<u>**VISHWA BHARATI PUBLIC SCHOOL, GREATER NOIDA**</u>
<u>**SYLLABUS CLASS: XII (2024-25)**</u>

<u>**SUBJECT- ENGLISH CORE**</u>

TEXTBOOK PRESCRIBED-
1. ENGLISH READER- FLAMINGO
2. SUPPLEMENTARY READER- VISTAS

MONTH	CHAPTER /BOOK /MAIN SKILL	UNIT/TOPIC
APRIL	FLAMINGO VISTAS WRITING SKILL	• THE LAST LESSON BY ALPHONSEDAUDET • MY MOTHER AT SIXTY-SIX(POEM) • THE THIRD LEVEL • LETTER TO EDITOR
MAY	FLAMINGO VISTAS WRITING SKILLS	• LOST SPRING • DEEP WATER • JOURNEY TO THE END OF THE EARTH. • NOTICE WRITING
JULY	FLAMINGO VISTAS WRITING SKILLS	• KEEPING QUIET(POEM) • THE RATTRAP • THE ENEMY • INVITATION WRITING/REPLIES FORMAL INVITATION, INFORMAL INVITATION

AUGUST	FLAMINGO VISTAS	• A THING OF BEAUTY(POEM) • INDIGO • POETS AND PANCAKES • THE ROADSIDE STAND(POEM) •
	VISTAS WRITING	
	SKILLS	• ON THE FACE OF IT
		• JOB APPLICATION
		• ARTICLE WRITING
SEP	FLAMINGO VISTAS	• THE INTERVIEW • AUNT JENNIFER'S TIGERS(POEM) • THE INTERVIEW •
	WRITING SKILLS	• • REPORT WRITING • SCHOOL MAGAZINE AND NEWSPAPER
OCT	FLAMINGO REVISION	• MEMORIES OF CHILDHOOD PRE-BOARD 1
NOV	REVISION	PRE-BOARD II

SUBJECT - CHEMISTRY

Text books prescribed:
- NCERT Text Book Part I & II

MONTH	CHAPTER	TOPICS
April	Unit 6: Haloalkanes & Haloarenes	Haloalkanes: nomenclature, nature of C-X bond, physical and chemical properties, optical rotation mechanism of substitution reactions. Haloarenes: nature of C-X bond, directive influence of halogens for monosubstituted compounds only, uses and environmental effects of di, tri, tetrachloromethane, iodoform and DDT
	Unit 1: Solutions	Types of solutions, expression of concentration of solutions of solids in liquids, solubility of gases in liquids, solid solutions, Raoult's law, colligative properties - relative lowering of vapour pressure, elevation of boiling point, depression of freezing point, osmotic pressure, determination of molecular masses using colligative properties, abnormal molecular mass, Van't Hoff factor.
	Practical	Redox Titrations
May	Unit 7: Alcohols, Phenols and Ethers Unit 8: Aldehydes, Ketones & Carboxylic Acids	Alcohols: Nomenclature, methods of preparation, physical and chemical properties (of primary alcohols only), identification of primary, secondary and tertiary alcohols, mechanism of dehydration, uses with special reference to methanol and ethanol. Phenols: Nomenclature, methods of preparation, physical and chemical properties, acidic nature of phenol, electrophillic substitution reactions, uses of phenols. Ethers: Nomenclature, methods of preparation, physical and chemical properties, uses Aldehydes & ketones: Nomenclature, nature of carbonyl group, methods of preparation, physical and chemical properties, reactivity of alpha hydrogen in aldehydes, uses Carboxylic acids: Nomenclature, Acidic nature, methods of preparation, physical and chemical properties, uses.
	Practical	Chromatography, Preparation of sols ,Crystallization
July	Unit 9: Organic Compounds Containing Nitrogen Unit 10: Biomolecules	Amines and diazonium salts: Nomenclature, basic nature,methods of preparation, physical and chemical properties, uses. Carbohydrates - Classification (aldoses and ketoses), monosaccahrides (glucose and fructose), D-L configuration oligosaccharides (sucrose, lactose, maltose), polysaccharides (starch, cellulose, glycogen); Importance of carbohydrates. Proteins -Elementary idea of - amino acids, peptide bond, polypeptides, proteins, structure of proteins - primary, secondary, tertiary structure and quaternary structures (qualitative idea only), denaturation of proteins; enzymes. Hormones - Elementary idea excluding structure. Vitamins - Classification and functions. Nucleic Acids: DNA and RNA.

	Practical	Salt Analysis
Aug	Unit 5: Coordination Compounds	Coordination compounds - Introduction, ligands, coordination number, colour, magnetic properties and shapes, IUPAC nomenclature of mononuclear coordination compounds. Bonding, Werner's theory, VBT, and CFT; structure and stereoisomerism, importance of coordination compounds (in qualitative analysis, extraction of metals and biological system).
	Unit 2: Electrochemistry	Redox reactions, EMF of a cell, standard electrode potential, Nernst equation and its application to chemical cells, Relation between Gibbs energy change and EMF of a cell, conductance in electrolytic solutions, specific and molar conductivity, variations of conductivity with concentration, Kohlrausch's Law, electrolysis and law of electrolysis (elementary idea), dry cell- electrolytic cells and Galvanic cells, lead accumulator, fuel cells, corrosion
	Practical	Detection of functional groups To test the presence of carbohydrates, fats and proteins in the given samples. Investigatory Project
Sept	Unit 3: Chemical Kinetics Unit 4: d & f – Block Elements	Rate of a reaction (Average and instantaneous), factors affecting rate of reaction: concentration, temperature, catalyst; order and molecularity of a reaction, rate law and specific rate constant, integrated rate equations and half-life (only for zero and first order reactions), concept of collision theory (elementary idea, no mathematical treatment), activation energy, Arrhenius equation. General introduction, electronic configuration, occurrence and characteristics of transition metals, general trends in properties of the first row transition metals – metallic character, ionization enthalpy, oxidation states, ionic radii, colour, catalytic property, magnetic properties, interstitial compounds, alloy formation, preparation and properties of $K_2Cr_2O_7$ and $KMnO_4$. Lanthanoids - Electronic configuration, oxidation states, chemical reactivity and lanthanoid contraction and its consequences. Actinoids - Electronic configuration, oxidation states and comparison with lanthanoids.
	Practical	Effect of Concentration on rate of reaction. Effect of Concentration on EMF of the Cell
OCT	PRE-BOARD 1	REVISION
NOV/DEC	PRE-BOARD 2	REVISION
JAN	FINAL BOARD PRACTICAL	REVISION

INVESTIGATORY PROJECT: One investigatory project has to be done by each student independently.

SUBJECT: PHYSICS CLASS-12th (2024-25)
Textbook Prescribed- NCERT

Month	Unit	Chapter	Topics
April	**Unit-1** Electrostatics	**Chapter–1:** Electric Charges and Fields	Electric charges, Conservation of charge, Coulomb's law-force between two- point charges, forces between multiple charges; superposition principle and continuous charge distribution. Electric field, electric field due to a point charge, electric field lines, electric dipole, electric field due to a dipole, torque on a dipole in uniform electric field. Electric flux, statement of Gauss's theorem and its applications to find field due to infinitely long straight wire, uniformly charged infinite plane sheet and uniformly charged thin spherical shell (field inside and outside).
		Chapter -2: Electrostatic Potential and Capacitance	Electric potential, potential difference, electric potential due to a point charge, a dipole and system of charges; equipotential surfaces, electrical potential energy of a system of two-point charges and of electric dipole in an electrostatic field. Conductors and insulators, free charges and bound charges inside a conductor. Dielectrics and electric polarization, capacitors and capacitance, combination of capacitors in series and in parallel, capacitance of a parallel plate capacitor with and without dielectric medium between the plates, energy stored in a capacitor (no derivation, formulae only).
	Unit-II Current Electricity	**Chapter–3:** Current Electricity	Electric current, flow of electric charges in a metallic conductor, drift velocity, mobility and their relation with electric current; Ohm's law, V-I characteristics (linear and non-linear), electrical energy and power, electrical resistivity and conductivity, temperature dependence of resistance, Internal resistance of a cell, potential difference and emf of a cell, combination of cells in series and in parallel, Kirchhoff's rules, Wheatstone bridge
	Unit -III Magnetic Effects of Current And Magnetism	**Chapter–4:** Moving Charges and Magnetism	Concept of magnetic field, Oersted's experiment. Biot - Savart law and its application to current carrying circular loop. Ampere's law and its applications to infinitely long straight wire. Straight solenoid (only qualitative treatment), force on a moving charge in uniform magnetic and electric

			fields. Force on a current-carrying conductor in a uniform magnetic field, force between two parallel current-carrying conductors-definition of ampere, torque experienced by a current loop in uniform magnetic field; Current loop as a magnetic dipole and its magnetic dipole moment, moving coil galvanometer- its current sensitivity and conversion to ammeter and voltmeter
May	**Unit -III** Magnetic Effects of Current and Magnetism	**Chapter–5:** Magnetism and Matter	Bar magnet, bar magnet as an equivalent solenoid (qualitative treatment only), magnetic field intensity due to a magnetic dipole (bar magnet) along its axis and perpendicular to its axis (qualitative treatment only), torque on a magnetic dipole (bar magnet) in a uniform magnetic field (qualitative treatment only), magnetic field lines. Magnetic properties of materials- Para-, dia- and ferro - magnetic substances with examples, Magnetization of materials, effect of temperature on magnetic properties.
	Unit-IV Electromagnetic Induction	**Chapter–6:** Electromagnetic Induction	Electromagnetic induction; Faraday's laws, induced EMF and current; Lenz's Law, Self and mutual induction.
July	Alternating Currents	**Chapter–7:** Alternating Current	Alternating currents, peak and RMS value of alternating current/voltage; reactance and impedance; LCR series circuit (phasors only), resonance, power in AC circuits, power factor, wattless current. AC generator, Transformer
	Unit – V Electromagnetic waves	**Chapter–8:** Electromagnetic Waves	Basic idea of displacement current, Electromagnetic waves, their characteristics, their transverse nature (qualitative idea only). Electromagnetic spectrum (radio waves, microwaves, infrared, visible, ultraviolet, X-rays, gamma rays) including elementary facts about their uses.
	Unit – VI Optics	**Chapter–9:** Ray Optics and Optical Instruments	Reflection of light, spherical mirrors, mirror formula, refraction of light, total internal reflection and optical fibers, refraction at spherical surfaces, lenses, thin lens formula, lens maker's formula, magnification, power of a lens, combination of thin lenses in contact, refraction of light through a prism. Optical instruments: Microscopes and astronomical telescopes (reflecting and refracting) and their magnifying powers.

August	**Unit – VI** Optics	**Chapter–10:** Wave Optics	Wave front and Huygen's principle, reflection and refraction of plane wave at a plane surface using wave fronts. Proof of laws of reflection and refraction using Huygen's principle. Interference, Young's double slit experiment and expression for fringe width (No derivation final expression only), coherent sources and sustained interference of light, diffraction due to a single slit, width of central maxima (qualitative treatment only)
	Unit VII Dual Nature of Radiation and Matter	**Chapter–11:** Dual Nature of Radiation and Matter	Dual nature of radiation, Photoelectric effect, Hertz and Lenard's observations; Einstein's photoelectric equation-particle nature of light. Experimental study of photoelectric effect Matter waves-wave nature of particles, de-Broglie relation.
September	**Unit VIII** Atoms and Nuclei	**Chapter–12:** Atoms	Alpha-particle scattering experiment; Rutherford's model of atom; Bohr model of hydrogen atom, Expression for radius of nth possible orbit, velocity and energy of electron in nth orbit, hydrogen line spectra (qualitative treatment only).
		Chapter–13: Nuclei	Composition and size of nucleus, nuclear force Mass-energy relation, mass defect; binding energy per nucleon and its variation with mass number; nuclear fission, nuclear fusion.
	Unit-IX Electronic Devices	**Chapter–14:** Semiconductor Electronics: Materials, Devices and Simple Circuits	Energy bands in conductors, semiconductors and insulators (qualitative ideas only) Intrinsic and extrinsic semiconductors- p and n type, p-n junction Semiconductor diode - I-V characteristics in forward and reverse bias, application of junction diode -diode as a rectifier
October	Pre- Board 1	REVISION	
November & December	Pre- Board 2	REVISION	
JANUARY	FINAL BOARD PRATICAL	REVISION	

SUBJECT : BIOLOGY
TEXT BOOK PRESCRIBED: NCERT

MONTH	CHAPTER	TOPIC-SUB UNIT
April	Chapter1 Sexual reproduction in flowering plants	Flower –a fascinating organ, reproductive structures, double fertilization, embryo and endosperm formation, apomixis and parthenogenesis.
	Chapter 2 Human reproduction	Male and female reproductive systems; microscopic anatomy of testis and ovary; gametogenesis - spermatogenesis and oogenesis; menstrual cycle; fertilization, embryo development upto blastocyst formation, implantation; pregnancy and placenta formation ; parturition; lactation **PRACTICALS –** 1. Study of pollen germination 2. Flowers adapted to pollination by different agencies. 3. Controlled pollination-emasculation, tagging and bagging 4. T.S of testis and T.S of ovary through permanent slides 5. T.S.. Blastula through permanent slide 6. Prepare a temporary mount of onion root tip to study mitosis 7. Study of meiosis through permanent slides 8. Study of mendelian inheritance using seeds of differentcolour/sizes
MAY	Chapter-3: Reproductive Health	Need for reproductive health and prevention of Sexually Transmitted Diseases (STDs); birth control - need and methods, contraception and medical termination of pregnancy (MTP); amniocentesis; infertility and assisted reproductive technologies - IVF, ZIFT, GIFT (elementary idea for general awareness).
	Chapter-4: Principles of Inheritance and Variation	Heredity and variation: Mendelian inheritance; deviations from Mendelism – incomplete dominance, co-dominance, multiple alleles and inheritance of blood groups, pleiotropy; elementary idea of polygenic inheritance; chromosome theory of inheritance; chromosomes and genes;Sex determination - in humans, birds and honey bee; linkage and crossing over; sex linked inheritance - haemophilia, colour blindness; Mendelian disorders in humans - thalassemia; chromosomal disorders in humans; Down's syndrome, Turner's and Klinefelter's syndromes.
Jul	Chapter-5: Molecular Basis of Inheritance	Search for genetic material and DNA as genetic material; Structure of DNA and RNA; DNA packaging; DNA replication; Central Dogma; transcription, genetic code, translation; gene 8 expression and regulation - lac operon; Genome, Human and rice genome projects; DNA

		fingerprinting.
	Chapter-6: Evolution	Origin of life; biological evolution and evidences for biological evolution (paleontology, comparative anatomy, embryology and molecular evidences); Darwin's contribution, modern synthetic theory of evolution; mechanism of evolution - variation (mutation and recombination) and natural selection with examples, types of natural selection; Gene flow and genetic drift; Hardy - Weinberg's principle; adaptive radiation; human evolution.
Aug	Chapter-7: Human Health and Diseases Chapter-8: Microbes in Human Welfare	Pathogens; parasites causing human diseases (malaria, dengue, chikungunya, filariasis, ascariasis, typhoid, pneumonia, common cold,amoebiasis, ring worm) and their control; Basic concepts of immunology - vaccines; cancer, HIV and AIDS; Adolescence - drug and alcohol abuse. Microbes in food processing, industrial production, sewage treatment, energy generation and microbes as bio-control agents and bio-fertilizers. Antibiotics; production and judicious use. Revision for Term I
Sep	Chapter-9: Biotechnology - Principles and Processes Chapter-10: Biotechnology and its Applications	Genetic Engineering (Recombinant DNA Technology). Application of biotechnology in health and agriculture: Human insulin and vaccine production, stem cell technology, gene therapy; genetically modified organisms - Bt crops; transgenic animals; biosafety issues, biopiracy and patents.
Oct	Chapter-11: Organisms and Populations Chapter-12: Ecosystem Chapter-13: Biodiversity and its Conservation	Population interactions - mutualism, competition, predation, parasitism; population attributes - growth, birth rate and death rate, age distribution. (Topics excluded: Organism and its Environment, Major Aboitic Factors, Responses to Abioitic Factors, Adaptations) Ecosystems: Patterns, components; productivity and decomposition; energy flow; pyramids of number, biomass, energy (Topics excluded: Ecological Succession and Nutrient Cycles). Biodiversity-Concept, patterns, importance; loss of biodiversity; biodiversity conservation; hotspots, endangered organisms, extinction, Red Data Book, Sacred Groves, biosphere reserves, national parks, wildlife, sanctuaries and Ramsar sites.

SUBJECT: MATHS

TEXT BOOK PRESCRIBED: NCERT MATHS, EXEMPLAR PROBLEMS IN MATHS

MONTH	CHAPTER	SUB TOPIC
APRIL	**Chapter-3 Matrices**	Concept, notation, order, equality, types of matrices, zero and identity matrix, transpose of a matrix, symmetric and skew symmetric matrices. Operations on matrices: Addition and multiplication and multiplication with a scalar. Simple properties of addition, multiplication and scalar multiplication. Noncommutativity of multiplication of matrices and existence of non-zero matrices whose product is the zero matrix (restrict to square matrices of order 2). Invertible matrices and proof of the uniqueness of inverse, if it exists; (Here all matrices will have real entries).
	Chapter- 4 Determinant	Determinant of a square matrix (up to 3 x 3 matrices), minors, co-factors and applications of determinants in finding the area of a triangle. Adjoint and inverse of a square matrix. Consistency, inconsistency and number of solutions of system of linear equations by examples, solving system of linear equations in two or three variables (having unique solution) using inverse of a matrix.
	Chapter - 1 Relations and Functions	Types of relations: reflexive, symmetric, transitive and equivalence relations. One to one and onto functions.
MAY	**Chapter -2 Inverse Trigonometric functions**	Definition, range, domain, principal value branch. Graphs of inverse trigonometric functions.
	Chapter- 5 Continuity and Differentiability	Continuity and differentiability, chain rule, derivative of inverse trigonometric functions, *like* $\sin^{-1}x$, $\cos^{-1}x$ and $\tan^{-1}x$, derivative of implicit functions. Concept of exponential and logarithmic functions. Derivatives of logarithmic and exponential functions. Logarithmic differentiation, derivative of functions expressed in parametric forms. Second order derivatives.
JULY	**Chapter – 6 Applications of Derivatives**	Applications of derivatives: rate of change of quantities, increasing/decreasing functions, maxima and minima (first derivative test motivated geometrically and second derivative test given as a provable tool). Simple problems (that illustrate basic principles and understanding of the subject as well as real-life situations)

JULY	**Chapter-7 Integrals**	Integration as inverse process of differentiation. Integration of a variety of functions by substitution, by partial fractions and by parts, Evaluation of simple integrals of the following types and problems based on them. Fundamental Theorem of Calculus (without proof). Basic properties of definite integrals and evaluation of definite integrals.
AUG	**Chapter- 8 Applications of Integrals**	Applications in finding the area under simple curves, especially lines, circles/ parabolas/ellipses (in standard form only).
	Chapter- 9 Differential Equations	Definition, order and degree, general and particular solutions of a differential equation. Solution of differential equations by method of separation of variables, solutions of homogeneous differential equations of first order and first degree. Solutions of linear differential equation.
	Chapter -10 Vectors	Vectors and scalars, magnitude and direction of a vector. Direction cosines and direction ratios of a vector. Types of vectors (equal, unit, zero, parallel and collinear vectors), position vector of a point, negative of a vector, components of a vector, addition of vectors, multiplication of a vector by a scalar, position vector of a point dividing a line segment in a given ratio. Definition, Geometrical Interpretation, properties and application of scalar (dot) product of vectors, vector (cross) product of vectors.
SEP	**Chapter- 11 3-D Geometry**	Direction cosines and direction ratios of a line joining two points. Cartesian equation and vector equation of a line, skew lines, shortest distance between two lines. Angle between two lines.
	Chapter- 12 Linear –Programming	Introduction, related terminology such as constraints, objective function, optimization, graphical method of solution for problems in two variables, feasible and infeasible regions (bounded or unbounded), feasible and infeasible solutions, optimal feasible solutions (up to three non-trivial constraints).
	Chapter- 13 Probability	Conditional probability, multiplication theorem on probability, independent events, total probability, Bayes' theorem, Random variable and its probability distribution, mean of random variable.
OCT	**PRE – BOARD 1**	

SUBJECT- PHYSICAL EDUCATION

Month	Unit	Topics
APRIL	**UNIT- I MANAGEMENT OF SPORTING EVENTS**	1. Functions of Sports Events Management (Planning, Organising, Staffing, Directing & Controlling) 2. Various Committees & their Responsibilities (pre;during & post) 3. Fixtures and their Procedures – Knock-Out (Bye & Seeding) & League (Staircase, Cyclic, Tabular method)and Combination tournaments. 3. Intramural & Extramural tournaments – Meaning, Objectives & Its Significance 5. Community sports program (Sports Day, Health Run, Run for Fun, Run forSpecific Cause & Run for Unity) 1. Exercise guidelines of WHO for different age groups.
	UNIT II : CHILDREN & WOMEN IN SPORTS	2. Common postural deformities-knock knees, flat foot, round shoulders, Lordosis, Kyphosis, Scoliosis, and bowlegs and their respective corrective measures 3. Women's participation in Sports – Physical, Psychological, and social benefits 4. Special consideration (menarche and menstrual dysfunction) **5.** Female athlete triad (osteoporosis, amenorrhea, eating disorders**.** 6. Exercise guidelines of WHO for different age groups.

| MAY | **UNIT-III Yoga as Preventive measure for Lifestyle Disease** | 1. Diabetes: Procedure, Benefits & Contraindications for Katichakrasana, Pavanmuktasana,Bhujangasana, Shalabhasana, Dhanurasana, Suptavajarasana,

2. Asthma: Procedure, Benefits & Contraindications for Tadasana, Urdhwahastottansana, UttanMandukasana, Bhujangasana, Dhanurasana, Ushtrasana, Vakrasana, Kapalbhati, Gomukhasana Matsyaasana, Anuloma- Viloma.

3. Hypertension: Procedure, Benefits & Contraindicationsfor Tadasana, Katichakransan, Uttanpadasana, Ardha Halasana, Sarala Matyasana, Gomukhasana, UttanMandukasan-a, Vakrasana, Bhujangasana, Makarasana, Shavasana, Nadishodhanapranayam, Sitlipranayam.

4. Back Pain and Arthritis: Procedure, Benefits & Contraindications of Tadasan, Urdhawahastootansana, ArdhChakrasana, Ushtrasana, Vakrasana, Sarala Maysyendrsana, Bhujandgasana, Gomukhasana, Bhadrasana, Makarasana, Nadi-Shodhana pranayama. |
| | **UNIT-IV Physical Education and Sports for CWSN (Children with Special Needs - Divyang)** | 1. Organizations promoting Disability Sports (Special Olympics; Paralympics; Deaflympics)

2. Concept of Classification and Divisioning in Sports.

3. Concept of Inclusion in sports, its need, and Implementation;

4. Advantages of Physical Activities for children withspecial needs.

5. Strategies to make Physical Activities assessable for children with special needs. |

JULY	**UNIT V : Sports & Nutrition**	1.Concept of balanced diet and nutrition 2. Macro and Micro Nutrients: Food sources & functions 3. Nutritive & Non-Nutritive Components of Diet 4. Eating for Weight control – A Healthy Weight, The Pitfalls of Dieting, Food Intolerance, and Food Myths 5. Importance of Diet in Sports-Pre, During and Post competition Requirements.
	UNIT VI : TEST & MEASUREMENT IN SPORTS	1. Fitness Test – SAI Khelo India Fitness Test in school: Age group 5-8 years/ class 1-3: BMI, Flamingo Balance Test, Plate Tapping Test Age group 9-18yrs/ class 4- 12: BMI, 50mt Speed test, 600mt Run/Walk, Sit & Reach flexibility test, Strength Test (Partial Abdominal Curl Up,PushUps for boys, Modified Push-Ups for girls). 2. Measurement of Cardio-Vascular Fitness – Harvard Step Test – Duration of the Exercise in Seconds x100/5.5X Pulse count of 1-1.5 Min after Exercise. 3. Computing Basal Metabolic Rate (BMR) 4. Rikli & Jones - Senior Citizen Fitness Test Chair StandTest for lower body strength Arm Curl Test for upper body strength Chair Sit & Reach Test for lower body flexibility Back Scratch Test for upper body flexibility Eight Foot Up & Go Test for agility Six-Minute Walk Test for Aerobic Endurance 5. Johnsen – Methney Test of Motor Educability (FrontRoll, Roll, Jumping Half-Turn, Jumping fullturn

AUG	**UNIT VII : PHYSIOLOGY & INJURIES IN SPORTS**	1. Physiological factors determining components ofphysical fitness

2. Effect of exercise on the Muscular System

3. Effect of exercise on the Cardio-Respiratory System II
4. Physiological changes due to aging

5. Sports injuries: Classification (Soft Tissue Injuries -Abrasion, Contusion, Laceration, Incision, Sprain & Strain; Bone & Joint Injuries - Dislocation, Fractures - Green Stick, Comminuted, Transverse Oblique & Impacted) |
| | **UNIT-VIII Biomechanics and Sports** | 1. Newton's Law of Motion & its application in sports

2. Types of Levers and their application in Sports.

3. Equilibrium – Dynamic & Static and Centre of Gravityand its application in sports Unit VIII 3. Equilibrium – Dynamic & Static and Centre of Gravity and its application in sports

4. Friction & Sports

5. Projectile in Sport |

SEP	**UNIT- IX Psychology and Sports**	1.Personality;its definition & types (Jung Classification& Big Five Theory)

2. Motivation, its type & techniques.

3. Exercise Adherence: Reasons, Benefits & Strategies forEnhancing it Unit IX & X

4. Meaning, Concept & Types of Aggressions in Sports

5. Psychological Attributes in Sports – Self-Esteem,Mental Imagery, Self-Talk, Goal Setting |

	UNIT-X Training in Sports	1. Concept of Talent Identification and Talent Development in Sports 2. Introduction to Sports Training Cycle – Micro, Meso,Macro Cycle. Unit X 3. Types & Methods to Develop – Strength, Endurance,and Speed. 4. Types & Methods to Develop – Flexibility and Coordinative Ability. 5. Circuit Training - Introduction & its importance
OCT	• Discussion **ANDREVISION**	ASSESSMENT • Reflective questions, Quiz, Exam,practical demonstration

Syllabus
Class: 12th
Subject: Hindustani Percussion Instruments

Month	Chapter and sub-topic	Activity
April	Uthan, comparative study of Talas, Edvance Kayda	Practice on Tabla and Padhant on hand
May	History of Tabla, Kayda in Rupak Taal, Gharana- Delhi Banaras, Lucknow	Practice on Tabla and Padhant on hand
July	Laykari, biography of Pt. Kishan maharaj and raja Chhatrapati Singh, Sadharan and chakkardar Tukra in Rupak taal	Practice on Tabla and Padhant on hand
August	Biography of Zakir hussain and guru Purushottam Das, Farmaishi chakkardar, paran in Rupak taal Or Tivra taal	Practice on Tabla and Padhant on hand
September	Gharana- Farrukhabad, Panjab, Ajarada, Rela in Rupak taal	Practice on Tabla and Padhant on hand
October	Damdar tihai and Dadra taal	Practice on Tabla and Padhant on hand
November	Revision	

SUBJECT: COMPUTER SCIENCE (083)
BOOKS PRESCRIBED: PREETI ARORA AND SUMITA ARORA
CLASS XII

MONTH	Unit No/Chapter No	Topic & Subheadings
APRIL	Unit 1: Programming and Computational Thinking (PCT-2) I	• Revision of the basics of Python • Functions: scope, parameter passing, default parameters, positional parameters , mutable/immutable properties of data objects, pass arrays to functions, return values, • flow of execution, scope of a variable (global scope, local scope) • Functions Modules: Math, Random, Statistics, String and other general built-in functions.
	Unit III: Database Management	• Database concepts: introduction to database concepts and its need • Relational data model: relation, attribute, tuple, domain, degree, cardinality, keys (candidate key, primary key, alternate key, foreign key) • Structured Query Language: introduction, Data Definition Language and Data Manipulation Language, data type (char(n), varchar(n), int, float, date), constraints (not null, unique, primary key), create database, use database, show databases, drop database, show tables, create table, describe table, alter table (add and remove an attribute, add and remove primary key), drop table, insert, delete, select, operators (mathematical, relational and logical), aliasing
MAY	Unit 1: Programming and Computational Thinking (PCT-2)	• Exception Handling: Introduction, handling exceptions using try-except-finally blocks • Data Structure: Stack, operations on stack (push & pop), implementation of stack using list.
	Unit III: Database Management	• Distinct clause, where clause, in, between, order by, meaning of null, is null, is not null, like, update command, delete command, aggregate functions (max, min, avg, sum, count), group by, having clause, joins: Cartesian product on two tables, equi-join and natural join • Interface of python with an SQL database: connecting SQL with Python, performing insert, update, delete queries using cursor, display data by using connect(), cursor(), execute(), commit(), fetchone(), fetchall(), rowcount, creating database connectivity applications, use of %s format specifier or format() to perform queries
JULY	Unit 1: Programming and Computational Thinking (PCT-2)	• Text file: opening a text file, text file open modes (r, r+, w, w+, a, a+), closing a text file, opening a file using with clause, writing/appending data to a text file using write() and writelines(), reading from a text file using read(), readline() and

		readlines(), seek and tell methods, manipulation of data in a text file.
		• Binary file: basic operations on a binary file: open using file open modes (rb, rb+, wb, wb+, ab, ab+), close a binary file, import pickle module, dump() and load() method, read, write/create, search, append and update operations in a binary file
		• CSV file: import csv module, open / close csv file, write into a csv file using writer(),writerow(),writerows() and read from a csv file using reader()
AUGUST	Unit II: Computer Networks	• Evolution of networking: introduction to computer networks, evolution of networking (ARPANET, NSFNET, INTERNET)
		• Data communication terminologies: concept of communication, components of data communication (sender,receiver, message, communication media, protocols), measuring capacity of communication media (bandwidth, data transfer rate), IP address, switching techniques (Circuit switching, Packet switching)
		• Transmission media: Wired communication media (Twisted pair cable, Co-axial cable, Fiber-optic cable), Wireless media (Radio waves, Micro waves, Infrared waves)
		• Network devices (Modem, Ethernet card, RJ45, Repeater, Hub, Switch, Router, Gateway, WIFI card)
		• Network topologies and Network types: types of networks (PAN, LAN, MAN, WAN), networking topologies (Bus, Star, Tree) • Network protocol: HTTP, FTP, PPP, SMTP, TCP/IP, POP3, HTTPS, TELNET, VoIP
		• Introduction to web services: WWW, Hyper Text Markup Language (HTML), Extensible Markup Language (XML), domain names, URL, website, web browser, web servers, web hosting.
SEPTEMBER	Unit 1: Programming and Computational Thinking (PCT-2)	• Data Structure: Stack, operations on stack (push & pop), implementation of stack using list.
Project Submission and Revision of Entire syllabus		

SUBJECT: PAINTING (049)

TEXT BOOK - FULLMARKS HISTORY OF INDIAN ART

MONTH	THEORY (ALL TOPICS)	PRACTICAL
APRIL	**Unit – I** The Rajasthani School of Miniature Painting: 1. Origin and development. 2. Study of Rajasthan Paintings The Pahari Schools of Miniature Painting: 1. Origin and development. 2. Study of Pahari Paintings Composition	Composition (national, religious, cultural, historical and social events)
MAY	**Unit – II** The Mughal School of Miniature paintings: 1. Origin and development. 2. Study of Mughal paintings and main features	Nature study (outdoor)
AUG	**UNIT -- II** Deccan School of Miniature paintings: 1. Origin and development 2. Phases of Deccani art 3. Specialities of the style of Deccani art. 4. Study of Deccan paintings and main features	Composition Fantasy Object drawing and composition.
	Unit –III The Bengal School of Painting and the Modern Trends in Indian Art: 1. Introduction to the Bengal School of Painting 2. Study of the Paintings of the Bengal School. 3. Contribution of Indian Artists in the Struggle for National Freedom Movement 4. Evolution of the Indian National Flag	
SEP	**Unit – IV** The Modern Trends in Indian Art: 1. Modern Trends in Indian Art 2. Paintings of the Contemporary (Modern) Indian Artists 3. Graphic Prints of the Contemporary (Modern) Indian Artists	Object drawing composition. Portfolio Submission
	Unit –IV The Modern Trends in Indian Art: 1. Sculptures of the Contemporary (Modern) Indian Artists Revision of entire syllabus	

SUBJECT: PSYCHOLOGY

TEXTBOOK PRESCRIBED-

Psychology Textbook for Class XII NCERT

MONTH	UNIT	TOPIC
APRIL	Variations in psychological attributes	Individual differences in the human functioning, theories of the intelligence, individual differences in the intelligence, culture andintelligence, emotional intelligence, and creativity Practical on intelligence
MAY	Personality &Self	Self and personality, concept of self, culture and self, concept of personality, type trait theory and freud's theory, major approachesto the study of personality and assessment of personality Practical on introvert & extrovert
JULY	Meeting life challenges	PRAC 1,2 and 3 Introduction Nature and types of stress Sources of the stress, effect of stress on psychological functioning and health, coping with stress, promoting health and wellbeing, Life skills
AUG	Psychological disorders	Introduction, Concepts of abnormality & psychological disorders Factorsunderlying abnormal behavior Classification of psychological disorders Commonly abused substances Practical 4
SEP	Therapeutic approaches	Nature and process of psychotherapy Types of therapies – psychodynamic, behavior, relaxation, cognitive, humanistic, biomedical, and alternative Rehabilitationof the mentally ill CASE STUDY
OCT	Attitude and Social cognition	Introduction, Explaining social behavior nature and components of attitude, attitude formation & change, prejudice & discrimination, strategies for handling prejudice, social cognition, schemas and stereotype, impression formation, behaviorin the presence of others , pro social behavior.
NOV	Social influence& group process	Nature & formation of groups, types of groups, influence of groupon individual behavior, conformity, compliance & obedience, cooperation & competition, social identity , inter group conflict. Practical 5