

BIOLOGY

Diversity of living world

Taxonomic aids, keys, specimen management; Systematic and binomial system of nomenclature; Classification of living organisms (five kingdom classification, major groups and principles of classification within each group); General description of monera, protozoa, fungi, algae, bryophytes, pteridophyes, gymnosperms, angiosperms (major groups of angiosperms upto sub class); Botanical gardens, herbaria, zoological parks and museums. Salient features of animal (nonchordates up to phylum level and chordates up to class level).

Structural organisation in plants and animals

Morphology, Anatomy and histology of angiosperms: Root, stem, leaf, flower, inflorescence, fruits and seeds, Tissues: Meristamatic and permanent (epidermal, ground, vascular). Cambial activity, secondary growth, type of wood. Animal tissues; Morphology, Anatomy and histology of annelids, insects, amphibians.

Structural and functional organization of cell

Cell cycle, detailed study of Cell division (mitosis, meiosis); Cell death; Structure and function (metabolism) of carbohydrates, proteins, lipids and nucleic acids; Enzymology: Classification and nomenclature of enzymes; Structure; Mechanism of action, single substrate and bisubstrate enzyme; Activators and inhibitors of enzymes; Factors affecting the activity of enzymes.

Plant physiology

Water relations: Properties of water, water in tissues and cells, Transport of water and solutes (food, nutrients, gases): Transport across cell membrane; soil-plant-atmosphere continuum; Minerals required by plant, their absorbable form, functions, deficiency symptoms, essentiality of mineral, N₂ metabolism, biological fixation; Cellular Metabolism: Gluconeogenesis, Glycogenesis and glycogenolysis, hormonal regulation; Oxidation of food, respiratory efficiency of various food components; transport and detoxification of ammonia, Lipid Metabolism; Photosynthesis: Basic principles of light absorption, excitation energy transfer, electron transports, cycles (C₂, C₃, C₄, CAM), plant productivity, measurement of photosynthetic parameters; Physiological responses to abiotic stresses; Sensory photobiology; Plant growth regulators: Growth, differentiation/de-differentiation and re-differentiation, development; Physiological affects and mechanism of action of plant growth hormones, Flowering: Photoperiodism and its significance, endogenous clock and its regulation, floral induction and development, vernalisation; Plant movements.

Sexual Reproduction

Plants: Structural details of angios permic flower, development of gametophytes, pollination and its types, agencies of pollination, pollen-pistil interaction, fertilization, Artificial hybridization (emasculation and bagging) development of seed and fruit; Apomixis and Polyembryony; Self incompatibility: Structural and biochemical aspects; methods to overcome incompatibility; Experimental Embryology; Human Reproduction: Morphology, Anatomy, Histology and Physiology of reproduction; Neuro-endocrine control; Sexual behavior in infancy, pre-adolescence, adolescence and of adult; Implantation, Pregnancy and Parturition; Mammary gland and Lactation; Infantile mammary gland, pubertal changes in mammary gland; Structure of adult mammary gland, galactopoiesis, milk let down; Menopause. Senescence-Impact of age on reproduction. Foetal and Embryonic Gonads and Genital ducts; Hormonal basis of sex differentiation; Disorders of sexual differentiation development; Reproductive Health: Problems and strategies, Population explosion -causes and effects, birth control measures-natural methods, physical/barrier, bio-chemical, hormonal, immunological, surgical methods, IUD's, amniocentesis, female feticide, MMR, IMR, MTP, STD's, infertility Disorders of female and female reproductive systems Sexual dysfunction; Infertility - Causes and curative measures; Reproductive toxicology of environmental and industrial chemicals, drug and alcohol; Medically assisted human reproductive technologies, GIFT, IUT, ZIFT, TET; Embryo culture.

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Genetics

Principles of Inheritance and Variation: Mendelian genetics, Inheritance of one gene, two genes, post mendelian inheritance; Recombination frequency, chromosomal theory of inheritance; Drosophila genetics, linkage and recombinations; Mutation: General properties of mutations; Adaptation versus mutation; molecular basis of gene mutation: DNA repair mechanisms; Pedigree analysis; Human karyotype-banding; genetic and environmental basis of sex determination, Y- and X-linked genes; Numerical and Structural abnormalities of human chromosomes and related syndromes; Human metabolic disorders.; Molecular Basis of Inheritance: Chemical nature of DNA and RNA, Biological functions of nucleic acids; Search forgenetic material, RNA world; Replication; Transcription and processing of RNA, Genetic code; Translation, post-translational modifications; Ribosomes and Proteins; Regulation of Gene expression; DNA Fingerprinting; Gene mapping; Chromosome banding; Restriction enzyme, nucleotide sequence comparisons and homologies; Molecular clocks; Genetics in modern agriculture, animal breeding, medicine, human behaviour; Misuse of genetics; Genetic Counseling; Gene therapy; HGP; Gene Activity in prokaryotes and eukaryotes; Signals for gene control - Hormones and growth factors; Totipotency & Pleuripotency; Stem cell and Gene therapy; Bacterial transformation, transduction and conjugation, Bacterial chromosome; Bacteriophages: Types, structure and morphology; Evolutionary biology: Cosmic evolution - Physical basis of life; Theories of origin of life; Origin of life through biochemical evolution; Experimental evidences for origin of life; The origin of natural selection; Extraterrestrial life; Evolution of the eukaryotic cell: Evolution of the Metazoa; Evolution of chordata and the evolution of the major vertebrate classes; Origin and evolution of man: Population Genetics; Genetic variations; Polymorphism; Gene frequency; Hardy Weinberg equilibrium; Genetic drift, founder effect; adaptive radiations, ecological significance of molecular variations.

Biology in Human welfare

Health and disease; types of diseases, common diseases in humans; Immunology – Innate and Acquired immunity; Passive and active immunization; Organization and structure of lymphoid organ; Cells of the immune system and their differentiation; Lymphocyte traffic; Nature of immune response; Structure and Functions of antibodies: Antigen-Antibody interactions; Humoral immune response; Cell mediated immunity; Immunological memory; Auto-immunity; Allergies; HLA system in human: MHC haplotypes; Transplantation types and problems; Immunodeficiency disorders; etiology of HIV; types, genetics and biochemistry of cancer; Drugs and alcohol abuse, Addiction, drug dependence, ill effects, prevention, its abuse in adolescents and its management; Strategies for food production and enhancement: Animal husbandry, management of farm animals, breeding strategies (natural and artificial) and their types, economic importance of each; Plant breeding, method of release of new variety, HYV of common cereals and pulses, bio-fortification, SCP; Tissue culturing, somatic hybridization; Microbes in Human Welfare: Technology associated and use of Microbes in household, industries, medicine, bio-active molecules, sewage treatment and STP, Ganga and Yamuna action plan, biogas production, biocontrol agents, bio-fortification.

Principles of Biotechnology

Genetic engineering tools and technique, technique of separation and isolation of DNA, cloning vectors, electrophoresis, bio reactors, processing of its products. Tissue engineering; Cryopreservation; Fusion methods, detection and applications of monoclonal antibodies, DNA vaccines, Edible vaccines.; Application in agriculture: GMO for pest resistance, RNAi and dsRNA technology, Application in Medicine, genetically engineered products, gene therapy.

Molecular diagnosis: serum and urine analysis, PCR, ELISA; Transgenic animals: their physiology, biological products and their use for testing the safety of vaccine and chemicals; Bioethics issues; biopyracy.

Ecology

Organism and its environment, distribution of biomes, major physical factors and the physiological responses shown by organisms; Physical adaptation of plants and animals, rules governing adaptations; Population attributes and growth, logistic curves, Darwinian fitness; Population interactions and their theories; Ecosystem structure and functions, ecosystem productivity and standing crop, decomposition in nature, energy flow in GFC / DFC, ecological pyramids, succession of community; Nutrient cycle; ecosystem services; Biodiversity types and its patterns, importance of diversity, its loss and their causes, conservation strategies; Environmental issues: Types of pollution, their indicators, causes, effects, prevention and treatment; Deforestation, recommended forestation, reforestation, case studies of people's participation in conservation.

Animal Physiology:

Digestion and absorption,

Breathing and Respiration,

Body fluids and circulation.

Excretory product and their elimination,

Locomotion and movement,

Neural control and coordination,

Chemical coordination and regulation,

CHEMISTRY

S. No.	Topic (Details of the syllabus)	
1.	Some Basic concepts of Chemistry: Scope of chemistry- Historical approach to nature of matter - states of matter, properties of matter and its measurement, S. I system of units, Uncertainty in measurements, dimensional analysis, Laws of chemical combination, atomic and molecular masses, Mole concept and molar masses, percentage composition, empirical and molecular masses, equivalent weight, concept of limiting reagent	
2	States of Matter: Gases, liquids and solids, three states of matter, types of intermolecularforces. The laws governing ideal gas behaviour, Dalton's law of partial pressure, Kinetic molecular theory of ideal gases, Maxwell Boltzmann distribution law on molecular motion, real gases – deviation from ideal behaviour, vander Waals equation. Liquid and their properties. Solids: Classification of solids, fundamental types of lattices, two and three dimensional lattice types, Simple crystal structures, Transformation of crystal structure on varying temperature, Bragg's law, density in solids, energy band, band gaps, semiconductors, magnetic and dielectric properties, stoichiometric and non-stoichiometric defects in solids.	
3	Structure of Atom: Structure of Atom (Classical Theory), Dalton's atomic theory, Bohr's model of atom, Structure of atom (modern theory), de Broglie's relationship, 'Heisenberg's uncertainty principal, Classical wave equation, Schrödinger's wave equation, Probability distribution curve, Quantum numbers, Pauli's exclusion principle, Aufbau principle, Hund's rule of maximum multiplicity.	
4	Equilibrium: Reversible reactions, criteria of equilibrium, Law of mass action, equilibrium constant, Ke and Kp, Le Chatelier principle, Ionic equilibrium, Ostwald's dilution Law, solution of acids, bases, ionic equilibria in solution, Common ion effect – its application to qualitative analysis, acids and bases, Bronsted-Lowry theory of acids and bases, Lewis concept of acid and bases, relative strengths of acids and bases, their quantitative estimation, buffer solution and its use, determination of pH, theories of indicators, conductometric titration, Solubility product, hydrolysis.	
5.	Surface Chemistry: Adsorption, absorption, sorption, Physical adsorption, Chemisorption adsorption isotherms (Freundlich, Langmuir), application of adsorption, types of Catalysis theories of catalycelassification of colloids, preparation of Colloidal Solution (lyophobic and lyophilic), Speccharacteristics of colloidal solutions, electrophoresis, Precipitation of colloids – Hardy Schulze la multimolecular and macromolecular colloids, Emulsion and Gels.	
6	Chemical Kinetics: Theories of reaction rates, rate of reaction, molecularity and order of reaction, Fast reactions- Luminescence and energy transfer process, reaction mechanisms(Simple and complex reactions).	
7	Redox Reaction and Electrochemistry: Oxidation and reduction, redox reaction and its application, oxidation number, Strong and weak electrolytes, activity coefficient, conductance and conductivity, Kohlrausch law, resistance and resistivity molar conductivity, equivalent conductivity, Qualitative and quantitative aspect of electrolysis, electrochemical cell and electrolytic cell, Electrode and electrode potential and standard electrode potential, Electrochemical series and its applications, Nernst equation and its application, Equilibrium constant and EMF of the cell.	
8	Solutions: Solution and its types, expression of concentration of solution, solubility and factors affect the solubility of a solid in a liquid (temperature and pressure), Vapour pressure of a liquid, Raoult's I for both volatile and non volatile solute, Ideal and non ideal solution, Colligative properties, abnormal molecular masses and Van't Hoff factor.	
9	Chemical bonding and Molecular Structure: Valence electrons and Lewis structures, Ionic be Covalent bond, Bond parameters, Co-ordinate bond, polarity and dipole moment, Quantitative idea of valence bond theory, molecular orbital theory (LCAO), Concept of hybridization involving s, probitals, Hydrogen bond, Resonance.	
10.	Thermodynamics: Macroscopic properties of the system, modes of transfer of energy between system surrounding, Phase transition, phase rule and phase diagram, First Law, second law and third law thermodynamics. Internal energy and enthalpy of the reaction, their measurement and applica spontaneity of process, Entropy and spontaneity, Helmholtz and Gibb's free energy, Thermodynamic electrochemical cells.	

Classification of elements and periodicity in properties: Significance of classification, brief history of the development of periodic table, periodic laws, name of the elements with Z>100 according to IUPAC system, classification of elements into s, p, d, f-block elements and their characteristics. Periodic trends in the properties of elements - Ionization enthalpy, Electron gain enthalpy, electronegativity, atomic radii, ionic radii, periodicity of valency or oxidation state. Hydrogen: Position of Hydrogen in periodic table, occurrence, isotopes, Preparation of hydrogen, on 12. small and commercial scale, hydrides, water, hard and soft water, heavy water, hydrogen peroxide, hydrogen economy, hydrogen as a fuel. 13. General principles and processes of isolation of elements and s - block elements: Principles and methods of extraction, oxidation and reduction as applied to the extraction procedures of Al, Cu, Zn and Fe. s - block elements, general introduction - Electronic configuration, occurrence, Anomalous properties of the first element of each group, diagonal relationship, p - Block Elements: Electronic configuration, variation in physical and chemical properties of groups 13 14. to 18, physical and chemical properties of borax, boric acid, boron hydride, silicones, preparation and uses, preparation, properties and uses of nitrogen, ammonia, nitric acid and oxides of nitrogen, phosphorus - allotropic forms, preparation and properties of phosphine, phosphorus pentachloride and phosphorus trichloride, preparation, properties and uses of oxygen and ozone, hydrides and halides of 16 group elements, their structure and nature, allotropic forms of sulphur- their preparation, properties and uses of sulphur dioxide, industrial preparation of oxo-acids of sulphur, preparation and properties of halogen and halogen acids, inter halogen compounds, pseudohalide ions. Oxo-acids of halogens, their structure and nature, preparation, properties and uses of xenon fluorides, oxides of xenon and xenon oxo fluorides. The d - and f- Block Elements: General introduction, electronic configuration and general trend in the 15. properties of first row transition metals like metallic character, ionization enthalpy, oxidation states, ionic radii, coloured ion formation, catalytic properties, magnetic properties, oxides, halides and sulphides of first row transition metals, complex compound formation etc. Preparation, properties and structures of KMnO₄ and K₂Cr₂ O₇, lanthanoids and actinoids. 16. Co-ordination Compounds and organometallics: Meaning of co-ordination compounds, Werner's theory, ligands - their types, IUPAC nomenclature of co- ordination compounds, isomerism, bonding in co-ordination compounds, colour, magnetic properties and, stabilities of co-ordination compounds. Chemical and biological importance of co-ordination compounds, metal carbonyls: preparation, properties and bonding, organometallic compounds and their classification. 17. Organic Chemistry: Some Basic Principles and Techniques: General Classification of organic compounds, Shapes of organic compounds-Hybridisation(sp, sp2,sp3), Structural representation of organic molecules, Functional groups, Homologous, series. Common or trivial names, nomenclature of aliphatic,

Isomerism: Structural and Stereo isomerism Fundamental Concepts in Reaction Mechanism: Cleavage of covalent bond, Types of attacking species, electron movement in organic reactions,

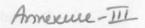
aromatic and substituted aromatic compounds.

electronic displacement in a covalent bond and types of organic reactions.

Methods of purification of organic compounds: Qualitative analysis, Quantitative analysis, estimation of the elements and determination of empirical and molecular formula.

Hydrocarbons: Classification of hydrocarbons. 18. Alkanes: Conformations (Newmann and Sawhorse formulae), Physical properties, Chemical reactions Cycloalkanes: Preparation, physical and chemical properties, stability of cycloalkanes (Bayer strain theory), chair and boat forms of cyclohexane. Alkenes:, structure of double bond, geometrical isomerism, physical properties, methods of preparation, chemical reactions. Alkadienes: Classification of dienes, Preparation of conjugated dienes, Chemical properties(1,2 and 1,4addition to conjugated dienes). Alkynes:, structure of triple bond, physical properties, methods of preparation Chemical properties, Acidic nature of alkynes Aromatic Hydrocarbons:, Structure of benzene, resonance, aromaticity (Huckel's rule) Chemical properties, mechanism of electrophilic substitution direct influence of substituents in mono subustituted benzene. Environmental Chemistry: Environmental pollution, Atmospheric pollution, Tropospheric pollution (Air 19. pollution), Major air pollutants, Control of air pollution, Smog (Chemical and Photochemical smog), Stratospheric pollution: Ozone layer and its depletion, Acid rain, Green House Effect and Global warming, Water pollution, Soil pollution and Industrialwaste. Haloalkanes and Haloarenes: Classification, methods of preparation of haloalkanes and haloarenes, their 20. physical properties, tests to distinguish between alkyl and aryl-halides, mechanism of SN1 and SN2 reactions, elimination reactions (Saytzeff Rule, E1 & E2 mechanism). Poly halogen compounds: Preparation and properties. Alcohols, Phenols and Ethers: Classification, preparation, properties and uses, tests to distinguish 21. between primary, secondary and tertiary alcohols. Distinctions between alcoholsand phenols. Preparation of ethers, physical and chemical properties. Aldehydes, Ketones and Carboxylic Acids: Structure of carbonyl group, preparation of aldehydes and 22. ketones, physical, Chemical properties and uses, tests to distinguish between aldehydes and ketones. Preparations of carboxylic acids preparation properties and uses. Amines (Organic compounds containing nitrogen): Classification, Structure of amino group, 23. preparation, Physical, Chemical properties, tests to distinguish between primary, secondary and tertiary amines Polymers: Polymerization, Classification of polymers based on: origin, structure, molecular forces, mode 24. of polymerization. Addition polymerization Condensation polymerization (Step-growth polymerization) Preparation of condensation polymers Synthetic and natural rubber and vulcanization. Determination of molecular mass of polymers: Poly dispersity index (PDI). Bio-degradable polymers like PHBV. Biomolecules(Biochemistry): Carbohydrates: Classification of carbohydrates, Structural determination 25. of glucose and fructose on the basis of their chemical properties, Open chain (Fischer) structure, cyclic structure (Haworth form),
and forms of glucose, Mutarotation, anomers and epimers, Chemical reactions of glucose, Reducing and non-reducing sugars, Configuration of glucose and fructose. Disaccharides Sucrose, Haworth representation of disaccharides, Polysaccharides, Starch, Cellulose, and amylopectin structures, Functions of Carbohydrates in living organisms. Carbohydrate metabolism, glycolysis, electron-transport chain, Proteins: Amino acids, Zwitter ion, Iso-electric point, peptides and peptide bond, Fibrous proteins, Globular proteins and their functions, Primary, Secondary (Helix and pleated sheet structures) and tertiary structure of proteins, denaturation and renaturation, Enzymes, specificity and mechanism of enzyme activity, coenzymes, applications of enzymes. Nucleic acids: Nucleosides, Nucleotides, Structure of ATP, Photosynthesis (Light and dark reactions) Primary and Secondary structure of DNA (Double Helix structure), biological functions of nucleic acids, Replication, Protein synthesis (Transcription, Translation, mutation), genetic code, genetic errors, Vitamins, classification, diseases caused by the deficiency of vitamins, Hormones (steroid hormones and non-steroid hormones) and their functions.

COMMERCE



BUSINESS STUDIES AND MANAGEMENT

- Introduction to Business-Concepts, characteristics, objectives. Classification of business as industry and commerce. Distinctive features of business- Business, profession and employment. Choice of Form of Organization. Large Scale and Small Scale Business-. Assistance by Government to Small Scale Sector.
- Form of Business Organization—Sole Proprietors, Joint Hindu Family, Partnership, Joint Stock Company and its formation, Cooperative organization.
- Business ownership—Private, public and Joint sector. Public Enterprises, Role-dynamics of Public Sector, Global Enterprises (Multinational Companies), Joint Ventures.
- Business Services banking, insurance, transportation, warehousing, communication, Impact of Technology on Business Services.
- Trade: Internal Trade Retail and Wholesale trade, Emerging modes of business-franchisee, E-business and Outsourcing. International Business-Export-Import-Procedure and documentation, EPZ/SEZ. International Trade Institutions and Agreements-WTO, UNCTAD, World-Bank, IMF.
- Business Finance: Sources—owners and borrowed fund, Sources of raising finance, Equity
 and preference Shares, GDR, ADR, Debentures, Bonds—Retained Profit, Public Deposits,
 Loan from Financial Institutions and commercial banks, Credit-rating and rating agencies,
 Trade credit, Micro-credit.
- Social Responsibility of Business, Business Ethics, Environment protection.
- Management—concept, objectives, nature of management as Science, Art and Profession, levels, Principles of Management general and scientific.
- Business Environment— meaning, importance, dimensions, changing business environment—special reference to liberalization, privatization and globalization, Business- a Futuristic vision.
- Management Function— Planning, organizing, staffing, directing, controlling and coordination
- Business Finance: Financial Management—meaning, scope, role and objectives, financial planning, Capital structure, leverage, Fixed and working capital—meaning and factors affecting its requirements.
- Financial Market Money Market-nature, instruments, Capital Market- Primary and secondary, Stock exchange, NSEI, OTCEI, Procedures, SEBI.
- Human Resource Management—meaning, importance, man-power estimation, Recruitment and selection, Training and development, Compensation, Performance Evaluation
- Marketing meaning, functions and role, Levels of Marketing, Changing facets of marketing, Product-mix, Models of Marketing.
- · Organizational Behaviors: Individual behaviors, Motivation-concepts and applications,

Personality perception, Learning and attitude, Leadership and its approaches, Communication, Group dynamics.

- Emerging Trends in Management Business Process Reengineering, Total Quality Management, Quality Circles, Benchmarking, Strategic Management, Knowledge Management, Business Standardization and ISO.
- Consumer Protection— Meaning, importance, consumers' rights, Consumers' responsibilities, Consumer awareness and Legal redressal with special reference to consumer Protection Act, Role of consumer organization and NGOs.

FINANCIAL ACCOUNTING AND FINANCIAL STATEMENT ANALYSIS

- Accounting: Meaning, objectives, qualitative characteristics of Accounting information, Accounting Principles, Accounting concepts, Accounting standards, Cash and Accrual Basis of Accounting.
- Process of Accounting: Voucher, transaction, Accounting Equation, Rules of Debit and Credit, Book of original entry-Journal and Special Purpose Books, Ledger, posting from Journal and subsidiary books, Balancing of Accounts, Trial Balance and Rectification of Errors, Bank Reconciliation Statement.
- Accounting for depreciation, Provisions and Reserves, Bills of Exchange, Non-Profit
 Organization, Partnership Firms-Reconstitution of Partnership (Admission, Retirement,
 Death and Dissolution), Account of Incomplete Records, Consignment and Joint ventures.
- Accounting of Joint stock Companies: Share capital types of shares, accounting for issue, allotment forfeiture and re-issue of shares. Debentures —types, issue and method of redemption Final Accounts of Sole proprietor and Joint Stock Companies. Emerging trends of presentation of Final Accounts. Accounting for liquidation.
- Financial Statement Analysis: Meaning, significance, limitation. Tools for Financial Statement Analysis-comparative statements, common size statements, Trend analysis, accounting ratios.
- Fund Flow Statement and Cash Flow Statement: Meaning, objectives, preparation as per revised standard issued by ICAI.
- Cost Accounting- Nature, functions. Job costing, Process costing, Marginal costing, Costvolume-profit relationship. Cost control and cost reduction techniques
- Computers in Accounting: Introduction to Computers and Accounting Information System, Application of Computers in Accounting, Automation of Accounting process, designing accounting reports, MIS reporting, data exchange with other information system. Readymade, customized and tailor made Accounting Systems.
- Accounting and Database Management System –meaning, concept of entity and relationship in an accounting system, Data Base Management System (DBMS) in accounting.
- Inflation accounting and Accounting for Human Resource of an Organization and Social Responsibility.

ECONOMICS

Amexure - IV

- -Meaning and Definition of Economics
- -Central Problems of an economy and Problem of choice
- -Economic systems; Characteristics and functions
- -Consumer equilibrium: Cardinal and ordinal approach
- -Demand; Determinants, concept of elasticity of demand
- -Production function: Law of variable proportions and Returns to Scale, concepts of costs and revenue and their relationships
- -Forms of market: Features and determination of Price and output under perfect competition and monopoly
- -National Income; Concepts and their interrelationships; circular flow of National Income, GNP and Welfare
- -Money: Meaning and functions; supply of money; functions of commercial banks andcentral bank
- -Government budget: Meaning, objectives, budget deficit
- -Meaning and determinants of economic development, characteristics of Under developed countries
- -Balance of Payments: Meaning and components
- -Problems of Indian Economy: Poverty, Unemployment and inequality
- -Economic Planning in India: Objectives, achievements and shortcomings
- -12th Five Year Plan in India
- -Measures of central tendency: Arithmetic Mean, Median and Mode
- -Theory of consumer behavior under risk and uncertainty, Slutskty's theorem, ordinaryand compensated demand curve
- -Consumer and producer's surplus
- -Price and output determination in imperfect competition
- -Macroeconomic variables
- -Consumption hypotheses
- -Multiplier and Accelerator
- -Theories of demand for Money

- -Quantity theory of money
- -Inflation, Phillip curve
- -Objectives and tools of Monetary and Fiscal Policies
- -Terms of trade, free trade and protection
- -Theories of trade comparative cost and opportunity cost
- -Foreign Direct Investment, WTO, World Bank and IMF
- -Demographic Dividend in India
- -Measurement of development, HDI, PQLI
- -Concepts and measurement of poverty and inequality
- -Functional relationship in Economics and use of graphs, measures of dispersion, correlation and Index Number
- -Current Industrial Policy and agricultural policy, green revolution and food security
- -IS-LM Model Relative effectiveness of Monetary and Fiscal Policy
- -Post Keynesian theories of determination of income and output
- -Mundell-Fleming Model
- -Theories of trade cycle: Counter Cyclical Policies
- -Growth Models Lewis model, Harrod-Domar, Kaldor, Solow
- -Regression analysis, Concept of growth rate, methods of data collection, probability
- -Economic reforms Liberalization, Privatization and Globalization, External and Financial Sector Reforms
- -Theories of International Trade Heckscher-Ohlin Theorem
- -Current foreign trade policy
- -Environment and development trade-off and concept of sustainable development

ENGLISH

Topics	Syllabus	
Reading Comprehension	Ability to comprehend, analyze and interpret unseen texts. Three/four unseen reading passages may be set.	
Writing Ability	One out of two tasks such as a factual description of any event or incident, a report or a process. Writing one formal letter. Letter types include writing personal opinion /views/stand in an article/ debate/speech etc on a given socio-cultural issue—in a style /register suitable to the task set. Issues could relate to (a) environment (b) education (c) gender discrimination (d) economic disparity etc.	
Grammar and Usage	Ability to apply the knowledge of syntax and grammatical items & use them accurately in the context provided. 1. Determiners 2. Tenses 3. Clauses 4. Modals 5. Voice 6. Determiners 7. Tenses 8. Transformations: (i) Direct – Indirect (ii) Active – Passive (iii) Negatives, Interrogatives (iv) Simple to compound and complex 9. Auxiliaries 10. Prepositions 11. Phrasal verbs and Idioms 12. Reading comprehension 13. Precis writing 14. Letter writing 15. Report Writing	
Literature	Shakespeare's works. Romantic period (e.g. Shelley, Wordsworth, Keats, Coleridge etc) 19th and 20th Century American and English Literature (e.g. Robert Frost, Hemmingway, Whitman, Hawthorne, Emily Dickinson, Bernard Shaw, Arthur Miller etc.) Modern Indian Writing in English (e.g. Anita Desai, Vikram Seth, Nissin Ezekiel, K N Daruwala, Ruskin Bond, R K Narayan, Mulk Raj Anand, Khushwant Singh etc)	

FINE ARTS

Unit - I

General characteristics of Visual art / Fundamentals of visual art : Space, form, size, shape, line, colour, texture, tonal values, perspective, design and aesthetic organization of visual elements in art object (composition). The uses of two and three dimensions in visual art. Tactile quality in art. Environment and art. Perceptual and conceptual aspects in art.

Unit - II

Interrelationship of various arts: Rhythm, structure, use of space, visual properties, materials, techniques (traditional and modern), ideas, themes (narrative and non – narrative) conceptual, abstract elements between performing, literary and plastic art.

Unit - III

Traditional and Modem mediums and materials in making visual arts: Painting, sculpture, print – making, mural, graphic design and multimedia art. Inventions, adaptations and development of these mediums and materials from the pre – historic period to present-day all over the world.

Unit - IV

Traditional and Modem techniques, processes and procedures, used in making painting, sculpture, print — making, mural, graphic design and multimedia art, such as modeling, carving, building, casting, different way of handling of colour pigment (like impasto, glazing, burnishing, drip), etching, relief, surface printing, fresco buono. fresco secco, etc. Printing processes including computer graphics, etc.

Unit - V

Relevance of the study of aesthetic and critical theories of art for the students of Visual Arts (including students of Applied Arts) and students of Art History specialization.

Unit - VI

Relevance of the study of aesthetic and critical theories of art for the students of Visual Arts (including students of Applied Arts) and students of Art History and Art Criticism specialization.

Unit - VII

Study of landmark phases and artists in Western Art History from Pre – Historic times to Contemporary phase from the point of view of ideology, materials, techniques, style, themes, formal and stylistic development.

Unit - VIII

Study of various phases of Indian Art History from Pre-Historic times to 18th century (including the history of advertisement) from the point of view of general formal and stylistic features and development of ideology, materials technique and themes.

Unit-IX

Development of modernity in 19th and 20th century. Indian art (including applied arts) with special reference to various art movements, medium, styles. indk iduai artist's contributions in different regions of the country. The development of art education from the British Art Schools till the contemporary period.

Unit -X

The significance of the study of Tribal, Folk and Popular arts and craft practices from all overthe India for the modem artists (including Applied Arts) from the point of Corm, technique, content and concepts.

Unit - XI

Knowledge of principal elements, perspective values, fundamentals of paintings. Visualprinciples, image. Chronology of the development of ideas. Visual reality, conceptual reality. Tradition and the gradual development of the art of combining the elements of ideas of different visual arts specialization.

Unit - XII

Media and materials and their use, sketching and drawing. Application of materials. oil painting - Alla Prima and old master process, glazing and stumbling, priming of canvas, different types of oil, brushing etc. Tempera and Gouache and their uses in printing in both traditional and non-traditional art. Wash method on paper and silk, Acrylic, pastel, mixed media, water colour mural and mural techniques - Fresco secco and Buono fresco, Ajanta and different modern media relief and mixed media in mural. Collage, Encaustic Wax, Supports in Painting (Canvas, paper. wood, silk. etc.)

Unit --- XIII

Types of paintings, open air paintings, portrait paintings, study of head and full length figure, male and female. Landscape paintings, patronized art. Paintings under different art movements, still life, thematic, abstract, etc.

Unit - XIV

Principles of compositions, reflection of artists personal views, development of concept. Process of creative paintings. Expression of ideas under some aesthetical and philosophical views. Artistic expression during different social and structural changes. Art and Changes.

Unit - XV

Application of techniques, colours and colour theory and the application of colour theory in art activities. Colour harmony, traditional application of colour and the application of colour reasoning. Colour preparation, texture, technical aspect of pigment. Sources and influences of various traditions. Study and understanding of artistic value, construction of forms, shapes, planes, volume and totality, understanding of two and three dimensional approaches and the purpose.

Unit - XVI

Relevance of the study of aesthetics in Fine Arts/Visual Arts. The early Philosophical thoughts in Indian Culture. Nature and function of works of art in society. Concepts of Rasa, Sadanga, Dhvani, Alankara, etc., in traditional art. Concept of art and beauty, idea, imagination, intuitions form and content, sublime, sympathy, empathy, creativity allegory, myth. Philosophy and aestlietical views of Kant, Hegel, etc. Pre – historic Indian Painting, Classical Indian Paintings. Mural (Ajanta, Bagh) and later Mural traditions. ManuscriptPainting, Miniature Painting, Folk and Tribal Paintings.



Unit --- XVII

Company school of paintings, Raja Ravi Verma, Bengal School under Abanindranath and his disciples (Kshitindra Nath Majumdar, Samarendranath Gupta, K. Venkatappa, Abdul Rahman Chughtai, Ashit Kr. Haider, Nandlal, etc.) Nandalal and his disciples (Ramkinkar. Binod Bihari, Dhirendrakrishna Dev Varma. etc.) Amrit Shergil, Academic Realism, Calcutta Group (Paritush Sen, Gobardhan Ash, Niode Majumdar, Pradosh Dasgupta, Hemanta Mishra, etc.) Major trends in contemporary Indian Art since, 1947.

Unit - XVIII

Major phases in Western Painting, Greeco - Roman, Byzantine, Gothic, Renaissance (background of Renaissance, Humanism and the intentions and discoveries of the evolution of personal style of Early Renaissance and High Renaissance), Baroque and Rococo (background, conception with some important artists activities). Neo - classicism, Romanticism, tic:-Realism, Impressionism Post - impressionism. Cubism, Fauvism, Futurism, Dadaism, Surrealism, Abstract Art, Abstract Expressionism Op, Pop, Neo -• figuration, Art in Post - modern time.

Unit - XIX

Importance of Applied Art in Visual Communication. Understanding of all the elements of an advertising design/graphic design such as typography and calligraphy (Headline, copy), photography, illustration logo and symbol. Outdoor advertising — Its importance in communication. Various kinds of media of outdoor advertising with its advantage over other media. Advertising ethics and censoring in using outdoor media. Advertising campaign - Product (package designing for the surface of container, to start with), Corporate / Government and Social awareness. Name all the media available. New technologies (Computer, digital printers, etc.), Internet, its use in advertising products and services, net marketing. Interaction with other arts i.e. sculpture, painter.

Unit - XX

History of advertising from early civilizations. Invention of moveable types. Development of printing processes: Letterpress, off- set gravure, silk-screen, embossing, etc.

Computer and its role in creating new visual effect. l-listor\ of Indian advertising and different media. History of printing in India. Print media vs Electronic Media.

GEOGRAPHY

Amexice-VII

Topic I: Geography as a discipline-

Geographical ideas in ancient, medieval & modern periods: the contributions of Varenius, Kant, Humboldt and Ritter. Influence of Richthofen and Darwin. Videl-de-la Blache, F. Ratzel and Indian geographic.

Contemporary geography: Post Second World War, Environmentalism, Areal Differentiation, spatial organization, Behavioural and perceptual Geography. Positivism in Geography. Humanistic Geography. Marxist Geography and critical social theory. Development in Indian Geography.

Topic-2 Origin and Evolution of the Earth-

Introduction to the solar system,

Motions of Earth: Rotation, Revolution, Occurrence of Day and Night; change of seasons; Latitudesand Longitudes; Finding time.

<u>Earth's Interior</u>: Origin of contents and ocean basis Wagener's Continental drift theory, Theory of PlateTectonics Earthquakes and Volcanoes, Folding and faulting

Origin of the Earth: Nebular hypothesis (old Theory) and Big-Bang Theory. Evolution of continents, atmosphere and oceans.

Topic-3 Interior of the Earth and Distribution of oceans and continents-

Constitution of Earth's interior (based on Seismic Evidences), origin of the continents and ocean basins. Wegner's theory of Continental drift and Plate Tectonics. Plate movements and interactions-Volcanism and seismicity.

Topic-4 Landforms-

Mineral and rocks- classification of rocks, rock cycle. Important minerals geomorphic process of denudation Endogenic and Exogenic processes. Mass Wasting, Landslide, Work of River, Glacier Wind, Sea Waves etc, processes of soil formation.

Topic-5 Climate:

<u>Atmosphere</u>: Composition and structure. Insolation and temperature, Atmospheric pressure and winds, Atmospheric moisture, cyclones, classification of climate (Koeppen and Thornthwaite Schemes classification). Global climatic changes: Causes and effects.

Topic-6 Water (Ocean)

Geomorphology of the ocean floor, submarine relief features of Atlantic, Pacific and Indian Ocean. -Salinity, temperature.

Movement of ocean water: Currents, tides and waves. Marine deposits and coral reefs.

Topic -7 Life on the Earth

Approaches in environmental Geography, landscape, ecosystem and perception approaches, Man and the Biospherec: Interactive and dynamic relationship. Human impact on biogeochemical cycles.

Topic-8 India:

Geographical basis of Indian State-territory; location, extent, shape and size.

Topic-9

Physiography and Drainage

Structure, Physiographic divisions, Drainage system and its evolution.

Topic-10 Climate, Vegetation and Soil-

Climate: factors controlling climate of India

Origin and mechanism of Indian monsoon; Seasons of India, Classification of climate of India (Koeppen's, Thornthwaite).

Soils: Type and distribution (I.C.A.R.), Soil problems, conservation of soil

Vegetation-Types & Distribution; conservation

Wild Life- its conservation.

Topic-11 Natural Hazards and disasters-

Causes, cases/events Consequences and management in India Environmental Hazards: Floods, droughts, cyclones, earthquakes and landslides; human adjustment to hazards; hazards perception and mitigation; environmental institutions and legislation in India.

Topic -12 People (World and India)

Trends and patterns of population growth: determinants and patterns of population distribution and density of Population, demographic transition; Human migration, Patterns of human development.

Topic-13 Human Activities: (World and India)

<u>Primary:</u> - Hunting, gathering, Herding (Nomadic & Commercial) fishing, mining and agriculture; Agricultural practices; some major crops.

<u>Secondary:</u> - Industries: Classification, Theories of localization, major Industries, recent trends in industries, world comparisons.

Tertiary:-(Services)

Quaternary-Quinary activities

Planning in India: target area planning, idea of sustainable development

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Topic-14 Transport, Communication and Trade (World and India)

<u>Transport and communication</u> Roads, railways, waterways and airways; oil and gas pipelines, national electric grids. Communication networking-radio, television, satellite and Internet.

<u>International Trade</u>-Basis and components, trade balance, major trading organizations, changing pattern of India's foreign trade, sea-routes, in land water-ways, sea ports and their hinter-land.

Topic-15 Human settlements (World and India)

Temporary and Permanent settlements, rural settlements: origin, types and patterns; Urban settlements: Origin and growth of towns; functional classification of towns. Problems of urbanization in the world; urbanization in India; Urban slums and squatters. Morphology of cities; distribution of Mega-cities, problems of human settlements in Developing countries.

Topic -16 Geographical perspective on selected issues and problems

Environmental pollution-Land, Water, Air, Noise, Global Warming, Poverty, Food Security.

पाठ्य पुस्तक - आरोह-भाग 1, एन सी ई आर टी, नई दिल्ली द्वारा प्रकाशित

गद्य खंड:

1. प्रेमचंद: नमक का दरोगा

2. कृष्णा सोबती: मियाँ नसीरुद्दीन

3. सत्यजित राय: अपू के साथ ढाई साल

4. बालमुकुंद गुप्तःविदाई-संभाषण

5. शेखर जोशी: गलता लोहा

6. कृष्णनाथ: स्पीति में बारिश

7. मन्नू भंडारी: रजनी

8. कृश्रचंदर: जामून का पेड़

9. जवाहरलाल नेहरू: भारत माता

10. सैयद हैदर रजा: आत्मा का ताप

काव्य खंडः

1.कबीर : 1. हम तौ एक एक करि जांनां I

2. संतों देखत जग बौराना ।

2.मीरा: 1.मेरे तो गिरधर गोपाल, दूसरो न कोई 2.पग घुँघरू बांधि मीरां नाची

3. रामनरेश त्रिपाठी: पथिक

4. समित्रानंदन पंतः वे आँखें

5.भवानी प्रसाद मिश्रः घर की याद

6.त्रिलोचन: चम्पा काले काले अच्छर नहीं चीन्हती

7.दुष्यंत कुमार: ग़ज़ल

8. अक्कमहादेवी: 1. हे भूख! मत मचल

2. हे मेरें जूही के फूल जैसे ईश्वर;

9.अवतार सिंह पाश: सबसे ख़तरनाक:

10.निर्मला पुतुल: आओ, मिलकर बचाएँ ।

2. सहायक पाठ्य पुस्तक - वितान-भाग 1. एन सी ई आर टी, नई दिल्ली द्वारा प्रकाशित

1.कुमार गंधर्व:भारतीय गायिकाओं में बेजोड़: लता मंगेशकर

2.अनुपम मिश्र: राजस्थान की रजत बुँदें

3.बेबी हलदार: आलो-आँधारि

4.भारतीय कलाएँ

5. लेखकों के बारे में

पाठ्य पस्तक - आरोह-भाग 2. एन सी ई आर टी, नई दिल्ली द्वारा प्रकाशित

काव्य खंड:

हरिवंश राय बच्चन: 1. आत्मपरिचय

2. एक गीत

आलोक धन्वा: पतंग

कुँवर नारायण: 1. कविता के बहाने

2. बात सीधी थी पर

रघवीर सहाय: कैमरे में बंद अपाहिज

गजानन माधव मुक्तिबोध : सहर्ष स्वीकारा है

शमशेर बहादुर सिंह: उषा

सूर्यकांत त्रिपाठी निराला : बादल राग

तुलसीदास: 1. कवितावली (उत्तर कांड से)

2. लक्ष्मण-मुर्च्छा और राम का विलाप

फ़िराक़ गोरखप्री:

1. रुबाइयाँ

2. गजल

उमाशंकर ओशी:

1. छोटा मेरा खेत

2. बगुलों के पंख

गद्य खंड :

महादेवी वर्मा : भक्तिन

जैनेंद्र कुमार : बाज़ार दर्शन

धर्मवीर भारती: काले मेघा पानी दे

फणीश्वर नाथ रेणु: पहलवान की ढोलक

विष्णु खरे: चार्ली चैपलिन यानी हम सब

रज़िया सज्जाद ज़हीर: नमक

हज़ारी प्रसाद द्विवेदी : शिरीष के फूल

बाबा साहेब भीमराव आम्बेडकरः

1. श्रम विभाजन और जाति-प्रथा

2.मेरी कल्पना का आदर्श समाज

2. सहायक पाठ्य पुस्तक - वितान-भाग 2, एन सी ई आर टी, नई दिल्ली द्वारा प्रकाशित

1. मनोहर श्याम जोशी: सिल्वर वैडिंग :

2. आनंद यादवः जुझ

3.ओम थानवी:अतीत में दबे पाँव

4.ऐन फ्रैंक: डायरी के पन्ने

बिम्ब, अलंकार, छंद तथा काव्य-रूप कोड मिक्सिंग तथा कोड स्विचिंग,

पद तथा पदक्रम- संज्ञा एवं संज्ञा-भेद, लिंग, वचन, कारक; सर्वनाम एवं सर्वनाम-भेद; विशेषण एवं विशेषण-भेद, प्रविशेषण; क्रिया एवं क्रिया-भेद, वाच्य; अव्यय एवं अव्यय-भेद; निपात,

शब्द - भंडार और शब्द निर्माण- शब्दों का वर्गीकरण स्रोत ,उत्पत्ति या इतिहास के आधार पर — तत्सम ,तद्भव, देशज ,आगत) विदेशज ,(संकर रचना के आधार पर — मूल या रूढ़ शब्द ,व्युत्पन्न शब्द -यौगिक ,योगरूढ़ अर्थ के आधार पर — पर्यायवाची ,विलोमार्थी ,एकार्थी ,अनेकार्थी ,श्रुतिसम भिन्नार्थक शब्द शब्द निर्माण - उपसर्ग, प्रत्यय, समास, युग्म शब्द, पुनरुक्त शब्द

3. अभिव्यक्ति और माध्यम, एन सी ई आर टी, नई दिल्ली द्वारा प्रकाशित जनसंचार माध्यम

जनसंचार माध्यम पत्रकारिता के विविध आयाम विभिन्न माध्यमों के लिए लेखन पत्रकारीय लेखन के विभिन्न रूप और लेखन प्रक्रिया विशेष लेखन-स्वरूप और प्रकार कैसे बनती है कविता नाटक लिखने का व्याकरण कैसे लिखें कहानी डायरी लिखने की कला कथा-पटकथा कैसे बनता है रेडियो नाटक नए और अप्रत्याशित विषयों पर लेखन

कार्यालयी लेखन और प्रक्रिया स्ववृत्त लेखन और रोजगार संबंधी आवेदन पत्र शब्दकोश: संदर्भ ग्रंथों की उपयोगी विधि और परिचय

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कमांक संख्या	विषय	
हिन्दी साहित्य	के इतिहास का अध्ययन	
1	आदिकाल	
2	भक्तिकाल	
3	रीतिकाल	
4	आधुनिक काल	
व्याकरण		
1	छंद ज्ञान – वर्णिक एवं मात्रिक	
2	शब्द शक्ति, अभिधा, लक्षणा, व्यंजना	
3	अलंकार – शब्दालंकार, अर्थालंकार	
4	रस मीमांसा	
5	शब्द विचार	
6	पद – विचार	
7	वाक्य विचार	
8	संधि	
9	समास	
लेखन कौशल अ	और पत्रकारिता	
1	प्रिंट माध्यम (समाचार और संपादकीय)	
2	रिपोर्ट लेखन	
3	आलेख लेखन	
4	फीचर लेखन	
5	विज्ञापन लेखन	
6	इलेक्ट्रांनिक मीडिया	

- 1. अपठित पद्य (ज्ञान, अर्थग्रहण आधारित प्रश्न)
- 2. अपठित गद्य (ज्ञान, अर्थग्रहण आधारित प्रश्न)

S. No.	Syllabus			
Indian History				
1				
	Harappan Civilization –			
	a. Town Planning			
	b. Religion c. Economic & Social Life			
	d. Script Writing e. Vadic Era			
	c. vadic Dia			
2	The rise of Magadh in relation to 16 Mahajanpadas			
	The rise of Heterodox sects with special reference to Buddhism, Jainism –			
2	a. Rise b. Teaching			
,	c. Comparison			
	d. Effect on society, trade &commerce			
	The Mauryas –			
4	a. Causes for its rise b. Chandragupta Maurya Administration			
	c. The contribution of Ashoka the Great (all aspects)			
	d. Decline and fall of Mauryan Empire			
	The Guptas –			
	a. Golden Period b. Samudra Gupta			
5	c. Chandragupta Vikramadityaetc			
	d. Administration, Religion, Trade & Commerce e.Harshvardhna - Pushyabhuti Dynisty.			
5 ,	Society & Economy – From Vedic till 7th century			
7	Sultanate Era – The Defeat of Hindu kingdom and the establishment of Delhi Sultanate			
	Mughal Period – 1526 to 1707(all aspects)			
3	a. Polity			
	b. Administration c. Society			
	d. Economy			

9	Medieval Period - Society and Culture with special Reference to Bhakti Move ment and Sufism
10	Medieval Architecture - Delhi Sultanate 'n Mughal Period
11	The Advent of Europeans and the establishment of 5 British rule
12	British rule and its impact on Indian economy
	Freedom Movement-1857
	a. Nature b. Causes
	c. Leadership
13	d. Events
	e. Consequences
	f. Causes of defeat
	g. Impact
14	The socio-religious reform movements and the rise of nationalism
15	The Indian freedom movement – 1885 to 1947
	Constitution –
	a. Framing
16	b. Features
	c. Working of the Constitution
	d. Adoption of the Constitution
History of	the world
	The rise of Ancient Civilizations with special reference to
	Mesopotamia –
17	a. Urbanization
	b. Script
	c. Trade
	d. Calendar
	Roman and Greek civilization
	a. The rise of the empire
18	b. Administration
	c. Society
1	PudaSodif Uirollo V danie - vinenad is Selasti
19	Nomadic people of Central Asia
	The Dark age – Feudalism in Europe
20	a. Manor State
	b. Decline

	Capitalism and Mercantilism	
22	a. Industrial Revolution b. Imperialism and colonialism	
23	China Since 1840 to 1949	
24	Japan 1840 to 1949	

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Amexice -X

HOME SCIENCE

- •Home Science Education meaning, definition, scope, objectives and history.
- •Changing concept of different areas of Home Science.
- •Definition, functions and classification of foods.
- •Nutrients and their composition, sources and functions.
- ·Balanced Diet.
- Methods of cooking.
- •Home Management definition.
- Motivating Factors- value, goals and standard.
- •Resources- classification and characteristics.
- Income- definition, meaning and types.
- Budget- steps.
- Saving and Investment
- •Fibre- types and properties- Natural and Man-Made
- Yarn construction
- · Weaving-types.
- General principles of clothing construction
- Definition of Child Development, Human Development
- •Scope of Human Development.
- •Principles of growth and Development.
- •Role of Heredity and environment.
- Life span stages.
- Types of Development

- •Definition of Developmental tasks and different tasks, different stages of human development.
- •Characteristics of different age groups and their physiological and behavioral problems.
- •Meaning, concepts and scope of special education and classification of children with special needs.

(2) Knowledge of Subject concerned:

- •Changing concepts of Home Science.
- Areas of Home Science- objectives and scope of each area.
- •Professional organizations and Research Institutes, contributing to different areas of Home Science.
- •Formal, Non-formal and Informal education.
- •Programme planning, Implementation and Evaluation.
- •Government and NGO's Development Programmes.
- •Meaning, definition, principles and basic elements of extension education.
- Extension teaching methods.
- Communication concepts and meanings.
- Different types of communication Aids.
- Nutrients- their composition and sources.
- Recommended dietary allowances and deficiencies.
- •Nutritive value of important cereals, pulses, vegetables, fruits, milk and milk products, eggs, meat and fish.
- •Methods of cooking- their effects on nutrients and methods of enhancing the nutrients value of foods.
- Selection, purchase and storage of foods.
- ·Food spoilage.
- •Food preservation- importance, principles and methods.

- Food adulteration- causes, identification, preventive and control measures, food laws and standards, labels, etc.
- •Changing trends in food consumption- fast foods, junk foods etc.
- •Nutritional status- concept, assessment methods.
- •Principles of meal planning.
- •Diets of normal individual of different ages, sex, profession and physiological condition. (Pregnant and lactation)
- •Dietary management during different diseases.
- •Concept and type of community health and community nutrition.
- •Nutrition problems of community and implication for public health.
- Current situation in India.
- Nutritional Assessment and Surveillance.
- Nutrition and health communication.
- •Management Process- Planning, controlling and evaluation.
- ·Decision Making.
- •Management of Resources- Time, money and energy.
- Work simplification- meaning, importance and its application in various household activities.
- •Introduction of foundation of art-design, elements and principle of design.
- •House planning/space designing.
- •Selection and types of furniture and furnishing.
- •Financial and legal consideration- availability of funds for having housing.
- •Interior designing and Principles of arrangements.
- (3) Definition, meaning and need of consumer.
- •Market, consumer education methods, contents and sources.

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- •Consumer Aids and consumer protection.
- •Taxation- need, types, effect of tax on work and saving.
- · Wills and trusts.
- •Early identification, treatment, prevention and rehabilitation of each category of children with special needs.
- •Meaning, importance and objectives of Early Childhood care and Education.
- •Different types of Early Childhood Care and Education Centers.
- Meaning and concept of developmentally appropriate programme/practice (DAP). Planning,
 Implementation and Evaluation of Early Childhood Programme.
- •Concept of adolescent and adolescence stage and problems of adolescence stage. •Meaning and definition of marriage, types and functions of marriage, factors of mate selection. •Meaning and definition of family, types of family •Population education and dynamics. •Yarn making, weaving and other methods of fabric construction and their effect on appearance, durability and maintenance of garments. •Different types of finishes. •Selection, care and storage of different types of clothes including readymade garments. •Importance of clothing, social and psychological aspects of clothing. •Functions of clothing construction drafting and making of paper patterns. •Body measurement-importance of taking body measurements and its relation to sizes and different types of garments. •Preparation of fabric cutting- layout, pinning, marking and cutting. •Wardrobe planning. •Selection of fabrics and garments for adolescent, men and women. •Selection and buying fabrics for various users. •Elements, principles of design in clothing. •Traditional Textile of India. Fashion Terminology and fashion cycle. 3. Knowledge of Subject Concerned: PG Level Extension Management and Administration. •Extension Programme Management. •Participating Extension Approaches RRA, PRA and PLA.
- Participating Communication.
- Extension Planning methods. •Communication Strategy. Print and Oral Communication.
- Women Empowerment. Entrepreneurship. Different methods of enhancing the nutritive value of foods forification. Food adulteration causes, identification preventive and control measures. Inter-relationship of agriculture, food, nutrition, health and population. Energy needs, basal metabolism and total energy requirement. Digestion, absorption and utilization of major nutrients.

- Nutritional Status.
- •Nutritional problems in the country.
- •Dietary management during different diseases.
- •Nutrition Policy in India.
- •Nutrition Problems of community and implication for public health.•Different organizations / Programmes working for children with special needs.•Administration and Supervision of Early Childhood Care and Education Centres / institutes.• Need of Guidance and Counseling at each life span stage of development. •Marital adjustment, legal aspects of marriage.Role of mother and father in the family.Functions (Traditional and Modern) of the family and factors affecting family functions.
- •Meaning and stages of family life-cycle. Family welfare organizations (Government and Non Government) in India. Parenting Styles and impact of these styles on the children. Family planning measures, Reproductive Health. Family disorganization. Factors influencing residential planning. Space designing according to various activities and family needs. Kitchen Types and Storage ergonomics. Illumination purpose, Types, Lightening types unit of measurement, glare, Fixtures types & selection. Furniture types & selection. Furnishing & accessories types & selection. Work ergonomics Meaning & Concept. Work Physiology Introduction, definition & types of work static and dynamic. Physiological factors influencing. Working environment. Fashion terminology, sources, fashion cycle and season.
- Factors favouring of fashion cycle and season, Consumer demand and fashion marketing and fashion change.
- Paper pattern basic designing
- · Draping
- •Readymade Garment need and Criteria.
- Future trends in fashion technology.
- Dyes and their effects. (Educational Psychology, Pedagogy, Teaching Learning Material, Use of computers and Information Technology in Teaching Learning) 1. Importance of Psychology in Teaching-Learning: Learner, Teacher, Teaching-learning process, School effectiveness. 2. Development of Learner Cognitive, Physical, Social, Emotional and Moral development patterns

and characteristics among adolescent learner. 3. Teaching – Learning :• Concept, Behavioural, Cognitive and constructivist principles of learning and its implication for senior secondary students.

- •Learning characteristics of adolescent and its implication for teaching.
- 4. Managing Adolescent Learner:
- •Concept of mental health and adjustment problems.
- Emotional Intelligence and its implication for mental health of adolescent.
- •Use of guidance techniques for nurturing mental health of adolescent. 5. Instructional Strategies for Adolescent Learner:
- ·Communication skills and its use.
- •Preparation and use of teaching-learning material during teaching.
- Different teaching approaches: Teaching models- Advance organizer, Scientific enquiry, Information, processing, cooperative learning.

MATHEMATICS

Annexure - XI

Sets:

Sets and their representations. Empty set. Finite & Infinite sets. Equal sets. Subsets. Subsets of the set of real numbers. Power set. Universal set. Venn diagrams. Union and Intersection of sets. Difference of sets. Complement of a set.

Relations & Functions:

Ordered pairs, Cartesian product of sets. Number of elements in the cartesian product of two finite sets. Cartesian product of the 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 kind of relation from one set to another. Pictorial representation a function, domain, co-domain & range of a function. Real valued function of the real variable, domain and range of these functions, constant, identity, polynomial, rational, modulus, signum and greatest integer functions with their graphs. Sum, difference, product and quotients of functions. Sets and their Representations. Union, intersection and complements of sets, and their algebraic properties, Relations, equivalence relations, mappings, one-one, into and onto mappings, composition of mappings.

Principle of Mathematical Induction:

Processes of the proof by induction. The principle of mathematical induction.

Permutations & Combinations:

Fundamental principle of counting. Factorial n. Permutations and combinations, derivation of formulae and their connections, simple applications.

Complex Numbers:

Complex numbers, Algebraic properties of complex numbers, Argand plane and polar representation of complex numbers, Statement of Fundamental Theorem of Algebra, solution of quadratic equations in the complex number system. Modulus and Argument of a complex number, square root of a complex number. Cube roots of unity, triangle inequality.

Linear Inequalities:

Linear inequalities. Algebraic solutions of linear inequalities in one variable and their representation on the number line. Graphical solution of linear inequalities in two variables. Solution of system of linear inequalities in two variables-graphically. Absolute value, Inequality of means, Cauchy-Schwarz Inequality, Tchebychef's Inequality.

Binomial Theorem:

Statement and proof of the binomial theorem for positive integral indices. Pascal's triangle, general and middle term in binomial expansion, simple applications. Binomial Theorem for any index. Properties of Binomial Co-efficients. Simple applications for approximations.

Sequence and Series:

Sequence and Series. Arithmetic, Geometric and Harmonic progressions (G.P.), General terms and sum to *n* terms of A.P., G.P. and H.P. Arithmetic Mean (A.M.), Geometric Mean (G.M.), and Harmonic Mean (H.M.), Relation between A.M., G.M. and H.M. Insertion of Arithmetic, Geometric and Harmonic means between two given numbers. Special series, Sum to *n* terms of the special series. Arithmetic, Geometric Series, Exponential and Logarithmic series.

Elementary Number Theory:

Peano's Axioms, Principle of Induction; First Principle, Second Principle, Third Principle, Basis Representation Theorem, Greatest Integer Function Test of Divisibility, Euclid's algorithm, The Unique Factorisation Theorem, Congruence, Sum of divisors of a number. Euler's totient function, Theorems of Fermat and Wilson.

Quadratic Equations:

Quadratic equations in real and complex number system and their solutions. Relation between roots and co-efficients, nature of roots, formation of quadratic equations with given roots; Symmetric functions of roots, equations reducible to quadratic equations – application to practical problems.

Matrices and Determinants:

Determinants and matrices of order two and three, properties of determinants, Evaluation of determinants. Area of triangles using determinants, Addition and multiplication of matrices, adjoint and inverse of matrix. Test of consistency

and solution of simultaneous linear equations using determinants and matrices.

Two dimensional Geometry:

Cartesian system of rectangular co-ordinates in a plane, distance formula, section formula, area of a triangle, condition for the collinearity of three points, centroid and in-centre of a triangle, locus and its equation, translation of axes, slope of a line, parallel and perpendicularlines, intercepts of a line on the coordinate axes.

Various forms of equations of a line, intersection of lines, angles between two lines, conditions for concurrence of three lines, distance of a point from a line, Equations of internal and external bisectors of angles between two lines, coordinates of centroid, orthocentre and circumcentre of a triangle, equation of family of lines passing through the point of intersection of two lines, homogeneous equation of second degree in x and y, angle between pair of lines through the origin, combined equation of the bisectors of the angles between a pair of lines, condition for the general second degree equation to represent a pair of lines, point of intersection and angle between two lines.

Standard form of equation of a circle, general form of the equation of a circle, its radius and centre, equation of a circle in the parametric form, equation of a circle when the end points of a diameter are given, points of intersection of a line and a circle with the centre at the origin and condition for a line to be tangent to the circle, length of the tangent, equation of the tangent, equation of a family of circles through the intersection of two circles, condition for two intersecting circles to be orthogonal.

Sections of cones, equations of conic sections (parabola, ellipse and hyperbola) in standard forms, condition for y = mx + c to be a tangent and point(s) of tangency.

Trigonometric Functions:

Positive and negative angles. Measuring angles in radians & in degrees and conversion from one measure to another. Definition of trigonometric functions with the help of unit circle.

Graphs of trigonometric functions. Expressing $\sin(x+y)$ and $\cos(x+y)$ in terms of $\sin x$, $\sin y$, $\cos x$ & $\cos y$. Identities related to $\sin 2x$, $\cos 2x$, $\tan 2x$, $\sin 3x$, $\cos 3x$ and $\tan 3x$. Solution of trigonometric equations, Proofs and simple applications of sine and cosine formulae. Solution of triangles, Heights and Distances.

Inverse Trigonometric Functions:

Definition, range, domain, principal value branches. Graphs of inverse trigonometric functions. Elementary properties of inverse trigonometric functions.

Differential Calculus:

Polynomials, rational, trigonometric, logarithmic and exponential functions, Inverse functions. Graphs of simple functions. Limits, Continuity and differentiability; Derivative, Geometrical interpretation of the derivative, Derivative of sum, difference, product and quotient of functions. Derivatives of polynomial and trigonometric functions, Derivative of composite functions; chain rule, derivatives of invers trigonometric functions, derivative of implicit function. Exponential and logarithmic functions and their derivatives. Logarithmic differentiation. Derivative of functions expressed in parametric forms. Second order derivatives. Rolle's and Lagrange's Mean Value Theorems and their geometric interpretations.

Applications of Derivatives:

Applications of derivatives: rate of change, increasing / decreasing functions, tangents & normals, approximation, maxima and minima.

Integral Calculus:

Integral as an anti-derivative. Fundamental integrals involving algebraic, trigonometric, exponential and logarithmic functions. Integration by substitution, by parts and by partial fractions. Integration using trigonometric identities. Definite integrals as a limit of a sum, Fundamental Theorem of Calculus. Basic Properties of definite integrals and evaluation of definite integrals; Applications of definite integrals in finding the area under simple curves, especially lines, areas of circles / Parabolas / ellipses, area between the two curves.

Differential Equations:

Definition, order and degree, general and particular solutions of a differential equation. Formation of differential equation whose general solution is given. Solution of differential equations by method of separation of variables, homogeneous differential equations of firstorder and first degree. Solutions of linear differential equation.

Vectors:

Vectors:
Vectors and scalars, magnitude and direction of a vector. Direction cosines / ratios of vectors. 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. Scalar (dot) product of vectors, projection of a vector on a line. Vector (cross) product of vectors.

Three dimensional Geometry:

Coordinates of a point in space, distance between two points; Section formula, Direction cosines / ratios of a line joining two points. Cartesian and vector equation of a line, coplanar and skew lines, shortest distance between two lines. Cartesian and vector equation of a plane. Angle between (i) two lines, (ii) two planes, (iii) a line and a plane. Distance of a point from a plane. Scalar and vector triple product. Application of vectors to plane geometry. Equation of a sphere, its centre and radius. Diameter form of the equation of a sphere.

Statistics:

Calculation of Mean, median and mode of grouped and ungrouped data. Measures of dispersion; mean deviation, variance and standard deviation of ungrouped / grouped data. Analysis of frequency distributions with equal means but different variances.

Probability:

Random experiments; outcomes, sample spaces. Events; occurrence of events, exhaustive events, mutually exclusive events, Probability of an event, probability of 'not', 'and' & 'or' events., Multiplication theorem on probability. Conditional probability, independent events,,

Baye's theorem, Random variable and its probability distribution, Binomial and Poisson distributions and their properties.

Linear Algebra

Examples of vector spaces, vector spaces and subspace, independence in vector spaces, existence of a Basis, the row and column spaces of a matrix, sum and intersection of subspaces. Linear

Transformations and Matrices, Kernel, Image, and Isomorphism, change of bases, Similarity, Rank and Nullity. Inner Product spaces, orthonormal sets and the Gram- Schmidt Process, the Method of Least Squares. Basic theory of Eigenvectors and Eigenvalues, algebraic and geometric multiplicity of eigen value, diagonalization of matrices, application to system of linear differential equations. Generalized Inverses of matrices, Moore-Penrose generalized inverse. Real quadratic forms, reduction and classification of quadratic forms, index and signature, triangular reduction of a pair of forms, singular value decomposition, extrema of quadratic forms. Jordan canonical form, vector and matrix decomposition.

Analysis

Monotone functions and functions of bounded variation. Real valued functions, continuous functions, Absolute continuity of functions, standard properties. Uniform continuity, sequence of functions, uniform convergence, power series and radius of convergence. Riemann-Stieltjes integration, standard properties, multiple integrals and their evaluation by repeated integration, change of variable in multiple integration. Uniform convergence in improper integrals, differentiation under the sign of integral - Leibnitz rule.

Dirichlet integral, Liouville's extension. Introduction to n-dimensional Euclidean space, open and closed intervals (rectangles), compact sets, Bolzano-Weierstrass theorem, Heine-Borel theorem. Maxima-minima of functions of several variables, constrained maxima-minima of functions. Analytic function, Cauchy-Riemann equations, singularities, Statement of Cauchy theorem and of Cauchy integral formula with applications, Residue and contour integration. Fourier and Laplace transforms, Mellin's inversion theorem.

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MUSIC

UNIT - I - Technical Terms

1) Nada 2) Sangeetha 3) Sruthi 4) Swara 5) Swarastanas 6) Arohana and Avarohana 7) Octave 8) Dhatu&Matu 9) Taala 10) Avartan

Unit - II - Raga

- 1. Definition of Raga / That System
- 2. Classification of Ragas Janaka, Janya method
- 3. Thirteen Characteristics of Raaga
- Lakshanas of the following Raagas: Mayamalavagoula, Shankarabharana, Kalyani, Kharaharapriya, Harikambhoji, Natabhairavi, Panthuvaraali, Shanmukhapriya, Chakravaaka, Keeravani, Mohana, Hindola, Hansdhwani, PoorviKalyaani, Sreeranjani, & Nata and Parallel Ragas of Hindusthani Music
- 5. Evolution of Raaga Different Stages;
- 6. Study of Gamakas

Unit - III - Tala:

1) Definition of Tala; 2) Importance of Laya; 3) SaptaTalas; 4) Anga, Jati, Kriya, Ğraha 5) TalaDasaPranas; 6) Thirty-five tala scheme or knowledge of any ten talas of Hindusthani Music

Unit - IV - Different Musical Forms:

- 1) Varna; 2) Keerthana 3) Kriti; 4) Pada; 5) Javali; 6) Ashtapadi (Or) 1) Drupad 2) Khayal 3) Tarana 4) Thumri 5) Tappa
- 6) Dadra 7) Chaiti 8) Hori 9) Bhajan 10) Ghazal

Unit - V - Musical Instruments:

- 1) Tambura 2) Veena 3) Violin 4) Mridangam 5) Flute 6) Gotu (Or.) 1) Tanpura 2) Sitar 3) Violin 4) Sarangi 5) Shahanay
- 6) Harmonium 7) Bansuri 8) Santoor 9) Pakhavaz& 10) Tabla

Unit - VI - Composers:

1) BhaktaJayadeva 2) Ramadas 3) Tyagarajaswamy (Or) 1) Meerabai 2) Tulasidas 3) Kabeerdas 4) Haridas 5) Tansen 6) Tukaram 7) AmeerKhusru 8) GopalNaik 9) Batkhande 10) VishnudigambarPaluskar 11) Baijubavara 12) Sadarang and Adarang

Unit - VII - ManodharmaSangeeta, Notation:

- 1) Creative Aspects of Hindusthani Music 2) Method of writing Notation 3) To write Notation to different forms of Music
- 4) Music Concert format

Unit - VIII - Seats of Music, Different kinds of Music, Musical Treatises

- 1. Different kinds of Music & their significance Devotional Music, Karnatak Music, Hindusthani Music, Folk Music, Light Music, and Film Music
- 2. Important Musical Treatises Natyasastra, SangeetaParijata, SangeetaRatnakara, SwaramelaKalaanidhi and ChaturdandiPrakasika

Unit - IX - Miscellaneous Musical aspects:

1) Contemporary Music; 2) Teaching of Music in Schools.



PHYSICAL EDUCATION

Annexure - XIII

Unit - I

- Definition, aim and objectives of Physical Education, Health education and Recreation.
- Philosophies of Education as applied to Physical Education Idealism, Naturalism, Realism, Pragmatism, Existentialism and Humanism.
- Biological basis of physical activity benefits of exercise, growth and exercise, exercise, and well being sex and age characteristics of adolescent, body types.
- Psychological basis of Physical Education Play and Play theories, general principles of growth and development, Principles of motor – skill acquisition, transfer of training effects.
- Sociological basis of Physical Education socialization process, social nature of men and physical activity, sports as cultural heritage of mankind, customs, traditions and sport, competition and cooperation.
- Physical Education in ancient Greece, Rome and Contemporary Germany, Sweden, Denmarkand Russia.
- Olympic Movement Historical development of Ancient and Modern Olympic Games.
- · Physical Education in India.

Unit - II

- Physiology of Muscular activity, Neurotransmission and Movement mechanism.
- · Physiology of respiration.
- · Physiology of blood circulation.
- · Factors influencing performance in sports.
- Bioenergetics and recovery process.
- · Athletic injuries their management and rehabilitation.
- · Therapeutic modalities.
- Ergogenic aids and doping.

Unit - III

- Joints and their movements planes and axes.
- Kinetics, Kinematics-linear and angular, levers.
- Laws of motion, principles of equilibrium and force, spin and elasticity.
- Posture, Postural deformities and their correction.
- Muscular analysis of Motor movement.
- · Mechanical analysis of various sports activities.
- Mechanical analysis of fundamental movements (running, jumping, throwing, pulling andpushing).
- · Massage manipulation and therapeutic exercises.

Unit - IV

- Learning process theories and laws of learning.
- Motivation, theories and dynamics of motivation in sports.
- Psychological factors affecting sports performance viz., stress, anxiety, tension andaggression.
- Personality, its dimensions, theories, personality and performance.
- Individual differences and their impact on skill learning and performance.
- · Group dynamics, team cohesion and leadership in sports.
- · Sociometrics, economics and politics in sports.
- · Media and sports.

Unit - V

- Development of teacher education in Physical Education.
- · Professional courses in Sports and Physical Education in India.
- Professional Ethics.
- Qualities and Qualifications of Physical Educational Personnel.
- · Principles of curriculum planning.
- Course content for academic and professional courses.
- Age characteristics of pupils and selection of activities.
- Construction of class and school Physical Education time table.

Unit - VI

- Health Guiding principles of health and health education.
- · Nutrition and dietary manipulations.
- Health related fitness, obesity and its management.
- · Environmental and occupational hazards and first aid.
- Communicable diseases their preventive and therapeutic aspect.
- · School health program and personal hygiene.
- · Theories and principles of recreation.
- Recreation program for various categories of people.

Unit - VII

- Characteristics and principles of sports training.
- Training load and periodization.
- · Training methods and specific training programme for development of various motorqualities.
- · Technical and Tactical preparation for sports.
- Short-term and long term training plans.
- Sports talent identification process and procedures.
- Preparing for competition (build up competitions, main competition, competitionfrequency, psychological preparation).
- Rules of Games and Sports and their interpretations.

Unit - VIII

- · Nature, scope and type of research.
- · Formulation and selection of research problem.
- · Sampling process and techniques.
- · Methods of research.
- Data collection tools and techniques.
- Statistical techniques of data analysis measures of central tendency and variability, correlation, normal probability curve, t test and f tests, chi square, z test.
- · Hypothesis formulation, types and testing.
- · Writing research report.

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Unit - IX

- · Concept of Test, measurement and evaluation.
- · Principles of measurement and evaluation
- · Construction and classification of Tests.
- · Criteria of test evaluation.
- · Concepts and assessment of physical fitness, motor fitness, motor ability and motoreducability.
- Skill test for Badminton, Basket ball, Hockey, Lawn tennis, Soccer, Volley ball.
- Testing psychological variables competitive anxiety, aggression, team cohesion, motivation, self concept.
- Anthropometric measurements and body composition.

Unit - X

- · Concept and principles of management.
- · Organization and functions of sports bodies.
- · Intramurals and Extramurals.
- · Management of infrastructure, equipments, finance and personnel.
- · Methods and Techniques of teaching.
- · Principles of planning Physical Education lessons.
- Pupil teacher interaction and relationship.
- · Concept of techniques of supervision.

Amexice - XIV

PHYSICS

- Physical world and measurement Fundamental and derived units, systems of units, dimensional formula and dimensional equations, Accuracy and error in measurement.
- Description of motion motion in one dimension, uniformly accelerated motion, motion with uniform velocity/ Acceleration in two dimensions, motion of an object in three dimensions, relative velocity.
- 3. Vectors Scalar and vector quantities, unit vector, addition and multiplication.
- Laws of motion first, second and third law of motion, impulse, momentum, conservation of linear momentum.
- 5. Friction Types of friction, laws of friction, lubrication.
- Work, Energy and Power Work done by a constant / variable force, K.E., P.E., Elastic
 collision in one and two dimensions, gravitational P.E., P.E. of a spring, conservation of
 energy, conservative and non-conservative orces, power.
- Rotational motion Centre of mass, its motion, rotational motion, Torque, angular momentum, centripetal force, circular motion, moment of inertia, theorems of M.I., Rolling motion.
- 8. **Oscillatory motion** Periodic motion, S.H.M. its equation, K.E. and P.E., concept of free, forced and damped oscillations, simple pendulum, oscillation of a loaded spring.
- 9. **Gravitation** Universal law of gravitation, variation of g, orbital and escape velocity, planetary motion, Kepler's law.
- Elasticity Hook's law, young's modulus, bulk modulus and shear modulus of rigidity.
 Applications of elastic behaviour of matter.
- Surface tension Fluid pressure, Pascal's law, Archiemedes principle, molecular theory of surface tension, Excess of pressure inside a drop and soap bubble, angle of contact, Capalarity, Detergents.
- Liquids in motion Type of flow of liquid, Critical velocity, Coefficient of viscosity,
 Terminal velocity, Stoke's law, Reynold's number, Bernoulli's theorem its applications.
- 13. Kinetic theory of gases Laws for gases, Ideal gas equation, Assumptions of Kinetic theory of gases, Pressure exerted by a gas, Law of equipartition of energy, Degree of freedom, Specific heats of gases and solids, Mean free path.
- 14. **Heat and thermodynamics** Concept of Heat and temperature, Temp. Scales, Thermal expansion of solid, liquid and gases, specific heat, change of state, latent heat, Thermal capacity, Zeroth & first law of thermodynamics, thermodynamic process, second law of thermodynamics, carnot engine.

- Radiation Modes of transmission of heat, thermal conductivity, Thermal radiations, Perfect blackbody, Newton's law of cooling.
- Waves Type of waves, wave equation, speed of a progressive wave, superposition principle, beats, stationary waves and normal modes, Doppler's effect.
- 17. Ray optics and optical instruments Laws of reflection, Reflection by plane and curved mirrors, Laws of refraction, total internal refraction applications, Lenses, Image formation by lenses, Dispersion by prism, Sattering of light, Eye, Defects of vision, Microscopes, Telescopes.
- 18. Electrostatics Coulomb's law, electric field and potential due to a point charge and Dipole, concept of Dielectic, Gauss theorem its applications, Electric lines of force, Force and torque experience by a dipole in uniform electric field, potential energy of a system of charges, equipotential surfaces
- 19. Capacitance Capacity of an isolated spherical conductor, capacitor principle, Parallel plate capacitors, effect of dielectric on capacitance, series and parallel combinations of Capacitors, Energy of a Capacitor, van de graff generator.
- 20. Current Electricity Ohm's Law, Temperature dependence of resistance, colour code of resistors, series and parallel combination of resistors, resistivity, primary and secondary cells and their combination in series and parallel, Kirchoff's laws, wheat stone bridge and potentiometer their applications, electrical energy and power.
- 21. Magnetism and magnetic effect of current Natural and manmade magnet, magnetic lines of force, Bar magnet, magnetism and gauss law, magnetic moment, Torque on a magnetic dipole, magnetic field, magnetic induction, magnetic intensity, permeability, susceptibility & Intensity of magnetisation their relations. Curie Law, Hysterisis, B-H curve. Classification of magnetic materials. Magnetic force, motion in the magnetic field, Biot Savarts law, magnetic field by a straight Conductor & Circular Current Carrying Coil, Ampere's Circuital law, Solenoid, Toroid, Moving Coil Galvanometer, Ammeter, Voltmeter.
- Electromagnetic Induction Faraday's Law, Lenz's Law, Self Induction, Mutual Induction, Electric Generators.
- 23. Alternating Current Mean and rms value of A.C., A.C. Circuit Containing resistance, Inductance and Capacitance, Series resonant Circuit, Q factor, Average power in A.C., Wattless Current, L C oscillations, transformer.
- 24. Wave Optics Huygen's principle reflection and refraction, Interference of light, young's double slit experiment, Diffraction of light, Single slit diffraction, resolving power of optical instruments, polarisation of light, law of malus. Polarization by reflection and scattering.
- 25. Photoelectric effect and matter waves Einstein's Photoelectric equation, Photocell,



- matter waves, Debroglie's hypothesis, Davison and Germer's experiment.
- Nuclear Physics and Radioactivity Nucleus, size, Mass defect, Binding energy, Nuclear fission and fusion, Nuclear reactor, Radioactivity, laws of disintegration and decays.
- 27. Solids and semi conductor devices Energy band in solids, Semi conductor, P-N Junction, Diodes, Diode as an rectifier, Special purpose p-n junction diodes, Junction transistor, Logic gates, integrated circuit.
- 28. Electromagnetic Waves and Communication Displacement current, Electromagnetic Waves-Source, nature. Electromagnetic spectrum, Elements of a communication system, Bandwidth of signals and transmission medium, Sky and space wave propagation, Need for modulation, Production and detection of an AM wave.
- 29. MECHANICS: Inertial frames, Galilean transformation, Non-inertial frames, fictitious forces, rotating co- ordinate systems, Coriolis force and its applications, postulates of special theory of relativity, Lorentz transformations, relativistic addition of velocities, length contraction, time dilation, Variation of mass with velocity, mass energy relation.

System of particles, concept of reduced mass, single stage and multistage rocket, Analysis of collision in centre of mass frame. Angular momentum of a system of particles, equation of motion of a rotating body, inertial coefficients, kinetic energy of rotation and idea of principles axes, Euler's Equations.

Elasticity, relation between elastic constants. Theory of bending of beams and Cantilever, Torsion of a cylinder, Bending moments and Shearing forces.

30. WAVES & OSCILLATIONS: Potential well and periodic oscillations. Damped harmonic oscillators, Power dissipation, Quality factor, Driven harmonic oscillator, Transient and steady state, Power absorption, Motion of twocoupled oscillators, normal modes.

Waves in media, speed of longitudinal waves in a fluid, energy density and energy transmission in Waves, , Group velocity and phase velocity, their measurements.

Noise and Music: The human ear and its responses: limits of human audibility. Intensity and loudness, bel and decibel, the musical scale. Temperament and musical instruments. The acoustics of halls. Reverberation period.

31. **ELECTROMAGNETISM**: Concept of multi poles, Electrostatic energy of uniformly charged sphere, classical radius of an electron. Screening of E field by a conductor.

Electric field in matter: atomic and molecular dipoles, , dielectrics, polarisability, polarization vector, electric displacement, electrostatic energy of charge distribution in dielectric, Lorentz local field and Clausius Mossotti equation. Electrostatic field – conductors in electric field, Boundary conditions for potential and field at dielectric surface, uniqueness theorem, Poisson's and Laplace's equations in Cartesian cylindrical and spherical polar

coordinates, solutions of Laplace's equations in Cartesian coordinates.

Maxwell's equations (integral and differential form) and displacement current. E as an accelerating field: Electron gun, case of discharge tube, linear accelerator, E as deflecting field, CRO.

32. THERMODYNAMICS AND STATISTICAL PHYSICS: Maxwell velocity distribution, Transport Phenomenon: Mean free path, Coefficients of viscosity, thermal conductivity, diffusion and their interrelation. Clausius-Clapeyron equation, vapor pressure curve. Maxwell relations and their applications.

Production of low temperatures, Joule Thomson expansion and J.T. coefficients for ideal as well as van der Waals gas, , Temperature inversion, Regenerative cooling, Cooling by adiabatic demagnetization, Liquid Helium, He-I and He-II, Super fluidity, Nernst heat theorem.

Phase space, Micro and Macro states thermodynamic probability, relation between entropy and thermodynamic probability. Specific heat capacity of solids, Bose Einstein statistics and its distribution function, Planck distribution function and radiation formula, Fermi Diarc statistics and its distribution function.

33. ELECTRONICS and CIRCUIT ANALYSIS: Four terminal networks: current voltage conventions, open, close and hybrid parameters of any four terminal network, Input, output and mutual independence for an active four terminal network. Various circuits theorems: Superposition, Thevenin, Norton, reciprocity, maximum power transfer Theorems.

Rectifiers- Half wave, full wave and Bridge rectifier, calculation of ripple factor, efficiency and regulation. Filters, Series inductor shunts capacitor, L section and π section filters. Voltage regulation and voltage stabilization by Zener diode.

Analysis of transistor amplifiers using hybrid parameters and its gain frequency response basic idea of R-C coupled amplifiers.

Transistor biasing - stability factors, various types of bias circuits for thermal bias stability. Amplifier with Feed back: positive and negative feed back. Voltage and current feed back circuits. Advantages of negative feed back.

Oscillators: Criteria for self excited and self sustained oscillators circuit requirement for build-up of oscillation. Basic transistor oscillator circuit and its analysis; colpitts and Hartley oscillators. R-C Oscillators.

Junction Field effect transistor (JFET), circuit symbols, biasing and volt-Ampere relations.

34. OPTICS: Interference of a light, coherence requirements of the sources, optical path retardations, lateral shift of fringes, thin films, Newton's ring. Michelson interferometer. Fabry Perot interferometer and etalon. Fresnel diffraction: Half periods zones, circular aperture, Circular disc, straight edge, Fraunhoffer diffraction: double slit, n slit, , Plane diffraction grating, reflection grating, concave grating.

Lasers and Holography: Spontaneous and stimulated emission, density of states, Einstein's A and B coefficients, Energy density of radiation as a result of stimulated emission and absorption, Condition for amplification, Population inversion, Methods of optical pumping, Energy level schemes of He-Ne and Ruby lasers, working of a laser source, Special features of a laser source and their origin.

35. QUANTUM MECHANICS AND SPECTROSCOPY: Failure of classical Physics, Uncertainty principle and its consequences, Application of uncertainty principle.

Schrodinger equation – time dependent and time independent form, Physical significance of the wave function, probability current density, operators in quantum mechanics, Expectation values of dynamical variables, postulates of quantum mechanics, eigen function and eigen value, degeneracy, commutation relations. Ehrenfest theorem.

Time independent Schrodinger equation and stationary state solution, particle in one dimensional box, extensionof results for three dimensional case and degeneracy of levels. Potential step and rectangular potential barrier coefficient, square well potential problem. Bound State Problems - Particle in one dimensional infinite potential well and finite depth potential well, simple harmonic oscillator (one dimensional), Schrodinger equation for a spherically symmetric potential, Orbital angular momentum and its quantisation, spherical harmonics, energy levels of H-atom.

Elementary Spectroscopy: Quantum features of one electron atoms, Frank-Hertz experiment, Stern and Gerlach experiment, Spin and Magnetic moment, Spin Orbit coupling and fine structure. Atoms in a magnetic field, Zeeman effect. molecular spectroscopy, Rigid rotator, diatomic molecules, Rotational spectra, Vibrational spectra, Vibrational Rotational spectra, Raman effect.

36. NUCLEAR PHYSICS: Quadrupole Moment and Nuclear Ellipticity, Nuclear Spin, Parity and Orbital Angulr Momentum, Nuclear Mass and Mass Spectroscopy, Proton-Neutron Hypothesis, The Nuclear Potential, Mass Defect and Binding Energy, Nuclear Forces, The Liquid Drop Model.

Accelerators -Linear Accelerators, Cyclotron, Synchrocyclotron, Betatron: The

Electromagneticm Induction Accelerator, Electron Synchrotron, Proton Synchrotron.

Particle and Radiation Detectors: Ionisation Chamber, Region of Multiplicative Operation, Proportion Counter, Geiger-Muller Counter, Scintillation counter, Cloud Chamber.

 SOLID STATE PHYSICS: Crystal Binding and Crystal Structure: Bravis Lattice, Miller Indices and Crystal Structure, X-ray Diffraction and Bragg's Law, Laue equation of X-ray diffraction.

Thermal Properties of the Solids: Various Theories of Lattice Specific Heat of Solids: The Einstein Model, Debye Model, Electronic Contribution of the internal Energy hence to the Specific Heat of Metals, Thermal Conductivity of the lattice. Band Theory of Solids: Wave Function in a Periodic Lattice and Bloch Theorem, Effective Mass, Momentum, Crystal Momentum.

Electrical Conductivity: Sommerfield Theory of Electrical Conductivity, Mathiessen's Rule, Thermal Conductivity and Wildemann-Franz's Law, The Hall Effect.

Superconductivity: Experimental Features of Superconductivity, The Isotope Effect, Special Features of Superconducting Materials, Flux Quantisation, BCS Theory of Superconductivity: Cooper Pairs, High TemperatureSuperconductors (Basic Ideas

- 38. Mathematical Physics and Classical Mechanics: Tensors, Matrices, Fourier and Laplace transforms. Bessel and legendre functions. String formula, basic group theory. D' Alembert's Principle, Langrangian and Hamiltonian formalism, canonical transformation, poission bracket and poission theorem, Hamiltonian Principle and Jacobi equation.
- 39. Electricity and Magnetism :Radiation from moving charge and radiation from dipole, concepts of wave guides, Retarded potentials, Lienard-Wiechart potential, Bremsstrahlung and Synchroton radiation, reaction force of e.m.w.
- 40. Thermodynamics and Statistical Physics: Einstein Statistics, properties of ideal Bose and Fermi Gases, Bose-Einstein condensation. Gibb's paradox, Liouvilles' theorem, Landau theory of phase transitions. Langevin theory, Fokker-Plank equation.
- Quantum Physics: Elementary theory of scattering in a central potential, partial wave and phase-shift analysis, Identical particle and spin statistics, WKB Method and its applications.
- 42. Electronics: Clipping and clamping circuits of operational amplifiers and its applications, inverting and non-inverting amplifiers, adder, integrator differentiator, Half and Full adder circuits, Flip-Flops, counters and registers.
- 43. Atomic, Molecular and Solid State Physics: Quantum states of an electron in an atom,



hydrogen atom spectra, Pauli's Principle, Spin-Orbit interactions, Zeeman effect, Paschen-Back effect, Start effect, LS and JJ coupling, Hyperfine structure.

Semiconductors statistics of pure and impure semi conductors, Electrical onductivity and its temperature dependence, Recombination mechanisms, Photo conductivity, NMR, ESR and Mossbauer effect.

44. Nuclear and Particle Physics: Nuclear shell model, Collective model, Interaction of charged particles and electromagnetic waves with matter. Meson theory of Nuclear force, Nuclear scatter theory: p-p and n-p. Breit- Wigner scattering formula, Fermi theory of B-day, Gamov theory of alpha decay.

Amnexule - XV

POLITICAL SCIENCE

- Political Theory: Meaning and its utility.
- Concepts: Rights, Liberty, Equality; Justice Secularism, Citizenship and Development.
- Indian Constitution: Constitutiont Assembly, Preamble, Characteristics of Constitution, Fundamental Rights, Directive Principles of State Policy.
- Federalism: Centre State relationship.
- Union Government: President, Prime Minister & Council of Ministers, Parliament, Supreme Court.
- State Government: Governor, Chief Minister & Council of Ministers, Legislature, High Court.
- Local Government: Panchayati Raj, Urban Local Self-Government.
- Indian Politics: Challenges to Nation Building, Party System, Recent Development in Indian Politics.
- International Politics: Coldwar, End of Coldwar, American hegemony in Contemporary world. Scenario, instruments and Challenges.
- International Organisation: UN, EU, ASEAN, SAARC, ALBA&NAM.
- Foreign Policy of India: Objectives, Role of India in UN, India & United States, India & Non align movement; Challenges before India's Foreign Policy.
- · Political Theory: Traditional and Modern Perspectives.
- State: Nature, Functions, Sovereignty, Pluralism
- Government: Organs Legislature, Executive & Judiciary; Separation of Powers, Checks & Balances. Types – Democracy & Dictatorship, Parliamentary & Presidential, Federal & Unitary.
- Theories of Representation, Political Parties, Pressure Groups.
- Political Thought: Plato, Aristotle, Kautilya, Machiavelli, Hobbes, Locke, Rousseau, Bentham, Mill, Marx, Nauroji, Gandhi, Aurbindo, Ambedkar, Nehru, Lohiya
- Dynamics of Indian Democracy: Party, Caste, Region, New Social Movements.
- India's Relations with Neighbouring Countries.
- Behaviouralism and Post Behaviouralism.
- Political System, Structural Functionalism, Political Development and Political Culture.
- Dynamics of Federalism in U.S. and India.
- Approaches to the study of International Politics and Concepts of National Power and National interest.

Haryana Public Service Commission

Panchkula



PSYCHOLOGY

America - XVI

1. Perceptual Processes

Approaches to the Study of Perception: Gestalt and physiological approaches.

Perceptual Organization: Gestalt, Figure and Ground, Laws of Organization.

Perceptual Constancy: Size, Shape and Brightness, Illusion; Perception of Depth and Movements.

Role of motivation and learning in perception.

Signal detection theory, subliminal perception and related factors, information processing approach to perception, culture and perception, perceptual styles. Ecological perspective on perception.

2. Learning Process

Instrumental learning: Phenomena, Paradigms and theoretical issues.

Reinforcement: Basic variables and schedules.

Verbal learning: Methods and materials, organizational processes.

Learning theories: Hull, Tolman, Skinner.

Cognitive approaches in learning: Latent learning, observational learning.

Experimental analysis of behaviour: Behaviour modification, shaping Discrimination learning.

3. Memory and forgetting

Memory Processes: Encoding, Storage, Retrieval.

Stages of Memory: Sensory memory, Short - term Memory (STM) and Long - term Memory (LTM).

Episodic and Semantic memory.

Theories of Forgetting: Interference, decay, retrieval.

Models of memory: Atkinson and Shiffrin, Craik and Lockhart, Tulving.

Semantic memory: Episodic, trace model and network model

Long - term memory: Retrieval cues, flashbulb memory, constructive processes in memory, eyewitness testimony,

autobiographical memory.

Improving memory: Strategies.

4. Thinking and Problem Solving

Theories of thought processes: Associationism, Gestalt, Information processing.

Concept formation: Rules and strategies.

Reasoning: Deductive and inductive.

Problem - Solving: Type and strategies.

Role of concepts in thinking.

Cognitive Strategies: Algorhythms and heuristics.

Convergent and divergent thinking.

Decision - making; impediments to problem - solving.

Creative thinking and problem - solving.

Language and thought.

5. Motivation and Emotion

Basic Motivational Concepts: Instincts, needs, drives, incentives, motivational cycle.

Approaches to the Study of Motivation: Psychoanalytical, ethological, S - R Cognitive, humanistic.

Biological Motives: Hunger, thirst, sleep and sex.

Social Motives: Achievement, affiliation, approval

Exploratory behaviour and curiosity

Physiological correlates of emotions.

Theories of emotions: James - Lange, Canon - Bard, Schachter and Singer.

Conflicts: Sources and types.

Historical antecedents of motivation from Mechanism to Cognition.

Cognitive bases of motivation: Intrinsic motivation, Attribution, Competence.

Cross - cultural perspectives of motivation : Achievement, Aggression.

Components of Emotion: Physiological, expressive and cognitive.

Neural mechanism of emotion: Central and peripheral.

Current theories of emotions and facial feedback hypothesis.

Stress and coping: Reactions to stress, outcomes of stress

6. Human Abilities

Intelligence: Biological, Social, Eco - cultural determinants.

Theories of intelligence: Spearman, Thurston, Guilford.

Measurement of human abilities.

Theories of intelligence: Cattell, Jensen, Sternberg Goleman.

Creativity: Views of Torrance, Getzels, Guilford.

Intelligence and creativity: Relationship.

Abilities and achievement: Concept and role of emotional intelligence.

7. Personality

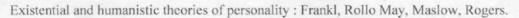
Determinants of personality: Biological and socio - cultural.

Approaches to the study of personality: Psychoanalytic, neo - freudian, social learning, trait and type, cognitive.

Personality Assessment: Psychometric and projective tests.

Self - Concept: Origin and development.

Clinical and growth approaches to personality.



Personality assessment: Projective, psychometric and behavioural measures.

Psychology of self: Western and Eastern perspectives, measurement of self.

8. Research Methodology

Research problems, hypothesis, variables and their operationalization

Types of psychological research.

Methods of Psychological Research : Experimental, Quasi - experimental, case studies, field studies and cross -

cultural studies.

Methods of data collection: Observation, interview, questionnaire, tests and scales. Non - parametric tests

9. Measurement and Testing

UGC NET Test Construction: Item writing, item analysis.

UGC NET Test Standardization: Reliability, validity and norms.

Types of Tests: Intelligence, aptitude, personality – characteristics and important examples.

Attitude scales and interest inventories.

Educational measurement and evaluation.

Psychological scaling: Purpose and methods.

Sources of bias in psychological testing.

Ethical issues in psychological testing.

10. Biological Basis of Behaviour

Receptors, effectors and adjuster mechanisms.

Neural impulse: Origin, conduction and measurement.

Sensory system: Vision and Audition.

Ingestive Behaviour: Drinking and its neural mechanism; hunger and its neural mechanism.

Endocrine System: Chemical and glandular.

संस्कृत

Amexice - XVII

इकाई-I

वैदिक-साहित्य

(क) वैदिक-साहित्य का सामान्य परिचय:-

- वेदों का काल : मैक्समूलर, ए.वेबर, जैकोबी, बालगंगाधर तिलक, एम.विन्टरनिट्रज, भारतीय परम्परागत विचार
- संहिता साहित्य
- संवाद स्क्त: पुरुरवा-उर्वशी, यम-यमी, सरमा-पणि, विश्वामित्र- नदी
- ब्राह्मण साहित्य
- आरण्यक साहित्य
- वेदांग : शिक्षा, कल्प, व्याकरण, निरुक्त, छन्द, ज्योतिष

इकाई-II

(ख) वैदिक साहित्य का विशिष्ट अध्ययन :-

- 1. निम्नलिखित सूक्तों का अध्ययन :-
 - ऋग्वेद: अग्नि (1.1), वरुण (1.25), सूर्य (1.125), इन्द्र (2.12), उषस् (3.61), पर्जन्य (5.83), अक्ष (10.34), ज्ञान (10.71), पुरुष (10.90), हिरण्यगर्भ (10.121), वाक् (10.125), नासदीय (10.129)

- शुक्लयजुर्वेद: शिवसंकल्प, अध्याय 34 (1-6),
 प्रजापति, अध्याय 23 (1-5)
- अथर्ववेद: राष्ट्राभिवर्धनम् (1.29), काल (10.53), पृथिवी (12.1)
- 2. ब्राह्मण-साहित्य : प्रतिपाद्य विषय, विधि एवं उसके प्रकार, अग्निहोत्र, अग्निष्टोम, दर्शपूर्णमास यज्ञ, पंचमहायज्ञ, आख्यान (शुनःशेष, वाङ्मनस्)।
- 3. उपनिषद्-साहित्य : निम्नलिखित उपनिषदों की विषयवस्तु तथा प्रमुख अवधारणाओं का अध्ययन : ईश, कठ, केन, बृहदारण्यक, तैत्तिरीय, श्वेताश्वतर ।
- 4. वैदिक व्याकरण, निरुक्त एवं वैदिक व्याख्या पद्धति :
 - ऋक्प्रातिशाख्य : निम्नलिखित परिभाषाएँ –
 समानाक्षर, सन्ध्यक्षर, अघोष, सोष्म, स्वरभक्ति, यमें, रक्त, संयोग, प्रगृह्य,
 रिफित।
 - निरुक्त (अध्याय 1 तथा 2)
 चार पद नाम विचार, आख्यात विचार, उपसर्गों का अर्थ, निपात की कोटियाँ,
 - निरुक्त अध्ययन के प्रयोजन
 - निर्वचन के सिद्धान्त
 - निम्नलिखित शब्दों की व्युत्पत्ति :
 आचार्य, वीर, हृद, गो, समुद्र, वृत्र, आदित्य, उषस्, मेघ, वाक्, उदक, नदी,
 अश्व, अग्नि, जातवेदम्, वैश्वानर, निघण्टु।
 - निरुक्त (अध्याय 7 दैवत काण्ड)
 - वैदिक स्वर: उदात्त, अनुदात्त तथा स्वरित।
 - वैदिक व्याख्या पद्धति : प्राचीन एवं अर्वाचीन

इकाई-III

दर्शन-साहित्य

(क) प्रमुख भारतीय दर्शनों का सामान्य परिचय:

प्रमाणमीमांसा, तत्त्वमीमांसा, आचारमीमांसा (चार्वाक, जैन, बौद्ध, न्याय, सांख्य, योग, न्याय, वैशेषिक, मीमांसा के संदर्भ में)



इकाई-IV

(ख) दर्शन-साहित्य का विशिष्ट अध्ययन:

- ईश्वरकृष्ण; मांख्यकारिका मत्कार्यवाद, पुरुषस्वरूप, प्रकृतिस्वरूप, मृष्टिक्रम, प्रत्ययसर्ग,
 कैवल्य।
- सदानन्दः; वेदान्तसार : अनुबन्ध-चतुष्ट्यः, अज्ञान, अध्यारोप-अपवाद, लिंगशरीरोत्पानि,
 पंचीकरण, विवर्तः, महावाक्यः, जीवन्मुक्तिः।
- अन्नंभट्ट; तर्कसंग्रह/ केशव मिश्र; तर्कभाषा :
 पदार्थ, कारण, प्रमाण (प्रत्यक्ष, अनुमान, उपमान, शब्द),
 प्रामाण्यवाद, प्रमेय।
- 1. लोगाक्षिभास्कर; अर्थसंग्रह
- 2. पतंजिल; योगसूत्र, (व्यासभाष्य) : चित्तभूमि, चित्तवृत्तियाँ, ईश्वर का स्वरूप, योगाङ्ग,

समाधि, कैवल्य।

- 3. बादरायण; ब्रह्मसूत्र 1.1 (शांकरभाष्य)
- 4. विश्वनाथपंचानन; न्यायसिद्धान्तमुक्तावली (अनुमानखण्ड)
- 5. सर्वदर्शनसंग्रह; जैनमत, बौद्धमत

इकाई-V

व्याकरण एवं भाषाविज्ञान

- (क) सामान्य-परिचय : निम्नलिखित आचार्यों का परिचय -
 - पाणिनि, कात्यायन, पतंजलि, भर्तृहरि, वामनजयादित्य, भट्टोजिदीक्षित, नागेशभट्ट, जैनेन्द्र, कैय्यट, शाकटायन, हेमचन्द्रसूरि, सारस्वतव्याकरणकार।
 - पाणिनीय शिक्षा
 - भाषाविज्ञान :

भाषा की परिभाषा, भाषा का वर्गीकरण (आकृतिमूलक एवं पारिवारिक), ध्वनियों का वर्गीकरण: स्पर्श, संघर्षी, अर्धस्वर, स्वर (संस्कृत ध्वनियों के विशेष संदर्भ में), मानवीय ध्वनियंत्र, ध्वनि परिवर्तन के कारण, ध्वनि नियम (ग्रिम, ग्रासमान, वर्नर)

अर्थ परिवर्तन की दिशाएँ एवं कारण, वाक्य का लक्षण व भेद, भारोपीय परिवार का सामान्य परिचय, वैदिक संस्कृत एवं लौकिक संस्कृत में अन्तर, भाषा तथा वाक् में अन्तर, भाषा तथा बोली में अन्तर।

इकाई-VI

(ख) व्याकरण का विशिष्ट अध्ययन:

- परिभाषाएँ संहिता, संयोग, गुण, वृद्धि, प्रातिपदिक, नदी, घि, उपधा, अपृक्त,
 गति, पद, विभाषा, सवर्ण, टि, प्रगृह्य, सर्वनामस्थान, भ, सर्वनाम,
 निष्ठा।
- सन्धि अच् मन्धि, हल् मन्धि, विसर्ग मन्धि (लघुसिद्धान्त्कौमुदी के अनुसार)
- सुबन्त अजन्त राम, सर्व (तीनों लिंगों में), विश्वपा, हरि, त्रि (तीनों लिंगों में), सखि, सुधी, गुरु, पितृ, गौ, रमा, मित, नदी, धेनु, मातृ, ज्ञान, वारि, मधु।

हलन्त - लिह्, विश्ववाह्, चतुर् (तीनों लिंगों में), इदम्(तीनों लिंगों में), किम्(तीनों लिंगों में), तत्(तीनों लिंगों में), राजन्, मघवन्, पथिन्, विद्वस्, अस्मद्, युष्मद्।

- समास अव्ययीभाव, तत्पुरुष, बहुब्रीहि, द्वन्द्व, (लघुसिद्धान्तकौमुदी के अनुसार)
- तद्धित अपत्यार्थक एवं मत्वर्थीय (सिद्धान्तकौमुदी के अनुसार)
- तिङन्त भू, एध्, अद्, अस्, हु, दिव्, षुञ्, तुद्, तन्, कृ, रुध्, क्रीञ्, चुर्।
- प्रत्ययान्त णिजन्त; सन्नन्त; यङ्न्त; यङ्नुगन्त; नामधातु।
- कृदन्त तव्य / तव्यत्; अनीयर्; यत्; ण्यत्; क्यप्; शतृ; शानच्; क्त्वा; क्तः; क्तवतु;
 तुमुन्; णमुल्।
- स्त्रीप्रत्यय लघुसिद्धान्त कौमुदी के अतुसार
- कारक प्रकरण सिद्धान्तकौमुदी के अनुसार
- परस्मैपद एवं आत्मनेपद विधान सिद्धान्तकौमुदी के अनुसार
- महाभाष्य (पस्पशाहिनक) -

शब्दपरिभाषा, शब्द एवं अर्थ संबंध, व्याकरण अध्ययन के उद्देश्य, व्याकरण की परिभाषा, साधु शब्द के प्रयोग का परिणाम, व्याकरण पद्धति।

• वाक्यपदीयम् (ब्रह्मकाण्ड) -

स्फोट का स्वरूप, शब्द-ब्रह्म का स्वरूप, शब्द-ब्रह्म की शक्तियाँ, स्फोट एवं ध्वनि का संबंध, शब्द-अर्थ संबंध, ध्वनि के प्रकार, भाषा के स्तर।

इकाई-VII

संस्कृत-साहित्य, काव्यशास्त्र एवं छन्दपरिचय:

निम्नलिखित का सामान्य परिचय:

- भास, अश्वघोष, कालिदास, शुद्रक, विशाखदन, भारवि, माघ, हर्ष, बाणभट्ट, दण्डी, भवभृति, भट्टनारायण, बिल्हण, श्रीहर्ष, अम्बिकादत्तव्यास, पंडिता क्षमाराव, वी. राघवन्, श्रीधरभास्कर वर्णेकर।
- अलंकारसम्प्रदाय, रीतिसम्प्रदाय, ध्वनिसम्प्रदाय, काव्यशास्त्र : रससम्प्रदाय, व्रकोक्तिसम्प्रदाय, औचित्यसम्प्रदाय।
- पाश्चात्य काव्यशास्त्र : अरस्तु, लॉन्जाइनस, क्रोचे ।

इकाई-VIII

निम्नलिखित का विशिष्ट अध्ययन: (國)

- पद्य : बुद्धचरितम् (प्रथम) रघ्वंशम् (प्रथमसर्ग), किरातार्ज्नीयम् (प्रथमसर्ग), शिशुपालवधम्, (प्रथमसर्ग), नैषधीयचरितम् (प्रथमसर्ग)
- नाट्य : स्वप्नवासवदत्तम्, अभिज्ञानशाकुन्तलम्, वेणीसंहारम्, मुद्राराक्षसम्, उत्तररामचरितम्, रत्नावली, मृच्छकटिकम्।
- दशकुमारचरितम् (अष्टम-उच्छवास), हर्षचरितम् (पञ्चम-उच्छवास), कादम्बरी (श्कनासोपदेश)
- चम्पूकाव्य : नलचम्प्: (प्रथम-उच्छवास)
- साहित्यदर्पण:

काव्यपरिभाषा, काव्य की अन्य परिभाषाओं का खण्डन, शब्दशक्ति -(संकेतग्रह, अभिधा, लक्षणा, व्यंजना), काव्यभेद (चतुर्थ परिच्छेद) श्रव्यकाव्य (गद्य, पद्य, मिश्र काव्य-लक्षण)

काव्यप्रकाशः

काव्यहेत्, काव्यभेद. काव्यप्रयोजन, काव्यलक्षण. अभिहितान्वयवाद, अन्विताभिधानवाद, रसस्वरूप एवं रससूत्र विमर्श, रसदोष, काव्यगुण, व्यंजनावृत्ति की स्थापना (पञ्चम उल्लास) अंलकार:-

वक्रोक्ति, अनुप्रास, यमक, श्लेष, उपमा, रूपक, उत्प्रेक्षा, समासोक्ति, अपहनुति, निदर्शना, अर्थान्तरन्यास, दृष्टान्त, विभावना, विशेषोक्ति, स्वभावोक्ति, विरोधाभास, सकंर, संसृष्टि।

- ध्वन्यालोक: (प्रथम उद्योत)
- वक्रोक्तिजीवितम् (प्रथम उन्मेष)
- भरत-नाट्यशास्त्रम् (द्वितीय एवं षष्ठ अध्याय)
- दशरूपकम् (प्रथम तथा तृतीय प्रकाश)
- छन्द परिचय -

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आर्या, अनुष्टुप्, इन्द्रवज्रा, उपेन्द्रवज्रा, वसन्ततिलका, उपजाति, वंशस्थ, द्वुतविलम्बित, शालिनी, मालिनी, शिखरिणी, मन्दाक्रान्ता, हरिणी, शार्दूलविक्रीडित, स्रग्धरा।

इकाई-IX

पुराणेतिहास, धर्मशास्त्र एवं अभिलेखशास्त्र

(क) निम्नलिखित का सामान्य परिचयः

THE REAL PROPERTY.

- रामायण विषयवस्तु, काल, रामायणकालीन समाज, परवर्ती ग्रन्थों के लिए प्रेरणास्रोत, साहित्यिक महत्त्व, रामायण में आख्यान
- महाभारत विषयवस्तु, काल महाभारतकालीन समाज, परवर्ती ग्रन्थों के लिए प्रेरणास्रोत, साहित्यिक महत्त्व, महाभारत में आख्यान।
- पुराण पुराण की परिभाषा, महापुराण उपपुराण, पौराणिक सृष्टि-विज्ञान, पौराणिक आख्यान।
- प्रमुख स्मृतियों का सामान्य परिचय।
- अर्थशास्त्र का सामान्य परिचय।
- लिपि : ब्राह्मी लिपि का इतिहास एवं उत्पत्ति के सिद्धान्त।
- अभिलेख का सामान्य परिचय

इकाई-X

(ख) निम्नलिखित ग्रन्थों का विशिष्ट अध्ययन

- कौटिलीय-अर्थशास्त्रम् (प्रथम-विनयाधिकारिक)
- मनुस्मृति: (प्रथम, द्वितीय तथा सप्तम अध्याय)
- याज्ञवल्क्यस्मृति: (व्यवहाराध्याय)
- लिपि तथा अभिलेख -
 - गुप्तकालीन तथा अशोककालीन ब्राह्मी लिपि।
 - ≽ अशोक के अभिलेख प्रमुख शिलालेख, प्रमुख स्तम्भलेख
 - मौर्योत्तरकालीन अभिलेख किनष्क के शासन वर्ष 3 का सारनाथ बौद्ध
 प्रितिमा लेख, रुद्रदामन् का गिरनार
 शिलालेख, खारवेल का हाथीगुम्फा
 अभिलेख
 - गुप्तकालीन एवं गुप्तोत्तरकालीन अभिलेख समुद्रगुप्त का इलाहाबाद स्तम्भलेख, यशोधर्मन् का मन्दसौर शिलालेख, हर्ष का बांसखेड़ा ताम्रपट्ट अभिलेख, पुलकेशिन् द्वितीय का ऐहोल शिलालेख

SOCIOLOGY

Amexure - XVIII

- 1. Development of Sociology
- 2. The Meaning of Sociology
- 3. Subject matter of sociology
- 4. Sociology and Social Sciences
- 5. Society Meaning, characteristics, Types of Society.
- 6. Community Meaning, Characteristics
- 7. Social Group Meaning and Types (Primary and Secondary)
- 8. Family Meaning, Features, Types
- 9. Concept of Religion and Magic Meaning, Characteristics and Types of Magic
- 10. Marriage Meaning, Aims, and Types of Hindu Marriage
- 11. Indian Social Problems Regionalism, Casteism, Communalism, Corruption, Gender, Age
- 12. Social Change Meaning, Characteristics, Factors
- 13. Institution Meaning, Features and Types
- 14. Association Meaning, Features and Types, Difference between Association and Institution.
- 15. Culture Definition, Characteristics, Elements of Culture
- 16. Sociological Perspective Scientific and Humanistic Orientations to Sociological Study
- 17. Social Structure Meaning and Characteristics
- 18. Status and Role Definition, Characteristics, Types and Relation between Status and Role
- Socialization Meaning, Characteristics, Stages and Agencies, Theories (Cooley, Mead, Freud)
- 20. Social Control Meaning, Characteristics, Types and Agencies
- 21. Social Stratification and Mobility Meaning, Forms and Theories of Stratification
- 22. Social Process Meaning, Characteristics and Types (Co-operation, Competition and Conflict
- 23. Kinship Meaning, Features, Kinship Usages
- 24. Problems of Scheduled Caste, Scheduled Tribes, Women and Minorities
- 25. Population Profiles and related issues Explosion, Consequences
- Crime and Juvenile Delinquency meaning, Types of Crimes, Factors and Consequences, causes
- 27. Social Research Meaning, Stages and Types
- 28. Sampling Meaning, Features and Types of Sampling

- 29. Tools of Data Collection Observation, Interview, Schedule and Questionnaire
- 30. Basic statictis.
- 31. Emergence of Social Thought Comte-Positivism, Spencer-Social Drwinism, Super Organic Evolution
- 32. Durkheim Division of Labour, Suicide, Social Fact
- 33. Maxweber Social Action, Ideal Type, Views on Religion, Bureaucracy
- 34. Karl Marx Class and Class Conflict, Views on Social Change, Dialectical Materialism, Alienation
- 35. Process of Social Change Sanskritization, Westernization, Modernization
- 36. Post Modernism Meaning and Features
- 37. Liberalization and Globalization Meaning, Features and Impact of Liberalization and Globalization on Indian Society

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URDU

Amexule - Xix

Prose

Dastaan

Meeraman: Sarguzisht Azad Bakht Badshahki

Drama

Amanat: Inder Sabha (Manzoom Drama)

Novel

Premchand: Bewa

Short story

Quratulain Haider: Photographer

Balwant Singh: Lamhe

Surendra prakash: Bajooka

Igbal Majeed: Sukoon Ki Nind

Inshaiya

Khwaja Hasan Nizami: Machhar

Ehthsham Hussain: Khuji

Khaka

Ahmed Jamal Pasha, Kaleemuddin Ahmed,

Shahid Ahmed dehlvi, Meer Baqar Ali Dastan go

Rhetorics

Tashbeeh, Isteara, Mubaligha, Tajhul-E-Arifana

Various forms of poetry and prose:

Ghazal: Qasida, Marsiya

Novel: Afsana, Khaka

Poetry

Ghazaliyat: Walidakkani, Meer Taqi Meer, Meer Dard Mohi Ahsan Jazbi, Nasir Kazmi, Jan Nisar

Akhtar

Manzoomat: Nazeer Akbarabadi, Akbar Allahabadi, Noon Meem Rashid Ismil Merathi, Makhdoom

Mohiuddin

Qasida: Sauda, Zauq

Marsiya: Anees, Dabeer

Rubaiyat : Jagat Mohan Lal Rawan, Amjad Haiderabadi

Geet: AkhtarShirani, Meeraji, Salam MachhliShehari, Ahsan Danish

Prose Dastan

Meer Amman: BaghoBahar

Drama

Agha Hashr Kashmiri : Silver King Krishan Chandra : Darwaze Khol Do

Novel

Premchand: Bewa

Short story

Premchand: Namak Ka Darogha

Bedi: Lajwanti

Minto: Naya Qanoon

Inshaiya:

Sajjad Haider Yaldaram: Mujhe Mere Doston Se Bachao

Pitras Bukhari : Yarbash

Sir Syed: Guzra Hua Zamana

Rhetorics

Majaz, Laffo Nashr, Murattab Wa Ghair Murattab, Talmeeh, Tazad, Mubalilgha, Iham, Husn-e-taleel.

Various forms of prose and poetry

Poetry

Masnavi, Rubai, Qata Jadeed Nazm

Prose: Dastan, Reportage, Inshaiya

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Poetry: Ghazaliyat: Ghalib, Momin, Nasikh, Firaq, Aziz

Manzoomat: Iqbal, Josh, Faiz, Akhtar, Shirani

Qasida: Zauq, MohsinKakorvi

Marsiya: Anees, Zameer Rubaiyat : Anees, Josh.

Prose:

Dastan

Meer Amman: Bagh-O-Bahar

Drama:

Agha Hashr Kashmiri: Silver King

Imtiyaz Ali Taj :Anarkali

Novel

Nazeer Ahmed: Tobattunnasuh Mirzahadiruswa: Umraojan Ada

Premchand: Godan

Afsana: Premchand: Wardaat

Krishan Chandra: Andata

Proetry

Ghazliyat: Wali, Atish, Daagh, Ali Sardar Jafri

Manzoomat: Iqbal, Josh, Faiz

Amexice - XX

PUNJABI

Unit - I ਸਾਹਿਤ, ਸਾਹਿਤ ਰੂਪ, ਸਾਹਿਤ ਸ਼ਾਸਤਰੀ ਪਰੰਪਰਾ ਅਤੇ ਸਾਹਿਤ ਇਤਿਹਾਸਕਾਰੀ

ਸਾਹਿਤ : ਪਰਿਭਾਸ਼ਾ, ਸਰੂਪ ਤੇ ਤੱਤ।

- ਸਾਹਿਤ ਦਾ ਹੋਰ ਅਨੁਸ਼ਾਸਨਾਂ ਨਾਲ ਸਬੰਧ (ਭਾਸ਼ਾ, ਸਮਾਜ, ਇਤਿਹਾਸ, ਮਨੋਵਿਗਿਆਨ, ਸਭਿਆਚਾਰ, ਧਰਮ, ਦਰਸ਼ਨ ਅਤੇ ਰਾਜਨੀਤੀ)।
- ਸਾਹਿਤ ਪ੍ਰਗਟਾਅ ਦੀ ਵਿਧੀਆਂ : ਪ੍ਰਗੀਤਕ, ਬਿਰਤਾਂਤਕ ਅਤੇ ਨਾਟਕੀ।
- ਸਾਹਿਤ, ਸਾਹਿਤ ਵਿਗਿਆਨ ਅਤੇ ਸਾਹਿਤ ਇਤਿਹਾਸ ਦਾ ਅੰਤਰ-ਨਿਖੇਤ।

• ਸਾਹਿਤ ਦੇ ਰੂਪ :

- ≽ ਮੱਧਕਾਲੀ ਰੂਪ : ਸ਼ਬਦ, ਸਲੋਕ, ਕਾਫ਼ੀ, ਬਾਰਾਮਾਹ, ਸੀਹਰਫ਼ੀ, ਕਿੱਸਾ, ਵਾਰ, ਜੰਗਨਾਮਾ, ਜਨਮਸਾਖੀ, ਟੀਕਾ ਅਤੇ ਪਰਚੀਆਂ।
- ਆਧੁਨਿਕ ਰੂਪ : ਗੀਤ, ਨਜ਼ਮ, ਗ਼ਜ਼ਲ, ਰੁਬਾਈ, ਹਾਇਕੂ, ਨਾਵਲ, ਨਿੱਕੀ ਕਹਾਣੀ, ਨਾਟਕ ਅਤੇ ਇਕਾਂਗੀ, ਨਿਬੰਧ, ਸਫ਼ਰਨਾਮਾ, ਡਾਇਰੀ, ਜੀਵਨੀ, ਸਵੈ–ਜੀਵਨੀ ਅਤੇ ਰੇਖਾ ਚਿੱਤਰ।
- ਯੂਨਾਨੀ ਕਾਵਿ ਸ਼ਾਸਤਰ : ਸੁਕਰਾਤ, ਪਲੈਟੋ, ਅਰਸਤੂ, ਲੌਨਜਾਈਨਸ।
- ਭਾਰਤੀ ਕਾਵਿ ਸ਼ਾਸਤਰ :
 - > ਕਾਵਿ ਦੇ ਭੇਦ : ਸ਼ੁਵ ਅਤੇ ਦਿਸ।
 - > ਰਸ ਸੰਪ੍ਰਦਾਇ, ਧੁਨੀ ਸੰਪ੍ਰਦਾਇ, ਅਲੰਕਾਰ ਸੰਪ੍ਰਦਾਇ, ਵਕ੍ਰੋਕਤੀ ਸੰਪ੍ਰਦਾਇ, ਰੀਤੀ ਸੰਪ੍ਰਦਾਇ, ਔਚਿਤੈ ਸੰਪ੍ਰਦਾਇ।
- ਪੱਛਮੀ ਸਾਹਿਤ ਚਿੰਤਨ : ਰੂਪਵਾਦ, ਮਾਰਕਸਵਾਦ, ਸੰਰਚਨਾਵਾਦ, ਮਨੋਵਿਗਿਆਨ, ਚਿਹਨ ਵਿਗਿਆਨ, ਵਿਰਚਨਾ ਸਾਹਿਤ ਸਿਧਾਂਤ, ਨਾਰੀ ਚਿੰਤਨ, ਦਲਿਤ ਚਿੰਤਨ ਅਤੇ ਉੱਤਰ ਆਧੁਨਿਕ ਸਾਹਿਤ ਸਿਧਾਂਤ।
- ਪੰਜਾਬੀ ਸਾਹਿਤ ਚਿੰਤਕ : ਸੰਤ ਸਿੰਘ ਸੇਖੋ', ਕਿਸ਼ਨ ਸਿੰਘ, ਹਰਿਭਜਨ ਸਿੰਘ, ਨਜ਼ਮ ਹੁਸੈਨ ਸਾਂਯਦ, ਤਰਲੋਕ ਸਿੰਘ ਕੰਵਰ ਅਤੇ ਹਰਿਭਜਨ ਸਿੰਘ ਭਾਟੀਆ।
- ਸਾਹਿਤ ਦੀ ਇਤਿਹਾਸਕਾਰੀ : ਸੰਕਲਪ ਅਤੇ ਸਰੂਪ
- ਸਾਹਿਤ ਇਤਿਹਾਸ ਅਤੇ ਸਾਹਿਤ ਸਮੀਖਿਆ : ਅੰਤਰ ਨਿਖੇਤ
- ਸਾਹਿਤ ਇਤਿਹਾਸ ਅਤੇ ਇਤਿਹਾਸ ਸ਼ਾਸਤਰ ਦਾ ਅੰਤਰ ਨਿਖੇਤ
- ਸਾਹਿਤ ਇਤਿਹਾਸਕਾਰੀ ਦੌਰਾਨ ਸਾਹਿਤਕ ਤੱਬਾਂ ਦੇ ਨਿਰਣੈ ਦੀਆਂ ਸਮੱਸਿਆਵਾਂ
- ਸੰਯੁਕਤ ਪੰਜਾਬੀ ਸਾਹਿਤ ਦੀ ਇਤਿਹਾਸਕਾਰੀ : ਕਾਲ ਵੰਡ ਅਤੇ ਵਰਗੀਕਰਨ ਦੀਆਂ ਸਮਾੱਸਿਆਵਾਂ
- ਪੰਜਾਬੀ ਸਾਹਿਤ ਇਤਿਹਾਸ ਲਿਖਤਾਂ ਦਾ ਮੈਟਾ ਅਧਿਐਨ।

Unit - II ਪੰਜਾਬੀ ਸੁਫ਼ੀ ਕਾਵਿ ਧਾਰਾ ਅਤੇ ਗੁਰਮਤਿ ਕਾਵਿ ਧਾਰਾ

- ਪੰਜਾਬੀ ਸੁਫ਼ੀ ਕਾਵਿ ਧਾਰਾ : ਆਰੰਭ, ਵਿਕਾਸ ਪੜਾਅ ਤੇ ਵਿਸ਼ੇਸ਼ਤਾਵਾਂ
- ਪ੍ਰਮੁੱਖ ਪੰਜਾਬੀ ਸੁਫ਼ੀ ਕਵੀ : ਬਾਬਾ ਫ਼ਰੀਦ, ਸ਼ਾਹ ਹੁਸੈਨ, ਬੁੱਲ੍ਹੇ ਸ਼ਾਹ, ਸੁਲਤਾਨ ਬਾਹੂ ਅਤੇ ਵਜ਼ੀਦ।
- ਪੰਜਾਬੀ ਸੁਫ਼ੀ ਕਾਵਿ ਸੰਬੰਧੀ ਪ੍ਰਾਪਤ ਆਲੋਚਨਾ ਦਾ ਮੈਟਾ ਅਧਿਐਨ
- ਗਰਮਤਿ ਕਾਵਿ ਧਾਰਾ : ਆਰੰਭ, ਵਿਕਾਸ ਪੜਾਅ ਤੇ ਵਿਸ਼ੇਸ਼ਤਾਵਾਂ
- ਸ੍ਰੀ ਗੁਰੂ ਗ੍ਰੰਥ ਸਾਹਿਬ : ਸੰਪਾਦਨ-ਕਲਾ ਅਤੇ ਸਾਹਿਤਕ ਵਿਸ਼ੇਸ਼ਤਾਵਾਂ
- ਪ੍ਰਮੁੱਖ ਗੁਰੂ ਕਵੀ: ਗੁਰੂ ਨਾਨਕ ਦੇਵ ਜੀ, ਗੁਰੂ ਅੰਗਦ ਦੇਵ ਜੀ, ਗੁਰੂ ਅਰਜਨ ਦੇਵ ਜੀ, ਗੁਰੂ ਤੇਗ ਬਹਾਦਰ ਜੀ ਅਤੇ ਗੁਰੂ ਗੋਬਿੰਦ ਸਿੰਘ ਜੀ।
- ਪ੍ਰਮੁੱਖ ਭਗਤ ਕਵੀ : ਰਵੀਦਾਸ, ਨਾਮਦੇਵ ਅਤੇ ਕਬੀਰ।
- ਵਾਰਾਂ ਭਾਈ ਗੁਰਦਾਸ।
- ਗਰਮਤਿ ਕਾਵਿ ਧਾਰਾ ਸੰਬੰਧੀ ਪ੍ਰਾਪਤ ਸਮੀਖਿਆ ਦਾ ਮੈਟਾ ਅਧਿਐਨ।

Unit -III ਪੰਜਾਬੀ ਕਿੱਸਾ ਕਾਵਿ ਅਤੇ ਬੀਰ ਵਾਰ ਕਾਵਿ ਧਾਰਾ

- ਪੰਜਾਬੀ ਕਿੱਸਾ ਕਾਵਿ ਧਾਰਾ : ਆਰੰਭ, ਵਿਕਾਸ ਪੜਾਅ ਤੇ ਵਿਸ਼ੇਸ਼ਤਾਵਾਂ।
- ਪ੍ਰਮੁੱਖ ਕਿੱਸਾਕਾਰ : ਦਮੇਂਦਰ, ਪੀਲੂ, ਵਾਰਿਸ, ਹਾਸ਼ਮ ਤੇ ਕਾਦਰਯਾਰ।
- ਪੰਜਾਬੀ ਬੀਰ ਵਾਰ ਕਾਵਿ ਅਤੇ ਜੰਗਨਾਮਾ ਕਾਵਿ ਧਾਰਾ : ਆਰੰਭ ਵਿਕਾਸ ਪੜਾਅ ਤੇ ਵਿਸ਼ੇਸ਼ਤਾਵਾਂ।
- ਪ੍ਰਮੁੱਖ ਵਾਰਕਾਰ : ਗੁਰੂ ਗੋਬਿੰਦ ਸਿੰਘ, ਨਜਾਬਤ ਅਤੇ ਪੀਰ ਮੁਹੰਮਦ।
- ਪ੍ਰਮੁੱਖ ਜੰਗਨਾਮਾਕਾਰ : ਸ਼ਾਹ ਮਹੰਮਦ, ਮਟਕ।
- ਪੰਜਾਬੀ ਕਿੱਸਾ ਕਾਵਿ , ਬੀਰ ਵਾਰ ਕਾਵਿ ਅਤੇ ਜੰਗਨਾਮਾ ਕਾਵਿ ਸੰਬੰਧੀ ਪ੍ਰਾਪਤ ਆਲੋਚਨਾ ਦਾ ਮੈਟਾ ਅਧਿਐਨ।

Unit -IV ਪੰਜਾਬੀ ਵਾਰਤਕ

- ਮੱਧਕਾਲੀ ਪੰਜਾਬੀ ਵਾਰਤਕ : ਆਰੰਭ, ਵਿਕਾਸ ਪੜਾਅ ਤੇ ਵਿਸ਼ੇਸ਼ਤਾਵਾਂ (ਜਨਮਸਾਖੀ ਪਰੰਪਰਾ : ਪੁਰਾਤਨ ਜਨਮਸਾਖੀ, ਆਦਿ ਸਾਖੀਆਂ, ਸ਼ੰਭੂ ਨਾਬ ਵਾਲੀ ਜਨਮਸਾਖੀ, ਮਿਹਰਬਾਨ ਵਾਲੀ ਜਨਮਸਾਖੀ, ਜਨਮਸਾਖੀ ਭਾਈ ਬਾਲਾ; ਗਿਆਨ ਰਤਨਾਵਲੀ, ਗੁਰ ਬਿਲਾਸ, ਗੋਂਸਟਾਂ, ਪਰਚੀਆਂ, ਰਹਿਤਨਾਮੇ ਅਤੇ ਟੀਕੇ ਦੇ ਸੰਦਰਭ ਵਿਚ)
- ਆਧੁਨਿਕ ਪੰਜਾਬੀ ਵਾਰਤਕ : ਆਰੰਭ, ਵਿਕਾਸ ਪੜਾਅ ਤੇ ਵਿਸ਼ੇਸ਼ਤਾਵਾਂ।
- ਸਮਕਾਲੀ ਪੰਜਾਬੀ ਵਾਰਤਕ ਵਿਚ ਨਵੇਂ ਝਕਾਅ
- ਪਰਵਾਸੀ ਪੰਜਾਬੀ ਵਾਰਤਕ ਦਾ ਸਰਵੇਖਣ
- ਪਾਕਿਸਤਾਨੀ ਪੰਜਾਬੀ ਵਾਰਤਕ ਦਾ ਸਰਵੇਖਣ
- ਪ੍ਰਮੁੱਖ ਵਾਰਤਕਕਾਰ : ਭਾਈ ਵੀਰ ਸਿੰਘ, ਪੂਰਨ ਸਿੰਘ, ਸਾਹਿਬ ਸਿੰਘ, ਤੇਜਾ ਸਿੰਘ, ਗੁਰਬਖ਼ਸ਼ ਸਿੰਘ ਪ੍ਰੀਤਲੜੀ, ਬਲਰਾਜ ਸਾਹਨੀ, ਬਲਵੰਤ ਗਾਰਗੀ, ਕੁਲਬੀਰ ਸਿੰਘ ਕਾਂਗ ਅਤੇ ਨਰਿੰਦਰ ਸਿੰਘ ਕਪੂਰ।
- ਮੱਧਕਾਲੀ ਪੰਜਾਬੀ ਵਾਰਤਕ ਸੰਬੰਧੀ ਪ੍ਰਾਪਤ ਆਲੋਚਨਾ ਦਾ ਮੈਟਾ ਅਧਿਐਨ।
- ਆਧੁਨਿਕ ਪੰਜਾਬੀ ਵਾਰਤਕ ਸੰਬੰਧੀ ਪ੍ਰਾਪਤ ਆਲੋਚਨਾ ਦਾ ਮੈਟਾ ਅਧਿਐਨ।

Unit -V ਆਧੁਨਿਕ ਪੰਜਾਬੀ ਕਵਿਤਾ

- ਆਧੁਨਿਕ ਪੰਜਾਬੀ ਕਵਿਤਾ : ਆਰੰਭ, ਵਿਕਾਸ ਪੜਾਅ ਤੇ ਵਿਸ਼ੇਸ਼ਤਾਵਾਂ।
- ਆਧੁਨਿਕ ਪੰਜਾਬੀ ਕਵਿਤਾ ਵਿਚ ਪ੍ਰਮੁੱਖ ਰੁਝਾਨ (ਆਦਰਸ਼ਵਾਦੀ, ਯਥਾਰਥਵਾਦੀ, ਪ੍ਰਗਤੀਵਾਦੀ, ਪ੍ਰਯੋਗਸ਼ੀਲ, ਜੁਝਾਰਵਾਦੀ, ਨਾਰੀ-ਦ੍ਰਿਸ਼ਟੀ ਅਤੇ ਦਲਿਤ-ਦ੍ਰਿਸ਼ਟੀ ਦੇ ਸੰਦਰਭ ਵਿਚ)
- ਸਮਕਾਲੀ ਪੰਜਾਬੀ ਕਵਿਤਾ ਵਿਚ ਨਵੇਂ ਝਕਾਅ
- ਪਰਵਾਸੀ ਪੰਜਾਬੀ ਕਵਿਤਾ ਦਾ ਸਰਵੇਖਣ
- ਪਾਕਿਸਤਾਨੀ ਪੰਜਾਬੀ ਕਵਿਤਾ ਦਾ ਸਰਵੇਖਣ
- ਪ੍ਰਮੁੱਖ ਪੰਜਾਬੀ ਕਵੀ : ਭਾਈ ਵੀਰ ਸਿੰਘ, ਪੂਰਨ ਸਿੰਘ, ਧਨੀ ਰਾਮ ਚਾਤ੍ਰਿਕ, ਮੋਹਨ ਸਿੰਘ, ਅੰਮ੍ਰਿਤਾ ਪ੍ਰੀਤਮ, ਬਾਵਾ ਬਲਵੰਤ, ਹਰਿਭਜਨ ਸਿੰਘ, ਜਸਵੰਤ ਸਿੰਘ ਨੇਕੀ, ਸ਼ਿਵ ਕੁਮਾਰ, ਪਾਸ਼, ਸੂਰਜੀਤ ਪਾਤਰ ਅਤੇ ਜਸਵੰਤ ਦੀਦ।
- ਆਧੁਨਿਕ ਪੰਜਾਬੀ ਕਵਿਤਾ ਸੰਬੰਧੀ ਪ੍ਰਾਪਤ ਆਲੋਚਨਾ ਦਾ ਮੈਟਾ ਅਧਿਐਨ।

Unit -VI ਆਧੁਨਿਕ ਪੰਜਾਬੀ ਗਲਪ

- ਪੰਜਾਬੀ ਨਾਵਲ : ਆਰੰਭ, ਵਿਕਾਸ ਪੜਾਅ ਤੇ ਵਿਸ਼ੇਸ਼ਤਾਵਾਂ।
- ਪੰਜਾਬੀ ਨਾਵਲ ਵਿਚ ਪ੍ਰਮੁੱਖ ਰੁਝਾਨ (ਆਦਰਸ਼ਵਾਦੀ, ਯਥਾਰਥਵਾਦੀ, ਪ੍ਰਗਤੀਵਾਦੀ, ਇਤਿਹਾਸਕ, ਮਨੋਵਿਗਿਆਨਕ, ਨਾਰੀ–ਦ੍ਰਿਸ਼ਟੀ ਅਤੇ ਦਲਿਤ ਦ੍ਰਿਸ਼ਟੀ ਦੇ ਸੰਦਰਭ ਵਿਚ)
- ਸਮਕਾਲੀ ਪੰਜਾਬੀ ਨਾਵਲ ਵਿਚ ਨਵੇਂ ਝੁਕਾਅ
- ਪਰਵਾਸੀ ਪੰਜਾਬੀ ਨਾਵਲ ਦਾ ਸਰਵੇਖਣ
- ਪਾਕਿਸਤਾਨੀ ਪੰਜਾਬੀ ਨਾਵਲ ਦਾ ਸਰਵੇਖਣ



- ਪ੍ਰਮੁੱਖ ਪੰਜਾਬੀ ਨਾਵਲਕਾਰ : ਨਾਨਕ ਸਿੰਘ, ਜਸਵੰਤ ਸਿੰਘ ਕੰਵਲ, ਗੁਰਦਿਆਲ ਸਿੰਘ, ਦਲੀਪ ਕੌਰ ਟਿਵਾਣਾ, ਰਾਮ ਸਰੂਪ ਅਣਖੀ, ਬਲਦੇਵ ਸਿੰਘ ਅਤੇ ਮਨਮੋਹਨ ਬਾਵਾ।
- ਆਧੁਨਿਕ ਪੰਜਾਬੀ ਕਹਾਣੀ : ਆਰੰਭ, ਵਿਕਾਸ ਪੜਾਅ ਤੇ ਵਿਸ਼ੇਸ਼ਤਾਵਾਂ।
- ਆਧੁਨਿਕ ਪੰਜਾਬੀ ਕਹਾਣੀ ਵਿਚ ਪ੍ਰਮੁੱਖ ਰੁਝਾਨ (ਆਦਰਸ਼ਵਾਦੀ, ਯਥਾਰਥਵਾਦੀ, ਦੇਸ਼-ਵੰਡ ਨਾਲ ਸਬੰਧਤ, ਪ੍ਰਗਤੀਵਾਦੀ, ਮਨੋਵਿਗਿਆਨਕ, ਨਾਰੀ ਦ੍ਰਿਸ਼ਟੀ ਅਤੇ ਦਲਿਤ ਦ੍ਰਿਸ਼ਟੀ ਦੇ ਸੰਦਰਭ ਵਿਚ)
- ਸਮਕਾਲੀ ਪੰਜਾਬੀ ਕਹਾਣੀ ਵਿਚ ਨਵੇਂ ਝੁਕਾਅ
- ਪੁਰਵਾਸੀ ਪੰਜਾਬੀ ਕਹਾਣੀ ਦਾ ਸਰਵੇਖਣ
- ਪਾਕਿਸਤਾਨੀ ਪੰਜਾਬੀ ਕਹਾਣੀ ਦਾ ਸਰਵੇਖਣ
- ਪ੍ਰਮੁੱਖ ਪੰਜਾਬੀ ਕਹਾਣੀਕਾਰ : ਸੁਜਾਨ ਸਿੰਘ, ਕਰਤਾਰ ਸਿੰਘ ਦੁੱਗਲ, ਸੰਤ ਸਿੰਘ ਸੇਖੋਂ, ਕੁਲਵੰਤ ਸਿੰਘ ਵਿਰਕ, ਅਜੀਤ ਕੌਰ, ਪ੍ਰੇਮ ਪ੍ਰਕਾਸ਼, ਵਰਿਆਮ ਸਿੰਘ ਸੰਧੁ ਅਤੇ ਲਾਲ ਸਿੰਘ।
- ਪੰਜਾਬੀ ਨਾਵਲ ਸੰਬੰਧੀ ਪ੍ਰਾਪਤ ਆਲੋਚਨਾ ਦਾ ਮੈਟਾ ਅਧਿਐਨ
- ਆਧੁਨਿਕ ਪੰਜਾਬੀ ਕਹਾਣੀ ਸੰਬੰਧੀ ਪ੍ਰਾਪਤ ਆਲੋਚਨਾ ਦਾ ਮੈਟਾ ਅਧਿਐਨ।

Unit- VII ਪੰਜਾਬੀ ਨਾਟਕ ਅਤੇ ਇਕਾਂਗੀ

- ਪੰਜਾਬੀ ਨਾਟਕ ਅਤੇ ਇਕਾਂਗੀ : ਆਰੰਭ, ਵਿਕਾਸ ਪੜਾਅ ਤੇ ਵਿਸ਼ੇਸ਼ਤਾਵਾਂ।
- ਸਮਕਾਲੀ ਪੰਜਾਬੀ ਨਾਟਕ ਵਿਚ ਪ੍ਰਮੁੱਖ ਰੁਝਾਨ
- ਪਰਵਾਸੀ ਪੰਜਾਬੀ ਨਾਟਕ ਤੇ ਇਕਾਂਗੀ ਦਾ ਸਰਵੇਖਣ
- ਪਾਕਿਸਤਾਨੀ ਪੰਜਾਬੀ ਨਾਟਕ ਤੇ ਇਕਾਂਗੀ ਦਾ ਸਰਵੇਖਣ
- ਪ੍ਰਮੁੱਖ ਪੰਜਾਬੀ ਨਾਟਕਕਾਰ ਤੇ ਇਕਾਂਗੀਕਾਰ : ਈਸ਼ਵਰ ਚੰਦਰ ਨੰਦਾ, ਸੰਤ ਸਿੰਘ ਸੇਖੋਂ, ਹਰਚਰਨ ਸਿੰਘ, ਬਲਵੰਤ ਗਾਰਗੀ, ਸੁਰਜੀਤ ਸਿੰਘ ਸੇਠੀ, ਚਰਨਦਾਸ ਸਿੱਧੂ, ਅਜਮੇਰ ਔਲਖ, ਆਤਮਜੀਤ ਅਤੇ ਸਵਰਾਜ ਬੀਰ।
- ਪੰਜਾਬੀ ਰੰਗਮੰਚ : ਆਰੰਭ, ਵਿਕਾਸ ਪੜਾਅ, ਸਮੱਸਿਆਵਾਂ ਅਤੇ ਭਵਿੱਖ
- ਪੰਜਾਬੀ ਨਾਟਕ ਅਤੇ ਇਕਾਂਗੀ ਸੰਬੰਧੀ ਪ੍ਰਾਪਤ ਆਲੋਚਨਾ ਦਾ ਮੈਟਾ ਅਧਿਐਨ

Unit -VIII ਲੋਕਧਾਰਾ ਤੇ ਪੰਜਾਬੀ ਲੋਕਧਾਰਾ ਅਤੇ ਸਭਿਆਚਾਰ ਤੇ ਪੰਜਾਬੀ ਸਭਿਆਚਾਰ

- ਲੋਕਧਾਰਾ : ਪਰਿਭਾਸ਼ਾ, ਪ੍ਰਕਿਰਤੀ ਤੇ ਤੱਤ
- ਲੋਕਧਾਰਾ, ਆਧੁਨਿਕਤਾ ਅਤੇ ਸੰਚਾਰ ਮਾਧਿਅਮ
- ਲੋਕ ਸਾਹਿਤ ਅਤੇ ਵਿਸ਼ਿਸ਼ਟ ਸਾਹਿਤ
- ਲੋਕ ਸਾਹਿਤ : ਸੰਕਲਪ ਅਤੇ ਪ੍ਰਮੁੱਖ ਵੰਨਗੀਆਂ
- ਲੋਕਧਾਰਾ ਦੀਆਂ ਵਿਭਿੰਨ ਪ੍ਰਗਟਾਅ ਵਿਧੀਆਂ (ਲੋਕ ਗੀਤ, ਲੋਕ ਕਥਾ, ਲੋਕ ਵਿਸ਼ਵਾਸ, ਰੀਤੀ ਰਿਵਾਜ਼, ਲੋਕ ਨਾਟਕ, ਲੋਕ ਧਰਮ, ਲੋਕ ਕਲਾਵਾਂ ਅਤੇ ਲੋਕ ਨਾਚ)
- ਵਿਸ਼ਵ ਪ੍ਰਸਿੱਧ ਲੋਕਯਾਨ ਸ਼ਾਸਤਰੀਆਂ ਦਾ ਯੋਗਦਾਨ (ਵਿਲੀਅਮ ਬਾਮਸ, ਵੀ. ਪ੍ਰਾਪ ਅਤੇ ਐਲਨ ਡੰਡੀ)।
- ਲੋਕਧਾਰਾ ਵਿਗਿਆਨ : ਪਰਿਭਾਸ਼ਾ, ਪ੍ਰਕਿਰਤੀ ਤੇ ਤੱਤ।
- ਲੋਕਧਾਰਾ ਵਿਗਿਆਨ ਦੀ ਦ੍ਰਿਸ਼ਟੀ ਤੋਂ ਸਾਹਿਤ ਦਾ ਅਧਿਐਨ।
- ਪੰਜਾਬੀ ਲੋਕਧਾਰਾਈ ਸਾਮੱਗਰੀ ਦੇ ਵਿਭਿੰਨ ਰੂਪ ਅਤੇ ਵਰਗੀਕਰਨ
- ਪੰਜਾਬੀ ਲੋਕ ਵਿਸ਼ਵਾਸ਼, ਲੋਕ ਸਿਆਣਪਾਂ, ਰੀਤਾਂ-ਰਸਮਾਂ ਅਤੇ ਤਿਉਹਾਰ
- ਪੰਜਾਬੀ ਲੋਕ-ਕਲਾਵਾਂ, ਲੋਕ-ਨਾਚ ਅਤੇ ਲੋਕ-ਸੰਗੀਤ।
- ਪੰਜਾਬੀ ਲੋਕ ਸਾਹਿਤ ਦਾ ਵਰਗੀਕਰਨ : ਲੋਕ ਗੀਤ, ਲੋਕ ਕਥਾਵਾਂ, ਲੋਕ ਨਾਟ।
- ਪੰਜਾਬੀ ਲੋਕ ਧੰਦੇ, ਲੋਕ ਗਹਿਣੇ, ਲੋਕ ਪਹਿਰਾਵਾ ਅਤੇ ਲੋਕ ਖੇਡਾਂ।
- ਪੰਜਾਬੀ ਲੋਕਧਾਰਾ ਸੰਗ੍ਰਹਿ, ਸੰਪਾਦਨ ਅਤੇ ਸਮੀਖਿਆ ਦਾ ਇਤਿਹਾਸ।

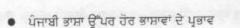
- ਪੰਜਾਬੀ ਦੇ ਪ੍ਰਸਿੱਧ ਲੋਕਧਾਰਾ ਵਿਗਿਆਨੀਆਂ ਦਾ ਯੋਗਦਾਨ (ਆਰ.ਸੀ. ਟੈਂਪਲ, ਦਵਿੰਦਰ ਸਤਿਆਰਥੀ, ਸ.ਸ. ਵਣਜਾਰਾ ਬੇਦੀ, ਮਹਿੰਦਰ ਸਿੰਘ ਰੰਧਾਵਾ, ਕਰਨੈਲ ਸਿੰਘ ਬਿੰਦ ਅਤੇ ਨਾਹਰ ਸਿੰਘ)।
- ਪੰਜਾਬੀ ਲੋਕਧਾਰਾ ਅਧਿਐਨ ਸਬੰਧੀ ਪ੍ਰਾਪਤ ਆਲੋਚਨਾ ਦਾ ਮੈਟਾ ਅਧਿਐਨ।
- ਸਭਿਆਚਾਰ : ਪਰਿਭਾਸ਼ਾ, ਸਰੂਪ ਤੇ ਤੱਤ।
- ਸਭਿਆਚਾਰ ਅਤੇ ਸਭਿਅਤਾ ਦਾ ਅੰਤਰ-ਨਿਖੇੜ
- ਸਭਿਆਚਾਰਕ ਰੂਪਾਂਤਰਣ ਪ੍ਰਕ੍ਰਿਆ
- ਸਭਿਆਚਾਰ, ਸਮਾਜ ਅਤੇ ਭਾਸ਼ਾ ਦਾ ਅੰਤਰ-ਸਬੰਧ
- ਸਭਿਆਚਾਰ ਅਧਿਐਨ ਦੀਆਂ ਵਿਭਿੰਨ ਦ੍ਰਿਸ਼ਟੀਆਂ
- ਸਭਿਆਚਾਰ ਦਾ ਭੂਗੋਲ, ਆਰਥਿਕਤਾ, ਧਰਮ ਅਤੇ ਰਾਜਨੀਤੀ ਨਾਲ ਸੰਬੰਧ
- ਲੋਕਧਾਰਾ ਅਤੇ ਸਭਿਆਚਾਰ ਦਾ ਅੰਤਰ-ਨਿਖੇੜ
- ਸਭਿਆਚਾਰ ਵਿਗਿਆਨ : ਪਰਿਭਾਸ਼ਾ, ਸਰੂਪ ਤੇ ਤੱਤ
- ਵਿਸ਼ਵ ਪ੍ਰਸਿੱਧ ਸਭਿਆਚਾਰ ਸ਼ਾਸਤਰੀਆਂ ਦਾ ਯੋਗਦਾਨ (ਰੇਮੰਡ ਵਿਲੀਅਮ, ਫ੍ਰੇਜ਼ਰ ਅਤੇ ਐਡਵਰਡ ਸਈਅਦ)।
- ਪੰਜਾਬ, ਪੰਜਾਬੀ ਅਤੇ ਪੰਜਾਬੀ ਸਭਿਆਚਾਰ
- ਪੰਜਾਬੀ ਸਭਿਆਚਾਰ ਦੇ ਪਛਾਣ ਚਿੰਨ੍ਹ
- ਪੰਜਾਬੀ ਸਭਿਆਚਾਰ ਉੱਪਰ ਭਾਰਤੀ ਤੇ ਸਾਮੀ ਸਭਿਆਚਾਰ ਦਾ ਪ੍ਰਭਾਵ
- ਪੰਜਾਬੀ ਸਭਿਆਚਾਰ ਦਾ ਕੌਮੀ ਪ੍ਰਸੰਗ
- ਪੰਜਾਬੀ ਸਭਿਆਚਾਰ, ਸਿਆਸਤ ਅਤੇ ਸੰਪ੍ਰਦਾਇਕਤਾ
- ਪੰਜਾਬੀ ਸਭਿਆਚਾਰ ਅਤੇ ਸਾਕਾਚਾਰੀ ਪ੍ਰਬੰਧ
- ਵਿਸ਼ਵੀਕਰਨ ਦੇ ਦੌਰ ਵਿਚ ਪੰਜਾਬੀ ਸਭਿਆਚਾਰ ਸਨਮੁਖ ਚੁਣੌਤੀਆਂ
- ਪ੍ਰਸਿੱਧ ਪੰਜਾਬੀ ਸਭਿਆਚਾਰ ਸ਼ਾਸਤਰੀਆਂ ਦਾ ਯੋਗਦਾਨ (ਟੀ.ਆਰ. ਵਿਨੋਦ, ਗੁਰਬਖ਼ਸ਼ ਸਿੰਘ ਫਰੈਂਕ ਅਤੇ ਜਸਵਿੰਦਰ ਸਿੰਘ)।
- ਪੰਜਾਬੀ ਸਭਿਆਚਾਰ ਅਧਿਐਨ ਸਬੰਧੀ ਪ੍ਰਾਪਤ ਆਲੋਚਨਾ ਦਾ ਮੈਟਾ ਅਧਿਐਨ।

Unit -IX ਭਾਸ਼ਾ, ਭਾਸ਼ਾ ਵਿਗਿਆਨ, ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਵਿਗਿਆਨ ਅਤੇ ਗੁਰਮੁਖੀ ਲਿਪੀ

- ਭਾਸ਼ਾ : ਪਰਿਭਾਸ਼ਾ, ਸਰੂਪ ਤੇ ਵਿਸ਼ੇਸ਼ਤਾਵਾਂ
- ਭਾਸ਼ਾ, ਸਮਾਜ, ਸਭਿਆਚਾਰ ਅਤੇ ਸਾਹਿਤ ਦਾ ਅੰਤਰ-ਸਬੰਧ।
- ਭਾਸ਼ਾ, ਉਪਭਾਸ਼ਾ ਅਤੇ ਲਿਪੀ ਦਾ ਅੰਤਰ-ਨਿਖੇੜ।
- ਭਾਸ਼ਾ ਅਤੇ ਸੰਚਾਰ ਮਾਧਿਅਮ (ਪ੍ਰਿੰਟ, ਇਲੈਕਟ੍ਰਾਨਿਕ ਅਤੇ ਨਿਊ ਮੀਡੀਆ)।
- ਵਿਸ਼ਵ ਭਾਸ਼ਾ ਪਰਿਵਾਰ
- ਆਧਨਿਕ ਭਾਰਤੀ ਆਰੀਆ ਭਾਸ਼ਾਵਾਂ
- ਭਾਸ਼ਾ ਵਿਗਿਆਨ : ਪਰਿਭਾਸ਼ਾ, ਸਰੂਪ ਤੋਂ ਖੇਤਰ।
- ਭਾਸ਼ਾ ਵਿਗਿਆਨ ਅਤੇ ਭਾਸ਼ਾ ਸ਼ਾਸਤਰ
- ਸਾਸਿਓਰ ਦੇ ਭਾਸ਼ਾਈ ਸੰਕਲਪ : ਚਿਹਨ : ਚਿਹਨਕ ਤੇ ਚਿਹਨਿਤ, ਲੈਂਗ ਤੇ ਪੈਰੋਲ, ਇਕਾਲਕ ਤੇ ਦੁਕਾਲਕ, ਕੜੀਦਾਰ ਤੇ ਲਤੀਦਾਰ।
- ਨੌਮ ਚੌਮਸਕੀ ਦੇ ਭਾਸ਼ਾਈ ਸੰਕਲਪ : ਯੋਗਤਾ ਤੇ ਨਿਭਾਉ, ਗਹਿਨ ਤੇ ਸਤੱਹੀ ਜੁਗਤ, ਵਾਕਾਂਸ ਉਸਾਰੀ ਨੇਮ, ਰੂਪਾਂਤਰੀ ਨੈਮ, ਧੁਨੀ ਰੂਪਾਤਮਕ ਨੇਮ।
- ਧਨੀ ਤੇ ਧੂਨੀ ਵਿਗਿਆਨ : ਸੰਕਲਪ ਤੇ ਵਰਗੀਕਰਨ
- ਭਾਵਾਂਸ/ਰੂਪੀਮ ਤੇ ਭਾਵਾਸ਼/ਰੂਪੀਮ-ਪ੍ਰਬੰਧ : ਸੰਕਲਪ ਤੇ ਵਰਗੀਕਰਨ
- ਵਾਕ ਅਤੇ ਵਾਕ ਵਿਗਿਆਨ : ਸੰਕਲਪ ਤੇ ਵਰਗੀਕਰਨ
- ਅਰਥ ਅਤੇ ਅਰਥ ਵਿਗਿਆਨ : ਸੰਕਲਪ ਤੇ ਵਰਗੀਕਰਨ
- ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਦਾ ਆਰੰਭ, ਵਿਕਾਸ ਤੇ ਵਿਸ਼ੇਸ਼ਤਾਵਾਂ

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- ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਦੀਆਂ ਵਿਸ਼ੇਸ਼ਤਾਵਾਂ
- ਪੰਜਾਬੀ ਦੀਆਂ ਉਪਭਾਸ਼ਾਵਾਂ
- ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਦੇ ਵਿਕਾਸ ਅਦਾਰੇ
- ਪੰਜਾਬੀ ਭਾਵਾਂਸ਼/ਰੂਪੀਮ-ਵਿਗਿਆਨ/ਵਿਉਂਤ
- ਪੰਜਾਬੀ ਵਾਕ-ਵਿਗਿਆਨ/ਵਿਉਂਤ
- ਪੰਜਾਬੀ ਅਰਬ-ਵਿਗਿਆਨ/ਵਿਉਂਤ
- ਗੁਰਮੁਖੀ ਲਿਪੀ ਦਾ ਨਿਕਾਸ, ਵਿਕਾਸ ਤੇ ਵਿਸ਼ੇਸ਼ਤਾਵਾਂ
- ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਅਤੇ ਗੁਰਮੁਖੀ ਲਿਪੀ ਦਾ ਅੰਤਰ ਸੰਬੰਧ
- ਪ੍ਰਮੁੱਖ ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਵਿਗਿਆਨੀ (ਦੁਨੀ ਚੰਦਰ, ਹਰਕੀਰਤ ਸਿੰਘ, ਪ੍ਰੇਮ ਪ੍ਰਕਾਸ਼ ਸਿੰਘ ਅਤੇ ਪਰਮਜੀਤ ਸਿੰਘ ਸਿੱਧੂ)।

Unit -X ਫੁਟਕਲ (ਪਰਵਾਸ, ਅਨੁਵਾਦ ਅਤੇ ਖੋਜ ਵਿਗਿਆਨ)

- ਪਰਵਾਸ : ਪਰਿਭਾਸ਼ਾ, ਸਰੂਪ ਤੇ ਤੱਤ
- ਡਾਇਸਪੋਰਾ ਅਤੇ ਪਰਵਾਸ : ਅੰਤਰ-ਨਿਖੇਤ
- ਪਾਰਰਾਸ਼ਟਰੀਅਤਾ ਅਤੇ ਪਰਵਾਸੀ ਸਾਹਿਤ
- ਬਹੁ ਸਭਿਆਚਾਰਵਾਦ : ਸੰਕਲਪ ਤੇ ਸਰੂਪ
- ਪਰਵਾਸੀ ਸੰਵੇਦਨਾ ਅਤੇ ਪਰਵਾਸੀ ਚੇਤਨਾ : ਅੰਤਰ-ਨਿਖੇਡ
- ਪੰਜਾਬੀ ਪਰਵਾਸ : ਇਤਿਹਾਸ, ਮਸਲੇ ਅਤੇ ਵੰਗਾਰਾਂ।
- ਅਨੁਵਾਦ : ਪਰਿਭਾਸ਼ਾ, ਸਰੂਪ ਤੇ ਤੱਤ
- ਅਨਵਾਦ ਦੀਆਂ ਕਿਸਮਾਂ
- ਅਨਵਾਦ ਦੀ ਮਹੱਤਤਾ
- ਅਨੁਵਾਦ ਅਤੇ ਮਸ਼ੀਨ ਅਨੁਵਾਦ
- ਕਾਵਿ ਅਨੁਵਾਦ ਦੀਆਂ ਸਮੱਸਿਆਵਾਂ
- ਦੋ-ਭਾਸ਼ੀਆ ਦਾ ਰੋਲ
- ਅਨਵਾਦ ਅਤੇ ਮੀਡੀਆ
- ਪੰਜਾਬੀ ਵਿਚ ਅਨੁਵਾਦਤ ਸਾਹਿਤ : ਕੌਮੀ ਅਤੇ ਕੌਮਾਂਤਰੀ।
- ਖੋਜ : ਪਰਿਭਾਸ਼ਾ, ਸਰੂਪ ਤੇ ਤੱਤ
- ਖੋਜ ਵਿਧੀ ਦੇ ਸੰਦ
- ਖੋਜ ਅਤੇ ਆਲੋਚਨਾ : ਅੰਤਰ-ਨਿਖੇਡ
- ਖੋਜ-ਵਿਧੀਆਂ
- ਖ਼ੌਜ-ਨਿਬੰਧ ਅਤੇ ਸ਼ੋਧ-ਪ੍ਰਬੰਧ : ਅੰਤਰ-ਨਿਖੇਤ
- ਖੋਜ ਅਤੇ ਇੰਟਰਨੈਂਟ ਸਾਮੱਗਰੀ
- ਖੋਜ ਅਤੇ ਡਿਜੀਟਲ ਲਾਇਬ੍ਰੇਰੀ
- ਪੰਜਾਬੀ ਖੋਜ ਦੀਆਂ ਪ੍ਰਾਪਤੀਆਂ ਤੇ ਨਵੀਨ ਸੰਭਾਵਨਾਵਾਂ
- ਪੰਜਾਬੀ ਖੋਜ-ਪਰੰਪਰਾ