of temperature-horizontal and vertical; inversion of temperature
- Atmospheric circulation and weather systems - Pressure-pressure belts; winds-planetary, seasonal and local; air masses and fronts; tropical and extra tropical cyclones
- Water in the atmosphere-Precipitation- evaporation; condensation-dew, frost, fog, mist and cloud; rainfall-types and world distribution
- World Climate and Global Concerns

Water (Oceans)

- Basics of Oceanography
- Oceans - distribution of temperature and salinity
- Movements of ocean water-waves, tides and currents; submarine reliefs

Life on the Earth

- Biosphere - importance of plants and other organisms; biodiversity and conservation

India-Physical Environment

- India : Location, space relations, India's place in the world

Physiography

- Structure and Relief; Physiographic Divisions
- Drainage systems: Concept of river basins, watershed; the Himalayan and the Peninsular rivers

Climate, Vegetation and Soil

- Weather and climate - spatial and temporal distribution of temperature, Indian monsoon: mechanism, onset and withdrawal
- Natural vegetation-forest types and distribution; wild life; conservation; biosphere reserves

Hazards and Disasters: Causes, Consequences and Management

- Floods, Cloudbursts
- Droughts: types and impact
- Earthquakes and Tsunami Cyclones: features and impact

- Landslides

Fundamentals of Maps

- Geo spatial data, Concept of Geographical data matrix; Point, line, area data
- Maps - types; scales-types; construction of simple linear scale, measuring distance; finding direction and use of symbols
- Map projection- Latitude, longitude and time, typology, construction and properties of projection: Conical with one standard parallel and Mercator's projection.

Topographic and Weather Maps

- Study of topographic maps (1 : 50,000 or 1 : 25,000 Survey of India maps); contour cross section and identification of landforms-slopes, hills, valleys, waterfall, cliffs; distribution of settlements
- Satellite imageries, stages in remote sensing data- acquisition, platform and sensors and data products, (photographic and digital)

People

- The World Population- distribution, density and growth
- Population change - Components of population change, Demographic Transition
- Human development-concept; selected indicators, international comparisons
- Population: distribution, density and growth; composition of population - linguistic, religious; sex, rural-urban and occupational-regional variations in growth of population

Human Activities

- Primary activities - concept and changing trends; gathering, pastoral, mining, subsistence agriculture, modern agriculture; people engaged in agricultural and allied activities - some examples from selected countries
- Secondary activities- concept; manufacturing: types - household, small scale, large scale; agro based and mineral based industries;
- Tertiary activities - concept; trade, transport and tourism; services; people engaged in tertiary activities
- Quaternary activities- concept; people engaged in quaternary activities - case study from selected countries

Human Settlements

- Rural settlements - types and distribution
- Urban settlements - types, distribution and functional classification

Transport, Communication and Trade

- Land transport - roads, railways; trans- continental railways Water transport- inland waterways; major ocean routes
- Air transport- Intercontinental air routes Oil and gas pipelines
- Satellite communication and cyber space- importance and usage for geographical information; use of GPS
- International trade- bases and changing patterns; ports as gateways of international trade; role of WTO in international trade

Resources and Development

- Land resources- general land use; agricultural land use; geographical conditions and distribution of major crops (Wheat, Rice, Tea, Coffee, Cotton, Jute, Sugarcane and Rubber); agricultural development and problems
- Water resources-availability and utilization- irrigation, domestic, industrial and other uses; scarcity of water and conservation methods-rain water harvesting and watershed management

- Mineral and energy resources- distribution of metallic (Iron ore, Copper, Bauxite, Manganese); non-metallic (Mica, Salt) minerals; conventional (Coal, Petroleum, Natural gas and Hydroelectricity) and non-conventional energy sources (solar, wind, biogas) and conservation
- Planning in India- target group area planning(case study); idea of sustainable development (case study)

Transport, Communication and International Trade

- Transport and communication-roads, railways, waterways and airways: oil and gas pipelines; Geographical information and communication net works
- International trade- changing pattern of India's foreign trade; sea ports and their hinterland and airports

Geographical Perspective on selected issues and problems

- Environmental pollution; urban-waste disposal
- Urbanization, rural-urban migration; problems of slums
- Land degradation

Syllabus - Lecturer (History)

Writing and City Life

Iraq, 3rd millennium BCE

- Growth of towns
- Nature of early urban societies
- Historians' Debate onuses of writing

An Empire across Three Continents

Roman Empire, 27BCEto600 CE

- Political evolution
- Economic Expansion
- Religion-culture foundation
- Late Antiquity
- Historians' view on the Institution of Slavery

NOMADIC EMPIRES

The Mongol, 13th to 14th century

- The nature of nomadism
- Formation of empires
- Conquests and relations with other states
- Historians' views on nomadic societies and state formation

The Three Orders.

Western Europe 13th - 16th century

- Feudal society and economy
- Formation of state
- Church and society
- Historians' views on decline of feudalism

Changing Cultural Traditions

Europe 14th -17th century

- New ideas and new trends in literature and arts
- Relationship with earlier ideas
- The contribution of West Asia
- Historians' viewpoint on the validity of the notion 'European Renaissance

Displacing Indigenous People

North America and Australia, 18th to 20th century

- European colonists in North America and Australia
- Formation of White Settler societies
- Displacement and repression of local people
- Historians' viewpoint on the impact of European settlement on indigenous population

Paths to Modernization

East Asia, late 19th to 20th century

- Militarization and economic growth in Japan
- China and the communist alternative
- Historians' Debate on the meaning of modernization

BRICKS, BEADS AND BONES

The Harappan Civilization

- Broad overview: Early urban centers
- Story of discovery: Harappan civilization
- Excerpt: Archaeological report on a major site

KINGS, FARMERS AND TOWNS:

- Early States and Economies (c. 600 BCE-600 CE)
- Broad overview: Political and economic History from the Mauryan to the Gupta period
- Story of discovery: Inscriptions and the Decipherment of the script. Shifts in the Understanding of political and economic history.
- Excerpt: Ashokan inscription and Gupta period land grant

KINSHIP, CASTE AND CLASS

Early Society Societies (C. 600 BCE-600 CE)

- Broad overview: Social Histories: Using the Mahabharata
- Issues in social history, including caste, class, kinship an d gender
- Story of discovery: Transmission and publications of the Mahabharat
- Excerpt: from the Mahabharata, illustrating how it has been used by historians.

THINKERS, BELIEFS AND BUILDINGS

Cultural Developments (c. 600 BCE - 600 CE)

- Broad overview: A History of Buddhism: Sanchi Stupa a) A brief review of religious histories of Vedic religion, Jainism, Vaishnavism, Shaivism (Puranic Hinduism) b) Focus on Buddhism.
- Story of discovery: Sanchi stupa. Excerpt: Reproduction of sculptures from Sanchi.

THROUGH THE EYES OF TRAVELLERS

Perceptions of Society (tenth to seventeenth century)

- Broad Overview: outlines of social and cultural life as they appear in traveller's account.
- Story of their writings: A discussion of where they travelled, what they wrote and for whom they wrote.
- Excerpts: from Al Biruni, Ibn Battuta, Francois Bernier.

BHAKTI –SUFI TRADITIONS:

Changes in Religious Beliefs and Devotional Texts (eighth to eighteenth centuries)

- Broad overview: a. Outline of religious developments during this period saints. b. Ideas and practices of the Bhakti-Sufi
- Story of Transmission: How Bhakti-Sufi compositions have been preserved.
- Excerpt: Extracts from selected Bhakti-Sufi works

AN IMPERIAL CAPITAL: VIJAYANAGARA (fourteenth to sixteenth centuries)

- Broad Over View: New Architecture: Hampi a. Outline of new buildings during Vijayanagar period-temples, forts, irrigation facilities. b. Relationship between architecture and the political system
- Story of Discovery: Account of how Hampi was found.
- Excerpt: Visuals of buildings at Hampi

PEASANTS, ZAMINDARS AND THE STATE:

Agrarian Society and the Mughal Empire (c. sixteenth-seventeenth centuries)

- Broad overview: The Aini-Akbari a. Structure of agrarian relations in the 16th and 17th centuries. b. Patterns of change over the period.
- Story of Discovery: Account of the compilation and translation of Ain I Akbari
- Excerpt: from the Ain-i-Akbari.

COLONIALISM AND THE COUNTRYSIDE: Exploring Official Archives

- Broad overview: Colonialism and Rural Society: Evidence from Official Reports
  a) Life of zamindars, peasants and artisans in the late 18th century
  b). Permanent Settlement, Santhals and Paharias
- Story of official records: An account of why official Investigations in to rural societies were undertaken and the types of records and reports produced.
- Excerpts: From Fifth Report

REBELS AND THE RAJ: 1857 Revolt and its Representations

- Broad overview:
  a. The eventsof1857-58.
  b. Vision of Unity
  c. How these events were recorded and narrated. Focus: Lucknow
- Excerpts: Pictures of 1857.
- Extracts from contemporary accounts.

MAHATMA GANDHI AND THE NATIONALIST MOVEMENT:

- Civil Disobedience and Beyond Broad overview:
  a. The Nationalist Movement 1918 -48.
  b. The nature of Gandhian politics and leadership.
- Focus: Mahatma Gandhi and the three movements and his last days as "finest hours"
- Excerpts: Reports from English and Indian language newspapers and other contemporary writings.

FRAMING THE CONSTITUTION:

- The Beginning of a New Era Broad overview: The Making of the Constitution an overview:
  a. Independence and then new nation state.
  b. The making of the Constitution
- Focus: The Constituent Assembly Debates
- Excerpts: from the debates

Syllabus - Lecturer (ENGLISH)

Section A: Reading

Comprehension

Three or four unseen passages from different genres (prose, poetry, drama, articles, editorials, scientific, and literary extracts).
Questions will test comprehension, inference, vocabulary, tone, rhetorical devices, and logical sequencing.

Section B: Writing Ability

B1. Functional Writing:

Formal and Informal Letters: Business letters, job applications, letters to editors, complaints, and personal letters.
Report Writing: Factual description of events, newspaper reports, and analytical reports. Notices, Circulars, and Press Releases.

B2. Creative and Analytical Writing:

Essay Writing: Argumentative, analytical, reflective, and descriptive essays.
Article/Debate/Speech: Expressing opinions on socio-political, economic, and educational issues.

Section C: Grammar and Usage

Parts of Speech: Nouns, Pronouns, Verbs, Adverbs, Adjectives, Prepositions, Conjunctions. Sentence Structure: Types of sentences, subject-verb agreement, parallelism, and sentence connectors.
Tenses and Their Usage: Active-passive voice, sequence of tenses, and reported speech. Clauses: Noun, adjective, and adverb clauses.
Common Errors: Articles, prepositions, modifiers, redundancy, and word order.
Editing and Proofreading: Error detection, sentence correction, and transformation.

Section D: Literature

D1. British Literature:

Elizabethan and Jacobean Drama: William Shakespeare, Christopher Marlowe, Ben Jonson. Poetry: John Donne, Alexander Pope, William Wordsworth, Samuel Taylor Coleridge, John Keats.
Victorian and Modern Writers: Charles Dickens, Thomas Hardy, Virginia Woolf, T.S. Eliot, George Orwell.

D2. American Literature:

Poets: Robert Frost, Emily Dickinson, Langston Hughes.
Prose and Drama: Arthur Miller, Ernest Hemingway, Mark Twain, Harper Lee.

D3. Indian Writing in English:
R.K. Narayan, Mulk Raj Anand, Anita Desai, Vikram Seth, Arundhati Roy, Amitav Ghosh.

D4. World Literature:

Gabriel García Márquez, Chinua Achebe, Pablo Neruda, Khaled Hosseini.

D5. Literary Criticism and Movements:

Classicism, Romanticism, Modernism, Postmodernism, Feminism, Post colonialism, Structuralism.

SYLLABUS FOR LECTURER- HINDI

साहित्यिक अभिरुचि परीक्षण

(i) आदिकाल से रीतिकाल

इसके अन्तर्गत कालगत परिस्थितियाँ एवं साहित्य पर उसका प्रभाव, प्रत्येक युग के साहित्य की प्रमुख प्रवृत्तियाँ, प्रमुख रचनाकार एवं उनकी रचनाएँ, साहित्यिक विशेषताएँ, भाषा शैली

(क) आदिकाल - चंदबरदाई, अमीर खुसरो, विद्यापति

(ख) भक्तिकाल

(1) निर्गुण भक्तिधारा - ज्ञानमार्गी शाखा, प्रेममार्गी शाखा, कबीर, दादू, रैदास, नानक, जायसी, कुतुबन

(2) सगुण भक्तिधारा - राम भक्तिशाखा, कृष्ण-भक्ति शाखा, तुलसीदास, केशव, सूरदास, मीराबाई, अष्टछाप के कवि, रसखान

(ग) रीतिकाल - रीतिबद्ध, रीतिसिद्ध, रीतिमुक्त काव्य देव, घनानंद, बिहारी, मतिराम, सेनापति, भूषण, पद्माकर

(ii) आधुनिक काल

इसके अन्तर्गत युगीन परिस्थितियाँ, साहित्यिक पृष्ठभूमि, मुख्य विचारधारा, मुख्य साहित्यकार, साहित्यिक रचनाएँ, विशेषताएँ, भाषा-शैली

(क) भारतेन्दु युग - भारतेन्दु हरिश्चंद्र, बालमुकुन्दगुप्त, बद्रीनारायण चौधरी 'प्रेमधन,

(ख) द्विवेदीयुग - महावीर प्रसाद द्विवेदी, श्रीधर पाठक, अयोध्यासिंह उपाध्याय 'हरिऔध', मैथिलीशरणगुप्त

(ग) छायावाद - जयशंकर प्रसाद, महादेवी वर्मा, सुमित्रानन्दन पंत, सूर्यकान्त त्रिपाठी निराला,

(घ) छायावादोत्तर युग - हरिवंश राय बच्चन, माखनलाल चतुर्वेदी, बालकृष्ण शर्मा 'नवीन', नरेन्द्र शर्मा, केदारनाथ अग्रवाल, नागार्जुन, मुक्तिबोध, नेमिचंद्र जैन, प्रभाकर माचवे, गिरिजा कुमार माथुर, रामविलास शर्मा, 'अज्ञेय' भवानी प्रसाद मिश्र, नरेन्द्र शर्मा, धूमिल, धर्मवीर भारती, शंभुनाथ सिंह, रघुवीर सहाय

(iii) गद्य साहित्य

(क) अधोलिखित लेखकों का व्यक्तित्व और कृतित्व-

भारतेन्दु, रामचंद्र शुक्ल, प्रेमचंद, जैनेन्द्र कुमार, हजारीप्रसाद द्विवेदी, धर्मवीर भारती, रामविलास शर्मा, निर्मल वर्मा, फणीश्वरनाथ रेणु, कृष्णा सोबती, भीष्म साहनी, शेखर जोशी, विष्णु खरे, ममता कालिया

(ख) गद्य एवं अन्य विधाओं का प्रारम्भ, विकास, प्रमुख प्रवृत्तियाँ, प्रमुख साहित्यकार, रचनाएँ, साहित्यिक विशेषताएँ, भाषाशैली

(ग) निबंध, कथासाहित्य, उपन्यास और कहानी, नाटक, एकांकी, रेखाचित्र, संस्मरण, यात्रा-वृतांत, आत्मकथा, जीवनी, पत्र, डायरी, आलोचना, रिपोतार्ज आदि इन सभी विधाओं का विस्तृत परिचय

(iv) साहित्य शास्त्र: -

काव्य स्वरूप, काव्य-आत्मा, काव्य गुण-दोष, शब्द-शक्ति, रस, अलंकार (शब्दालंकार, अर्थालंकार,

उभयालंकार एवं नए अलंकार) बिंब, छंद, प्रतीक, भाषा, भाषा-शैली एवं पाश्चात्य काव्यशास्त्र

(v) हिंदी भाषा का क्रमिक विकास, हिंदी भाषा की बोलियाँ एवं उपबोलियों एवं उसकी विशेषताएँ एवं भाषा परिवार

(vi) **अपठित बोध** - अपठित गद्यांश / काव्यांश पर आधारित अर्थग्रहण, भाव-सौंदर्य, शिल्प-सौंदर्य सम्बंधी प्रश्न

व्याकरणिक प्रयोग परीक्षण

(i) वर्ण विचार -

* ध्वनियों का वर्गीकरण, वर्ण-वर्गीकरण, उच्चारण-स्थान
* वर्णमाला, वर्तनी, सन्धि / सन्धिविच्छेद

(ii) शब्द - विचार एवं शब्द भंडार

* शब्द भेद - उत्पत्ति, रचना, रूप और अर्थ की दृष्टि से शब्द
* शब्द भंडार-पर्यायवाची, विपरीतार्थी, एकार्थी, अनेकार्थी, श्रुतिसम भिन्नार्थक शब्द
* शब्द-युग्म शब्द निर्माण – उपसर्ग, प्रत्यय, समास

(iii) पद-विचार, पदबंध, पद-परिचय

* संज्ञा, सर्वनाम, विशेषण, विशेष्य (परिभाषा, भेद, लिंग, वचन, कारक)
* क्रिया (परिभाषा, भेद, अकर्मक, सकर्मक, काल, संरचना की दृष्टि से क्रिया भेद, वाच्य, वाच्य भेद, वाच्य परिवर्तन),
* अव्यय (परिभाषा, भेद- क्रिया विशेषण, संबंधबोधक, समुच्चयबोधक, विस्मयादिबोधक निपात)
* पदबंध – भेद एवं प्रयोग
* पद-परिचय

(iv) वाक्य- विचार

* वाक्य संरचना, वाक्य भेद अर्थ एवं रचना की दृष्टि से
* वाक्य परिवर्तन, वाक्य-संश्लेषण, वाक्य विश्लेषण
* विराम चिह्न, लोकोक्ति एवं मुहावरे

प्रयोजनमूलक हिंदी कौशल परीक्षण

* पत्रकारिता एवं उसके विविध आयाम
* प्रिंटमाध्यम समाचार, संपादकीय, रिपोर्ट, आलेख, फीचर, साक्षात्कार आदि के लिए लेखन,
* रेडियो व दूरदर्शन के लिए लेखन,
* विज्ञापन लेखन, उद् घोषणा, स्वागत भाषण, संगोष्ठी संचालन आदि
* कहानी का कविता में रूपान्तरण, कविता, कहानी, लघुकथा, डायरी लेखन आदि
* कार्यालयी हिन्दी, कार्यसूची, कार्यवृत्त, प्रतिवेदन, सरकारी पत्र, सूचनाएं, निविदाएं आदि

व्यावहारिक लेखन

* व्यावहारिक हिन्दी का स्वरूप
* प्रयोजनमूलक हिन्दी और उसके विविध आयाम

सर्जनात्मक लेखन एवं मौलिक अभिव्यक्ति

* दिए गए विषय पर कविता, लघुकथा एवं रचनात्मक लेख संबंधी मौलिक रचना ।
* कहानी का कविता में रूपान्तरण ।
* अनुभवों के आधार पर लेखन ।
*वार्तालाप की दक्षता के विकास हेतु संवाद लेखन ।
*किसी भी समसामयिक विषय पर कहानी / कविता लेखन ।

LECTURER: Physical Education

Unit -I:

Physical education and adapted physical education, their objectives
Philosophies of education as applied to physical education

Development of Physical education in Greece, Rome, Sweden, Russia England, Denmark, Germany, USA, Australia and China.

Growth and development of physical education in India:

Recreation- its principles, characteristics and importance. Modern trends in recreation. Indoor and outdoor recreational programmes. Recreational programmes for various categories of people.

Wellness- its importance, benefits and challenges. Development and maintenance of wellness.

Teaching Aptitude – nature, objectives, characteristics of teaching, learner characteristics and teaching methods.

Social aspects of sports- sports as a socializing agency, social values, sports leadership, sports as cultural heritage and social aspects of competition.

Ancient & Modern Olympics games, Asian and Commonwealth games.

Structure and functions of international and national bodies controlling various games and sports,. Prominent honours and awards in games and sports.

Unit -II:

Exercise physiology its scope and importance in the field of physical education and sports.

Cardio respiratory adaptations to long and short term physical activities.

Muscle- its types, characteristics and functions. Microscopic structure of muscle fibre. Sliding filament theory of muscular contraction. Types of muscle fibres and sports performance. Muscular adaptations to exercise.

Neuro-muscular junction and transmission of nerve impulse, kinesthetic Sense organs and neural control of motor skills.

Bio-chemical aspects of exercise - Metabolism of food products. Aerobic and anaerobic systems during rest and exercise. Direct and indirect methods of measuring energy cost of exercise.

Recovery process - Physiological aspects of fatigue. Restoration of energy stores. Recovery oxygen. Nutritional aspects of performance.

Environmental influence on human physiology under exercise.

Women in sports- trainability. Physiological gender differences and special problems of women athletes.

Aging - Physiological consequences, life style management and healthful aging. Physiological responses of

various therapeutic modalities and rehabilitation.

Physiological aspects of various Ergogenic aids. Massage manipulations and their physiological responses.

Unit- III:

Kinesiology and biomechanics. Modern trends in biomechanics. Planes and Axes of human body. Joints and their movements.

Muscle attachments - Origin, insertion, action and leverage of the principal muscles used in sports.

Motion: its laws and their application in sports. Projectile and principles of projections

Linear and angular kinematics and kinetics. Friction, Spin, impact

and elasticity.

Air and water dynamics.

Mechanical advantage and applications of Levers in sports. Posture and its

deformities with their corrective exercises.

Kinesiological, Muscular and mechanical analyses of fundamental movements: Mechanical analyses of major

sports skills

Unit – IV:

Sports psychology- its importance in the field of physical education and sports. Motivation in sports- types, theories and dynamics.

Psychological factors affecting sports performance- Emotions, Anxiety aggression, stress, self-confidence, concentration , mental practice and goal setting.

Personality- Theories of personality, measurement of personality.
Group dynamics, Group cohesion and leadership in sports.

Cognitive process- memory and thinking. Principles of Motor skill learning. Transfer of training and its types with its implication in sports.

Long and short term psychological preparation for performance/ competition. Psychological skill training for activation and relaxation

Spectators and sports performance.

Unit -V:

Development of teacher education for physical education in India. Comparative study of professional preparation in physical education of India with those of USA, Russia, Germany, Australia and UK.

Professional and other courses of physical education in India. Role of Government agencies monitoring professional courses in physical education.

Qualities, qualifications and responsibilities of physical education personnel at primary, secondary and higher education levels. Scope of physical education personnel in the promotion of health, fitness and wellness.

Recent Government policies for promoting physical education and sports in India.

Hierarchy of organizational set-up in physical education at schools, colleges and university level.

Role of public & private sectors in the promotion of physical education and sports in the country.

Curriculum development- Concepts and principles of curriculum planning. Subject matter for different levels of education - primary, secondary and higher education.

Curriculum design and content- importance, selection and classification of subject matter with reference to age, sex and differently abled pupils. Integrated programme for boys and girls.

Teaching aids - Time-table, Concepts, credit system for various subject courses- theory and practical, Impact of technology in physical education and sports,

Curriculum evaluation: Concepts and purpose; procedure and appraisal.

Unit -VI:

Health- its objectives and spectrum. Health education, its importance and principles . Role of genetics and environment in achieving health. Health-related physical fitness.

Community health programme- Health appraisal & health instructions. International and national health promoting government & private agencies.

School Health programme and personal hygiene.

Communicable diseases: causes, symptoms, prevention through other means and Immunization.

Psychosomatic disorders/ sedentary life style diseases : causes, symptoms and prevention.

Obesity related health problems. Body weight control and its significance on health. Role of exercise, dieting and combination of exercise & dieting on weight control.

First-aid- objectives and principles. First-aid for Shock, poisoning, burns, drowning, bleeding, electric shock and common sports injuries.

Pollution- Air, water, sound and radiation. Effects of pollution on health, Preventive and safety measures from pollution.

Nutrition- Balanced diet and its components. Nutritional Deficiencies. Understanding of malnutrition and nutritional supplements.

Effects of smoking, alcohol, & drugs on health; prevention and rehabilitation.

Unit -VII :

Sports training- its characteristics and principles. Training load, its features, principles and adaptation process. Means and methods of executing training load. Overload, its Causes, symptoms and remedial measures.

Strength- its characteristics, types of strength, factors determining strength and strength development.

Endurance- its characteristics, types of endurance, factors determining endurance and endurance development.

Speed- its characteristics, types of Speed, factors determining Speed and speed development.

Flexibility-its characteristics, types of flexibility, factors determining flexibility and flexibility development.

Coordinative abilities- its characteristics, types of coordinative abilities, factors determining coordinative abilities and development of coordinative abilities.

Technique and skill- its characteristics and importance. Different stages of technique development and technique training. Tactics and strategy.

Planning- its importance and principles. Types of planning.

Periodization- its importance, objectives and types of periodization. Concept of different periods - Preparatory, competition and transitional. Types of Competition:

Talent identification- process and procedure.

Unit -VIII:

Research in physical education- its importance and classification. Ethical issues in research.
Methods of research- Descriptive, historical and experimental. Experimental research designs.

Identification and formulation of research problem. Types of research hypotheses and their formulation. Hypotheses testing.

Tools of research- Questionnaires, opinionnaires, interviews and observation.

Sources and steps of literature search- library, research data bases, internet- search engines, online journals. Note taking and critical reading.

Sampling Techniques- Probability and non-probability. Data, its types and

collecting measures.

Normal probability curve and grading scales.

Statistical processes, their importance and uses in research.
Application of parametric and non-parametric statistical techniques in research.

Computer applications- statistical packages for data analyses- SPSS, e-mail, search engines and Microsoft office.

Preparation of research proposal, report, abstract, paper for publication and paper for presentation.

Unit - IX:

Test, measurement and evaluation -their types and importance in physical education and sports.
Principles and processes of evaluation in physical education.

Criteria of selecting an appropriate test and administration of testing programme.
Types of tests and construction of standard knowledge and skill tests.

Tests for fitness- Physical fitness, motor fitness, motor ability and motor educability. Health related fitness tests.

Test for fitness components- strength, endurance, speed, flexibility and coordinative abilities.

Sports skill tests- Badminton, Basketball, Football, Hockey, Tennis, and Volleyball.

Anthropometric Measurements- land marks and measurement of various body segments, height, sitting-

height, weight, diameters, circumferences, skinfolds, body mass index, ponderal index.

Somatotype and Posture evaluating techniques.

Testing of physiological phenomenons- Blood pressure, breathing frequency vital capacity, heart rate, pulse rate, body temperature and body composition.

Tests for psychological variables- Anxiety, aggression, team cohesion, achievement motivation, mental-toughness, and self-efficacy.

Unit - X:

Management- its principles and theories. Scope of management in physical education and sports. Guiding principles for organizing physical education & sports programmes in institutions.

Personnel management- objectives and principles. Self-appraisal, communication skills and time management. Essential skills of administration.

Financial management- objectives, purposes, principles and scope. Planning and preparation of budget. Mechanics of purchase and auditing.

Supervision - objectives, principles and importance of supervision. Techniques of supervision. Duties and responsibilities of a supervisor.

Facility management- planning, procuring and maintenance of facilities- indoor and outdoor facilities. Planning and management of sports infrastructure. Management of records.

Role of sports manager- interpersonal, informational and decision making. Managerial skills – technical, human and conceptual. Qualities and qualification of sports manager.

Event management- its principles, planning, check list, rehearsal, itinerary, execution, reporting and follow-up procedures of an event.

Public relation- principles of public relations in physical education and sports. Mass Media-communication and publicity, qualifications of Public relation officer.

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LECTURER: SOCIOLOGY

Unit -1 : Sociological Theory

1. Classical Sociological Traditions
   - Emile Durkheim
   - Max Weber
   - Karl Marx
2. Structure- Functionalism and Structuralism
   - Bronislaw Malinowski
   - A.R. Radcliffe- Brown
   - Talcott Parsons
   - Robert K. Merton
   - Claude Levi Strauss
3. Hermeneutic and Interpretative Traditions
   - G.H. Mead
   - Karl Manheim
   - Alfred Schutz
   - Harold Garfinkel
   - Erving Goffman
   - Clifford Geertz

4. Post Modernism, Post Structuralism and Post Colonialism
   - Edward Said
   - Pierre Bourdieu
   - Michel Foucault
   - Jurgen Habermas
   - Anthony Giddens
   - Manuel Castells

5. Indian Thinkers
    - M.K. Gandhi
    - B.R. Ambedkar
    - Radha Kamal Mukherjee
    - G. S. Ghurye
    - M.N. Srinivas
    - Irawati Karve

Unit - 2 : Research Methodology and Methods

1. Conceptualizing Social Reality
    - Philosophy of Science
    - Scientific Method and Epistemology in Social Science
    - Hermeneutic Traditions
    - Objectivity and Reflexivity in Social Science
    - Ethics and Politics

2. Formulating Research Design

    - Reading Social Science Research, Data and Documents
    - Induction and Deduction
    - Fact, Concept and Theory
    - Hypotheses, Research Questions, Objectives

3. Quantitative and Qualitative Methods
    - Ethnography
    - Survey Method
    - Historical Method
    - Comparative Method

4. Techniques
    - Sampling
    - Questionnaire and Schedule
    - Statistical Analysis
    - Observation, Interview and Case study
    - Interpretation, Data Analysis and Report Writing

Unit -3 : Basic Concepts and Institutions

1. Sociological Concepts

- Social Structure
- Culture
- Network
- Status and Role
- Identity
- Community
- Diaspora
- Values, Norms and Rules
- Personhood, Habitus and Agency
- Bureaucracy, Power and Authority

2. Social Institutions

- Marriage, Family and Kinship
- Economy
- Polity
- Religion
- Education
- Law and Customs

3. Social Stratification

- Social Difference, Hierarchy, Inequality and Marginalization
- Caste and Class
- Gender, Sexuality and Disability
- Race, Tribe and Ethnicity

5. Social Change and Processes
    - Evolution and Diffusion
    - Modernization and Development
    - Social Transformations and Globalization
    - Social Mobility

Unit – 4 : Rural and Urban Transformations

1. Rural and Peasant Society
    - Caste-Tribe Settlements
    - Agrarian Social Structure and Emergent Class Relations
    - Land Ownership and Agrarian Relations
    - Decline of Agrarian Economy, De-Peasantization and Migration
    - Agrarian Unrest and Peasant Movements
    - Changing Inter-Community Relations and Violence

2. Urban Society

- Urbanism, Urbanity and Urbanization
- Towns, Cities and Mega-Cities
- Industry, Service and Business
- Neighbourhood, Slums and Ethnic Enclaves
- Middle Class and Gated Communities
- Urban Movements and Violence

Unit – 5 : State, Politics and Development

1. Political Processes in India

- Tribe, Nation State and Border
- Bureaucracy
- Governance and Development
- Public Policy: Health, Education and Livelihoods
- Political Culture
- Grass-root Democracy
- Law and Society
- Gender and Development
- Corruption
- Role of International Development Organizations

2. Social Movements and Protests

- Political Factions, Pressure Groups
- Movements based on Caste, Ethnicity, Ideology, Gender, Disability, Religion and Region
- Civil Society and Citizenship
- NGOs, Activism and Leadership
- Reservations and Politics

Unit – 6 : Economy and Society

- Exchange, Gift , Capital, Labour and Market
- Mode of Production Debates
- Property and Property Relations
- State and Market: Welfarism and Neoliberalism
- Models of Economic Development
- Poverty and Exclusion
- Factory and Industry Systems

- Changing Nature of Labour Relations
- Gender and Labour Process
- Business and Family
- Digital Economy, E-Commerce
- Global Business and Corporates
- Tourism
- Consumption

Unit - 7: Environment and Society

- Social and Cultural Ecology: Diverse Forms
- Technological Change, Agriculture and Biodiversity
- Indigenous Knowledge Systems and Ethno-Medicine
- Gender and Environment
- Forest Policies, Adivasis and Exclusion
- Ecological Degradation and Migration
- Development, Displacement and Rehabilitation
- Water and Social Exclusion
- Disasters and Community Responses
- Environmental Pollution, Public Health and Disability
- Climate Change and International Policies
- Environmental Movements

Unit - 8: Family, Marriage and Kinship

- Theoretical Approaches: Structure-Functionalist, Alliance and Cultural
- Gender Relations and Power Dynamics
- Inheritance, Succession and Authority
- Gender, Sexuality and Reproduction
- Children, Youth and Elderly
- Emotions and Family
- Emergent Forms of Family
- Changing Marriage Practices
- Changing Care and Support Systems
- Family Laws
- Domestic Violence and Crime against Women
- Honour Killing

Unit - 9 : Science, Technology and Society

- History of Technological Development
- Changing notions of Time and Space
- Flows and Boundaries

- Virtual Community
- Media: Print and Electronic, Visual and Social Media
- E-Governance and Surveillance Society
- Technology and Emerging Political Processes
- State Policy, Digital Divide and Inclusion
- Technology and Changing Family Relations
- Technology and Changing Health Systems
- Food and Technology
- Cyber Crime

Unit - 10 : Culture and Symbolic Transformations

- Signs and Symbols
- Rituals, Beliefs and Practices
- Changing Material Culture
- Moral Economy
- Education: Formal and Informal
- Religious Organizations, Piety and Spirituality
- Commodification of Rituals
- Communalism and Secularism
- Cultural Identity and Mobilization
- Culture and Politics
- Gender, Body and Culture
- Art and Aesthetics
- Ethics and Morality
- Sports and Culture
- Pilgrimage and Religious Tourism
- Religion and Economy
- Culture and Environment
- New Religious Movements

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Lecturer: PSYCHOLOGY

1. Emergence of Psychology

Psychological thought in some major Eastern Systems: Bhagavad Gita, Buddhism, Sufism and Integral Yoga. Academic psychology in India: Pre-independence era; post-independence era; 1970s: The move to addressing social issues; 1980s: Indigenization; 1990s: Paradigmatic concerns, disciplinary identity crisis; 2000s: Emergence of Indian psychology in academia. Issues: The colonial encounter; Post colonialism and psychology; Lack of distinct disciplinary identity.

Western: Greek heritage, medieval period and modern period. Structuralism, Functionalism, Psychoanalytical, Gestalt, Behaviorism, Humanistic- Existential, Transpersonal, Cognitive revolution, Multiculturalism. Four founding paths of academic psychology - Wundt, Freud, James, Dilthey. Issues: Crisis in psychology due to strict adherence to experimental- analytical paradigm (logical empiricism). Indic influences on modern psychology.

Essential aspects of knowledge paradigms: Ontology, epistemology, and methodology.
Paradigms of Western Psychology: Positivism, Post-Positivism, Critical perspective, Social Constructionism, Existential Phenomenology, and Co-operative Enquiry.
Paradigmatic Controversies. Significant Indian paradigms on psychological knowledge: Yoga, Bhagavad Gita, Buddhism, Sufism, and Integral Yoga. Science and spirituality (*avidya* and *vidya*). The primacy of self-knowledge in Indian psychology.

2. Research Methodology and Statistics

Research: Meaning, Purpose, and Dimensions.
Research problems, Variables and Operational Definitions, Hypothesis, Sampling.
Ethics in conducting and reporting research

Paradigms of research: Quantitative, Qualitative, Mixed methods approach Methods of research: Observation, Survey [Interview, Questionnaires], Experimental, Quasi-experimental, Field studies, Cross-Cultural Studies, Phenomenology, Grounded theory, Focus groups, Narratives, Case studies, Ethnography

Statistics in Psychology: Measures of Central Tendency and Dispersion. Normal Probability Curve. Parametric [t-test] and Non-parametric tests [Sign Test, Wilcoxon Signed rank test, Mann-Whitney test, Kruskal-Wallis test, Friedman]. Power analysis. Effect size.

Correlational Analysis: Correlation [Product Moment, Rank Order], Partial correlation, multiple correlation.
Special Correlation Methods: Biserial, Point biserial, tetrachoric, phi coefficient.
Regression: Simple linear regression, Multiple regression.
Factor analysis: Assumptions, Methods, Rotation and Interpretation.

Experimental Designs: ANOVA [One-way, Factorial], Randomized Block Designs, Repeated

Measures Design, Latin Square, Cohort studies, Time series, MANOVA, ANCOVA. Single-subject designs.

3. Psychological testing

Types of tests
Test construction: Item writing, item analysis

Test standardization: Reliability, validity and Norms

Areas of testing: Intelligence, creativity, neuropsychological tests, aptitude, Personality assessment, interest inventories

Attitude scales – Semantic differential, Staples, Likert scale. Computer-based psychological testing

Applications of psychological testing in various settings: Clinical, Organizational and business, Education, Counseling, Military. Career guidance.

4. Biological basis of behavior

Sensory systems: General and specific sensations, receptors and processes

Neurons: Structure, functions, types, neural impulse, synaptic transmission. Neurotransmitters.

The Central and Peripheral Nervous Systems – Structure and functions. Neuroplasticity.

Methods of Physiological Psychology: Invasive methods – Anatomical methods, degeneration techniques, lesion techniques, chemical methods, microelectrode studies. Non-invasive methods – EEG, Scanning methods.

Muscular and Glandular system: Types and functions Biological basis of
Motivation: Hunger, Thirst, Sleep and Sex.
Biological basis of emotion: The Limbic system, Hormonal regulation of behavior.
Genetics and behavior: Chromosomal anomalies; Nature-Nurture controversy [Twin studies and adoption studies]

5. Attention, Perception, Learning, Memory and Forgetting

Attention: Forms of attention, Models of attention

Perception:
Approaches to the Study of Perception: Gestalt and physiological approaches Perceptual Organization: Gestalt, Figure and Ground, Law of Organization Perceptual Constancy: Size, Shape, and Color;
Illusions Perception of Form, Depth and Movement Role of motivation and learning in perception

Signal detection theory: Assumptions and applications
Subliminal perception and related factors, information processing approach to perception, culture and perception, perceptual styles, Pattern recognition, Ecological perspective on perception.

Learning Process:
Fundamental theories: Thorndike, Guthrie, Hull
Classical Conditioning: Procedure, phenomena and related issues Instrumental learning: Phenomena, Paradigms and theoretical issues; Reinforcement: Basic variables and schedules; Behaviour modification and its applications
Cognitive approaches in learning: Latent learning, observational learning. Verbal learning and Discrimination learning
Recent trends in learning: Neurophysiology of learning

Memory and Forgetting
Memory processes: Encoding, Storage, Retrieval
Stages of memory: Sensory memory, Short-term memory (Working memory), Long-term Memory (Declarative – Episodic and Semantic; Procedural)
Theories of Forgetting: Interference, Retrieval Failure, Decay, Motivated forgetting

6. Thinking, Intelligence and Creativity

Theoretical perspectives on thought processes: Associationism, Gestalt, Information processing, Feature integration model
Concept formation: Rules, Types, and Strategies; Role of concepts in thinking Types of Reasoning Language and thought

Problem solving: Type, Strategies, and Obstacles Decision-making: Types and models

Metacognition: Metacognitive knowledge and Metacognitive regulation

Intelligence: Spearman; Thurstone; Jensen; Cattell; Gardner; Stenberg; Goleman; Das, Kar & Parrila

Creativity: Torrance, Getzels & Jackson, Guilford, Wallach & Kogan Relationship between Intelligence and Creativity

7. Personality, Motivation, emotion, stress and coping

Determinants of personality: Biological and socio-cultural
Approaches to the study of personality: Psychoanalytical, Neo-Freudian, Social learning, Trait and Type, Cognitive, Humanistic, Existential, Transpersonal psychology.
Other theories: Rotter's Locus of Control, Seligman's Explanatory styles, Kohlberg's theory of Moral development.

Basic motivational concepts: Instincts, Needs, Drives, Arousal, Incentives, Motivational Cycle.
Approaches to the study of motivation: Psychoanalytical, Ethological, S-R Cognitive, Humanistic

Exploratory behavior and curiosity Zuckerman's
Sensation seeking Achievement, Affiliation and Power
Motivational Competence Self- regulation
Flow

Emotions: Physiological correlates
Theories of emotions: James-Lange, Canon-Bard, Schachter and Singer, Lazarus, Lindsley.

Emotion regulation

Conflicts: Sources and types
Stress and Coping: Concept, Models, Type A, B, C, D behaviors, Stress management strategies [Biofeedback, Music therapy, Breathing exercises, Progressive Muscular Relaxation, Guided Imagery, Mindfulness, Meditation, Yogasana, Stress Inoculation Training].

8. Social Psychology

Nature, scope and history of social psychology

Traditional theoretical perspectives: Field theory, Cognitive Dissonance, Sociobiology, Psychodynamic Approaches, Social Cognition.

Social perception [Communication, Attributions]; attitude and its change within cultural context; prosocial behavior

Group and Social influence [Social Facilitation; Social loafing]; Social influence [Conformity, Peer Pressure, Persuasion, Compliance, Obedience, Social Power, Reactance]. Aggression. Group dynamics, leadership style and effectiveness. Theories of intergroup relations [Minimal Group Experiment and Social Identity Theory, Relative Deprivation Theory, Realistic Conflict Theory, Balance Theories, Equity Theory, Social Exchange Theory]

Applied social psychology: Health, Environment and Law; Personal space, crowding, and territoriality.

9. Human Development and Interventions

Developmental processes: Nature, Principles, Factors in development, Stages of Development. Successful aging.
Theories of development: Psychoanalytical, Behavioristic, and Cognitive Various aspects of development: Sensory-motor, cognitive, language, emotional, social and moral.

Psychopathology: Concept, Mental Status Examination, Classification, Causes

Psychotherapies: Psychoanalysis, Person-centered, Gestalt, Existential, Acceptance Commitment Therapy, Behavior therapy, REBT, CBT, MBCT, Play therapy, Positive psychotherapy, Transactional Analysis, Dialectic behavior therapy, Art therapy, Performing Art Therapy, Family therapy.

Applications of theories of motivation and learning in School Factors in educational achievement Teacher effectiveness
Guidance in schools: Needs, organizational set up and techniques Counselling: Process, skills, and techniques

10. Emerging Areas

Issues of Gender, Poverty, Disability, and Migration: Cultural bias and discrimination. Stigma, Marginalization, and Social Suffering; Child Abuse and Domestic violence.

Peace psychology: Violence, non-violence, conflict resolution at macro level, role of media in conflict resolution.

Wellbeing and self-growth: Types of wellbeing [Hedonic and Eudemonic], Character strengths, Resilience and Post-Traumatic Growth.

Health: Health promoting and health compromising behaviors, Life style and Chronic diseases [Diabetes, Hypertension, Coronary Heart Disease], Psychoneuroimmunology [Cancer, HIV/AIDS]

Psychology and technology interface: Digital learning; Digital etiquette: Cyber bullying; Cyber pornography: Consumption, implications; Parental mediation of Digital Usage.

LECTURER MUSIC

Science of Music and Studies of Shruties

Vibration and frequency; pitch and its relation and vibrator, Vocal and Instrumental ranges of sound; Amplitude, Timber, Qualities and musical and unmusical overtones (Swayambhu-Swar); consonance and Dissonance; Main types of chords; Absorption, Echo; Reverberation and Resonance of sound, concept of Shruti (different Opinions on it). Placement of suddha and Vikrit Swars on different shruties according to Lochan, Ahobal, Pundarik, Ramamatya, Somnath etc. Comparative study of Vyankat-Mukhi's 72 meals, Bhatkhade's Ten That's and Modern Thirty-two That's.

Study of Ragas and Tals

Critical, detailed and comparative study of the following Ragas: - SUDHAKALYAN, DESHKAR, KAMOD, CHHAYANAT, GOUDSARANG, JAIJAIWANTI, RAMKALI, POORIYA, MARWA, SOHANI AND SHANKARA, Illustrations of Nyas, Alpatva, Bahutva, Avirbhava and Tirobhava in the above Ragas by means of notes.

Knowledge of the following Tals with different types of Layakaries and writing of the Tals in Dugun, Tigun, Chougun and Ada: - Trital, Ektal, Rupak, Teevra, Sooltal, Jhoomra, Dhamar and Jat tal.

Writing the songs in notation in the above ragas with Alaps. Tans, Boltans in Khayals and Dugun, Tigun etc., in dhruvapad and Dhamar. Identification of Ragas from given notes.

Instrumental Music

Science of Music and Studies of Shruties

Vibration and frequency, pitch and its relation with vibrator Vocal and Instrumental ranges of sound. Amplitude, Timber, qualities of musical, unmusical overtones (Swaymbhu-Swar) consonance and Dissonance. Main types of chords, Absorption, Echo, Reverberation and resonance of sound, concept of shruti (different opinions on it) placement of sudh and vikrit swara according to lochan, Ahobal, Pundarik Rammamatya, somnath etc. Comparative study of Swaras of Northern saptak, critical study of Vyankatmukhu's 72 Melas. Bhatkhande's Ten That's and Modern thirty-two that's.

Study of Ragas and Tals

Critical, detailed and comparative study of the following Ragas: - SUDHAKALYAN, DESHKAR, KAMOD, CHHAYANT, GOUDSARANG, JAIJAIWANTI, RAMKALI, POORIYA, MARWA, SOHANI AND SHANKARA.

Illustrations of Nyas, Aplatva, Bahutva, Tirobhav and Avirbhava in the above Ragas by means of notes. Knowledge of the following Tals with different types of Layakaries and writing of the Tals in Dugun, Tigun, Chougun and Ada: -

Trital Jhaptal, Choutal, Keharwa, Dadra, Tilwada, Rupak, Teevra, sool- Tal, Dhamar and jat-Tal.

Writing the Gats in notation in the above ragas with Alaps, Todas, Jhalas, Identification of Ragas from the given notes.

Candidates offering percussion Instruments must have critical details and comparative study of the following Tals:-

TEENTAL, JHAPTAL, RUPAK, CHOUTAL, SOOLTAL, TEEVRA, TILWADA, DADRA, KAHARWA, PANJABI, JATTAL.

They should also know the different types of Laykaries, Tukaras, paranas, Peshkara, Quada, Avartan, Bant, Kisim, Paita, Rela, Laggi, Ladi, etc. where applicable in the abovementioned talas, writing in notation of all the matter in above talas and identified – for given Bols.

Vocal Music

Notation system, scales and study of Bio-graphics of Musicians

Notation system of Bhatkhande and vishnudigambar and western Music, writing of simple songs in these notations. Western Note, various types of intervals of notes. Time signature, different Musical scales, Dia-tonic scale, comparative study of scales of Bhatkhande and western Music. Harmony and Melody, placement of notes on veena according to Pt. Srinivas, comparative study of Northern and Southern Tal paddhaties, contribution of various scholars and musicians to the Indian Music.

Biographies and Bhatkhande, Vishnudigamber, Tansen, Ameer Khusroo, Faiyyaz Khan, Pt.Ravi Shankar, Pt.Ram Sahay, Ahmadjan Thirakwa, Kudau Singh, Nana Sahib panse.

Study of Musical Styles and Ragas

Geet, Gandharva, Gan, Deshi Sangeet, Sthaya, Mukhachalan, akshiptika, Nibadha and Anibadh Gan, Raglakshan, Ragalap, Alapti swasthan Niyam, prachalit Alap, Tan; Meend, Gamar, Raku

Critical detail and comparative study of the following Ragas with illustration of Nyas, Alapatva, Bahutva, Tirobhav and Avirbhav in them.

Lalit, Darbari, Adana, Mia-Malhar, Goudmalhar, Bahar, Todi, Multani, Deshi, Jogiya and Vibhas, Bhairav, Yaman

Knowledge of the followings Tals with different types of Layakaries and writing of the Talas in DUgun, Tigun, Chougun and Ada:

Trital, Ektaal, Jhaptal, Choutal, Kaharwa, Dadra, Tilwada, Rupak, teevra, Sooltal, Jhoomra, Dhamar and Jattal and pancham Sawari, Bhajani

Comparative and details study with the descriptions of different styles of Indian Music viz. Dhrupad, Dhamar, Khayal, Thumri, Tappa, Chaturang, Taranas, Trivat, etc. and their evolution writing of notation of songs in the above Ragas with alaps, Tans Boltans etc. and with different Layakaries in Dhruvapad and Dhamar, Identification of ragas from given notes.

Instrumental Music

Notation system of Bhatkhande, Vishnudigamber and western Music. Writing of simple gats

in these notations. Western notes. Various types of intervals of notes. Time signature, different Musical scales Dia-tonic scale, pythagorain scale, Tempered scale, Major scale, Minor scale etc. Comparative study of scales of Bhatkhande and Western Music. Harmony and Melody, placement of notes on Veena according to Pt.Srinivas.

Comparative study of Northern and southern Tal paddhaties contribution of various scholars and Musicians to the Indian Music.

Biographies of Bhatkhande; Vishnudigamber, Tansen, Ameer Khusro Faiyaaz Khan, Onkarnath Thakur, Allauddin Khan, Pt. Ravishankar, Pt. Ram Sahai, Ahmad Jan Thirakwas, Kudau Singh, Nana Saheb Panse, Pt. Shiv Kumar Sharma, Pt. Debu Chaudhary

Study of Styles, Baj, Ragas and Tals

Geet, Gandharv, Gan, Deshi Sangeet, Sthaya Mukhchalan, Akshiptika Nibadha and Anibadha gan, Raglakshan, Raga-Alap, Rupakalap, Alpati Swasthan-Niyam, Prachalit Alap and Tan, Zamzama, Meend, Sootghaseet, Jor Alap, Toda, Jhala

Critical detailed comparative study of the following Ragas with illustrations of nyas, Alpatva, Bahutva, Tirobhava and Avirbhav in them.

Vibhas, Lalit, Darbari Kanhda, Adana, Miyan Malhar, Goud Malhar, Bahar, Todi, Multani, Deshi and Jogiya.

Identification of Raga from given notes. Knowledge of following tals;

Ada Chartal, Ektal, Deepchandi, Dhamar, Farodast, Pancha, Sawari, Kumbh, Sikhar.

Candidates offering percussion instruments must have critical detailes and comparative study of the following tals:

Adachartal, Ektal, Pancham Sawari, Farodast, Dhamar, Kumbh, Shikhar, Matt Tal, Dhumali, Deepachandi, Addha tal.
Knowledge of - Tukras, paranas, Tihai, Kayadas, Pattas, Relas, Peshkaras, Mukharas, Tipallis, chaupalli, Chakkardar bols, Farmaishi, Paranas, Lom-Bilom, Charbagh, Stuti Ke Bol, Jhulna ke bol. Dhamar and Bedamdar tihais in the above mentioned tals.

Recognition of tals by given bols, writing of all the matters in notations.

Knowledge of Baithaks, styles of playing and Gharanas. Ability to writ tals in different layakaries knowledge of different types of Musical Instruments and their system of classification.

Vocal Music

History of Music and classification of Rags and Tals

Short History of Music of Ancient periods up to 13th century A.D. with classification of Rags and Tals. Evolution of jatis Ragas, short history of Music of Medieval and Modern periods, prabandh. Revival of Indian Classical Music, comparison of the Hindustani and Karnataka Music systems. Impact of Modern Science in the development and propagation of Music.

Study of Musical Styles and Ragas

Critical, detailed and comparative study of the following Ragas with illustrations of Nyas, Alpatva, Bahutva, Avirbhava and tirobhav.

Shree, Pooria-Dhanashree, Basant, Paraj, Hindol, Chandrakauns, Suddhasarang, Madhuwanti, Bageswari, Jaunpuri, Malgunji.

Critical study of different styles of Music of North and South, various Gharanas of Music, Gram, Moorchana, various kinds of Gamak, writing of notation of songs.

Knowledge of the following Tals with different types Layakaries: Ada- Choutal, Brahma,

Lakshmi, Rudra, Shikhar, Pancham Sawari, sulfokta

Instrumental Music

History of Music and Classification of Ragas and Tals

Short history of Music of ancient period up to 13th century A.D. with particular reference to Natyasashtra, Brihaddesi, Sangeet Ratnakar. Classification of Ragas and Tals. Evolution of jatis,

Ragas. Short History of Music in Medieval period. Revival of Indian Classical Music. Comparison of the Hindustani and Karnataka Music system. Impact of Modern science in the development and propagation of Music. Critical, comparative and detailed study of Musical styles and the following Ragas with illustration of Nyas, Apatva, Bahutva, Avirbhav and Tirobhav:

Shree, Pooria – Dhanashree, Basant, Paraj, Hindol, Chandrakauns, Suddh Sarang, Madhuwanti, Bageshree, Jaunpuri, Malgunji.

Critical study of the different styles of Music of North and South. Various Gharanas of Music, Gram, Moorchana, various kinds of Gamaks, Writing of Notation of gats.

Knowledge of the following Tals with different types of layakaries and writing of Tals in Dugun, Tigun, Chougun, Ada. And kuad, and Biyad.

Basant, Rudra, Laxmi, Gajjjhampa, Pashto, Brahma. Candidates offering percussion instruments should also know the various kinds of baj and styles of Table and pakhawaj and should also know peskhkaras, Paran, Tihais, Tukaras, Kishime, Kyadas, Paltas, Relas, Mukhras, Tripalli, Choupallies, Chakkardar, Bols, Farmaishi paran, Kamali paran, Lom-Bilom, Charbagh, Stuti ke bole, Jhulan ke bole, Jababi Paran, Nayahakka, Damdar and Bedam ki tihal where applicable in the following Talas, along with their critical, detailed and comparative study:

Rudra, Badi swari, Jattal, Basant, Laxmi, Gaj Jhampa, Brahma Tal, Asth Mangal, Ganesh Tal, Mani Tal, Pashto.

Various kinds of chands in the Tals where applicable and writing of different layakaries, Dugun, Tigun, Chougun, Ada, Kaud and Biyad.

Lecturer: POLITICAL SCIENCE

Unit - 1: Political Theory

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Concepts

Liberty, Equality, Justice, Rights, Democracy, Power, Citizenship,

Political Traditions

Liberalism Conservatism

Socialism

Marxism Feminism Ecologism

Multiculturalism

Postmodernism

Unit - 2: Political Thought

Confucius, Plato, Aristotle, Machiavelli, Hobbes, Locke, Rousseau, Hegel, Mary Wollstonecraft, John Stuart Mill, Karl Marx, Gramsci, Hannah Arendt, Frantz Fanon, Mao Zedong, John Rawls

Unit - 3: Indian Political Thought

Dharamshastra, Kautilya, Aggannasutta, Barani, Kabir, Pandita Ramabai, Bal Gangadhar Tilak, Swami Vivekanand, Rabindranath Tagore, M.K Gandhi, Sri Aurobindo, Periyar E. V. Ramasamy, Muhammad Iqbal, M.N.Roy, V D Savarkar, Dr. B.R.Ambedkar, J L Nehru, Ram Manohar Lohia, Jaya Prakash Narayan, Deendayal Upadhyaya

Unit - 4 : Comparative Political Analysis

Approaches: Institutional, Political Culture, Political Economy and New Institutionalism; Comparative Methods

Colonialism and decolonization: forms of colonialism, anti-colonial struggles and decolonization

Nationalism: European and non-European.

State theory: debate over the nature of state in capitalist and socialist societies; post-colonial state; welfare state; globalization and nations-states

Political regimes: democratic (Electoral, Liberal, Majoritarian and Participatory) and non-democratic regimes (Patrimonialism, Bureaucratic authoritarianism, Military dictatorship, Totalitarianism, and fascist).

Constitutions and Constitutionalism: forms of constitutions, rule of law, judicial independence and liberal constitutionalism; emergency powers and crisis of constitutionalism.

Democratisation: democratic transition and consolidation.

Development: Underdevelopment, Dependency, Modernization, World Systems Theory, development and democracy.

Structures of Power: ruling class, power elites, democratic elitism

Actor and Processes: Electoral Systems, Political Parties and Party System, Interest groups, Social movements, new social movements, Non-Governmental Organisations (NGOs) and civil society campaigns; Revolutions.

Unit - 5 : International Relations

Approaches to the study of International relations: Idealism, Realism, Structural Marxism, Neoliberalism, Neorealism, Social Constructivism, Critical International Theory, Feminism, Postmodernism.

Concepts: State, state system and non-state actors, Power, Sovereignty, Security: traditional and non- traditional.

Conflict and Peace: Changing Nature of Warfare; Weapons of mass destruction; deterrence; conflict resolution, conflict transformation.

United Nations: Aims, Objectives, Structure and Evaluation of the Working of UN; Peace and Development perspectives; Humanitarian intervention. International law; International Criminal Court

Political Economy of IR; Globalisation; Global governance and Bretton Woods system, North-South Dialogue, WTO, G-20, BRICS.

Regional Organisations: European Union, African Union, Shanghai Cooperation Organisation, ASEAN.

Contemporary Challenges: International terrorism, Climate change and Environmental Concerns, Human Rights, Migration and Refugees; Poverty and Development; Role of Religion, Culture and Identity Politics.

Unit - 6: India's Foreign Policy

Perspectives on India's Foreign Policy: India's Identity as postcolonial, development, rising power and as emerging political economy

Continuity and change in India's Foreign Policy: Principles and determinants; Non-Alignment movement: historical background and relevance of Non Aligned Movement; India's Nuclear Policy

India's relations with major powers: USA, USSR/Russia, People's Republic of China

India's Engagement with multipolar world: India's relations with European Union, BRICS, ASEAN, Shanghai Cooperation Organisation, African Union, Southern African Development Community, Gulf Cooperation Council

India's relations with neighbourhood: SAARC, Gujaral doctrine, Look Eas t/ Act East, Look West.

India's Negotiation Strategies in International Regimes: The United Nations, World Trade Organisation, International Monetary Fund, Intergovernmental Panel on Climate Change

Contemporary challenges: maritime security, energy security, environmental security, migrants and refugees, water resources, international terrorism, cyber security

Unit - 7: Political Institutions in India

Making of the Indian Constitution: Colonialism heritage and the contribution Indian National Movement to the making of the Indian Constitution

Constituent Assembly: Composition, Ideological Moorings, Constitutional Debates

Philosophy of the Constitution: Preamble, Fundamental Rights, Directive Principles

Constitutionalism in India: Democracy, Social Change, National Unity, Checks and Balances, Basic Structure Debate, Constitutional Amendments

Union Executive: President, Prime Minister and Council of Ministers

Union Parliament: Structure, Role and Functioning, Parliamentary Committees

Judiciary: Supreme Court, High Court, Judicial Review, Judicial Activism, Judicial Reform.

Executive and Legislature in the States: Governor, Chief Minister, State Legislature

Federalism in India: Strong Centre Framework, Asymmetrical Federal Provisions and Adaption, Role of Intergovernmental Coordination Mechanisms, Inter-State Council, Emerging Trends.

Electoral Process and Election Commission of India: Conduct of Elections, Rules, Electoral Reforms.

Local Government Institutions: Functioning and reforms.

Constitutional and Statutory Bodies: Comptroller and Auditor General, National Commission for Scheduled Castes, National Commission for Scheduled Tribes, National Commission for Human Rights, National Commission for Women, National Commission for Minorities.

Unit - 8: Political Processes in India

State, Economy and Development: Nature of Indian State, Development Planning model, New Economic Policy, Growth and Human Development.

Process of globalization: social and economic implications. Identity Politics:

Religion, Tribe, Caste, Region, Language. Social Movements: Dalit, Tribal,

Women, Farmers, labour

Civil Society Groups: Non-Party Social Formations, Non-Governmental Organizations, Social Action Groups.

Regionalization of Indian Politics: Reorganization of Indian States, States as Political and Economic Units, Sub-State Regions, Regional disparities, Demand for New States,

Gender and Politics in India: Issues of Equality and Representation. Ideology and Social basis of

Political Parties: National Parties, State Parties.

Electoral Politics: Participation, Contestation, Representation, Emerging trends.

Unit - 9 : Public Administration

Public Administration: meaning and evolution; public and private administration Approaches: System Theory, Decision Making, Ecological Approach

Public administration theories and concepts: Scientific Management Theory, Rational Choice theory, New Public Administration, Development Administration,

Comparative Public Administration, New Public Management, changing nature of Public Administration in the era of liberalization and Globalization

Theories and Principles of Organization: Scientific Management Theory, Bureaucratic Theory, Human Relations Theory

Managing the organization: Theories of leadership and motivation.

Organizational Communication: Theories and Principles, Chester Bernard Principles of Communication, Information Management in the organization

Managing Conflict in the Organization: Mary Parker Follett Management by Objectives- Peter

Drucker

Unit – 10: Governance and Public Policy in India

Governance, good governance and democratic governance, role of state, civil society and individuals.

Accountability and control: Institutional mechanism for checks and balances, legislative control over executive, administrative and budgetary control, control through parliamentary committees, judicial control over legislature and executive, administrative culture, corruption and administrative reforms

Institutional mechanisms for good governance: Right to Information, Consumer Protection Act, Citizen Charter; Grievance redress system: Ombudsman, Lokpal, Lokayukta

Grassroots Governance: Panchayati Raj Institutions and their functioning

Planning and Development: Decentralized planning, planning for development, sustainable development, participatory development, e-governance; NITI Aayog

Public policy as an instrument of socio-economic development: public policies with special reference to housing, health, drinking water, food security, MNREGA, NHRM, RTE

Monitoring and evaluation of public policy; mechanisms of making governance process accountable: jansunwai, social audit.

विषय: - संस्कृतम्

1. संस्कृतसाहित्यस्य इतिहासः (सामान्यपरिचयः)

क). वैदिकसाहित्यम्

- ❖ वेदानां सामान्यपरिचयः।
- ❖ प्रमुखानां ब्राह्मणग्रन्थानां सामान्यपरिचयः।
- ❖ प्रमुखानां आरण्यकग्रन्थानां सामान्यपरिचयः।
- ❖ प्रमुखानां उपनिषदां सामान्यपरिचयः।
- ❖ वेदाङ्गानां सामान्यपरिचयः।

ख). लौकिकसाहित्यम्

- ❖ संस्कृतस्य प्रमुखकवयः तेषां कृतयश्च।
- ❖ संस्कृतस्य प्रमुखनाटककारा: तेषां नाटकानि रूपकानि, तेषाम् अर्थः, लक्षणम्, नायक-नायिका भेदः च।
- ❖ भरतमुनिकृत - नाट्यशास्त्रम् (सामान्यपरिचयः)।

2. काव्यशास्त्राणि

- ❖ काव्यप्रकाश-साहित्यदर्पणयोरनुसारम् : काव्यलक्षणम्, काव्यप्रयोजनम्, काव्यहेतुः, काव्यभेदः, शब्दशक्तयः, रसलक्षणम्, रसभेदः, गुणाः, दोषाः, रीतिः ।
- ❖ अलंकाराः - अनुप्रास, यमक, श्लेष, उपमा, रूपक, उत्प्रेक्षा, अपह्नुति, परिकर, काव्यलिंग, अर्थान्तरन्यास, विभावना, विशेषोक्ति, समासोक्ति, स्वभावोक्ति, वक्रोक्ति ।
- ❖ छन्दपरिचयः ।
- ❖ नीतिशास्त्रानां सामान्य-अध्यनम् - नीतिशतकम्, हितोपदेशः, पञ्चतन्त्रम् ।

3. इतिहासः, पुराणानि, धर्मशास्त्राणि च

- ❖ रामायणम् - सामान्यपरिचयः।
- ❖ महाभारतम् - सामान्यपरिचयः।
- ❖ पुराणानि - परिभाषा, संख्या, पौराणिकसृष्टिविज्ञानम्, पौराणिक-आख्यानानि।
- ❖ मनुस्मृतेः - सामान्यपरिचयः।
- ❖ याज्ञवल्क्यस्मृतेः - सामान्यपरिचयः।
- ❖ अर्थशास्त्रस्य - सामान्यपरिचयः।
- ❖ कल्हणस्य राजतरङ्गिण्याः - सामान्यपरिचयः।
- ❖ ब्राह्मी-शारदा-लिप्योः सामान्यपरिचयः।
- ❖ मौर्य-गुप्तकालीन- अभिलेखानां सामान्यपरिचयः।

4. व्याकरणम्

- संस्कृतवर्णमाला, स्वराः-व्यंजनानि, उच्चारणस्थानानि, उच्चारणप्रयत्नानि।
- सन्धयः - स्वरसन्धिः, हलसन्धिः, विसर्गसन्धिः (लघुसिद्धान्तकौमुद्यानुसारम्)।
- समासाः - अव्ययीभावः, तत्पुरुषः, कर्मधारयः, बहुव्रीहिः, द्वन्द्वः (लघुसिद्धान्तकौमुद्यानुसारम्)।
- प्रत्ययाः - कृदन्त, तद्धित, स्त्रीप्रत्ययः (लघुसिद्धान्तकौमुद्यानुसारम्)।
- विभक्तयः
- उपसर्गाः (सामान्यपरिचयः) ।
- अव्ययाः (सामान्यपरिचयः) ।
- शब्दरूपाणि - अकारान्तपुल्लिंगः, इकारान्तपुल्लिंगः, उकारान्तपुल्लिंगः, ऋकारान्तपुल्लिंगः, हलन्तपुल्लिंगः - (राजन्, विद्वस्, आत्मन्, पथिन्), आकारान्तस्त्रीलिंग, ईकारान्तस्त्रीलिंग, ऊकारान्तस्त्रीलिंग, ऋकारान्तस्त्रीलिंग ।
- सर्वनामशब्दाः - अस्मद्, युष्मद्, किम्, तद्, इदम् ।
- धातुरूपाणि - भू, पठ्, दा, अस्, नम्, पच्, गम्, सेव्, मुद्, खाद्, पा, पत्, दृश्, लिख्, चल् ।

5. भाषाविज्ञानम्

- भाषायाः परिभाषा, भाषाणां पारिवारिकवर्गीकरणम्, भारोपीयपरिवारस्य सामान्यपरिचयः, वैदिक-लौकिकसंस्कृतयोः भेदः, अर्थपरिवर्तनस्य दिशाः कारणानि च ।

6. भारतीयदर्शनम्

- आस्तिकदर्शनानां सामान्यपरिचयः - सांख्य-योगः, न्याय-वैशेषिकः, मीमांसा-वेदान्तः च ।
- नास्तिकदर्शनानां सामान्यपरिचयः - चार्वाक्, बौद्धः, जैनः च ।
- शैवदर्शनस्य सामान्यपरिचयः ।