DAV PUBLIC SCHOOL

Affiliated to CBSE (10+2) New Delhi

Sec-3 ,Dhurwa- Ranchi 4

Class- XII Science

Syllabus (2024-25)

Subject-EnglishCore(301)

Sl. No.	Month	Chapter
1.	April	Flamingo: Ch-1 'The Last Lesson'
		Vistas: Ch-1'TheThirdLevel
		Flamingo: Poem 'My Mother at Sixty-Six'
2.	May	Flamingo: Ch-2 'The Lost Spring'
		Flamingo: Poem 'Keeping Quiet'
3.	June	Flamingo:Ch-3 'Deep Water'
	June	Vistas : Ch2 'The Tiger King'
		Flamingo: Poem 'A Thing of Beauty'
4.	July	Flamingo:Ch4 'The Rattrap'
		Flamingo:Ch5 'Indigo'
		Vistas:Ch3 'Journey to the end of the Earth'
5.	August	Flamingo: Ch6 'Poets and Pancakes'
		Vistas: Ch 4 'The Enemy'
		Flamingo: Poem 'A Roadside Stand'
6.	September	Revision for the Half Yearly Exam
7.	October	Flamingo:Ch7 'The Interview'
		Vistas: 6 'On The Face Of It'
8.	November	Flamingo:Ch8 'Going Places'
		Vistas:Ch8 'Memories Of Childhood'
		Flamingo :Poem 'Aunt Jennifer's Tigers'

9.	December	Revision & Project for the final Exam

Subject :-physics (042)

Sl No.	Month	Chapter/ unit	Topics
1.	APRIL	Chapter : -1 Electric charges and field	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.
2	June		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).
3		Chapter : -2 Electric potential	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.
4	July		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).
5		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.
6	August	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.
7	September	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.
8		Chapter : -6 Electromagnetic Induction	Electromagnetic induction; Faraday's laws, induced EMF and current; Lenz's Law, Self and mutual induction.
9	October	Chapter : -7	Alternating currents, peak and RMS value of alternating current/voltage; reactance and impedance; LCR series circuit

		Alternating Current	(phasors only),resonance, power in AC circuits, power factor, wattless current. AC generator, Transformer.
10		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.
11		Chapter : -9 Ray optics	Reflection 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.
12		Ray Optics (contd)	Optical instruments: Microscopes and astronomical telescopes (reflecting and refracting) and their magnifying powers.
13	November	Chapter : -10 Wave Optics	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)
14		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.

15		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).
16	December	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.
17		Chapter : -14 Semiconductor electronics	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.

Term I syllabus :- chapter :- 2,3,4,5,6,7,8,10,11. (Revision & half yearly exam in September)
Revision and Pre-Board -I Exam in December.
Revision and Pre-Board -I Exam in December.

Subject :– chemistry (043)

Sl No.	Month	Chapter/ unit	Topics
1	April	Unit II 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.

2	May	Unit III 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.
3	June	Unit X Haloalkanes and Haloarenes	Haloalkanes: Nomenclature, nature of C–X bond, physical and chemical properties, optical rotation mechanism of substitution reactions. Haloarenes: Nature of C–X bond, substitution reactions (Directive influence of halogen in monosubstituted compounds only). Uses and environmental effects of - dichloromethane, trichloromethane, tetrachloromethane, iodoform, freons, DDT.
4	July	Unit XI Alcohols, Phenols and Ethers	**Alcohols:** Nomenclature, methods of preparation, physical and chemical properties (of primary alcohols only), identification of primary, secondary and tertiary alcohols, mechanism of dehydration, uses with special reference to methanol and ethanol. **Phenols:** Nomenclature, methods of preparation, physical and chemical properties, acidic nature of phenol, electrophillic substitution reactions, uses of phenols. **Ethers:** Nomenclature, methods of preparation, physical and chemical properties, uses.
5		Unit IX 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).
6	August	Unit IV Chemical Kinetics	Rate of a reaction (Average and instantaneous), factors affecting rate of reaction: concentration, temperature, catalyst; order and molecularity of a reaction, rate law and specific rate constant, integrated rate equations and half-life (only for zero and first order reactions), concept of collision theory (elementary idea, no mathematical treatment), activation energy, Arrhenius equation.
7	September	Unit VIII d and f Block Elements	General introduction, electronic configuration, occurrence and characteristics of transition metals, general trends in properties of the first row transition metals – metallic character, ionization enthalpy, oxidation states, ionic radii, colour, catalytic property, magnetic properties, interstitial compounds, alloy formation, preparation and properties of K2Cr2O7 and

			KMnO4. Lanthanoids - Electronic configuration, oxidation states, chemical reactivity and lanthanoid contraction and its consequences. Actinoids - Electronic configuration, oxidation states and comparison with lanthanoids.
8	October	Unit XII Aldehydes, Ketones and Carboxylic Acids	Aldehydes and Ketones: Nomenclature, nature of carbonyl group, methods of preparation, physical and chemical properties, mechanism of nucleophilic addition, reactivity of alpha hydrogen in aldehydes, uses. Carboxylic Acids: Nomenclature, acidic nature, methods of preparation, physical and chemical properties; uses.
9		Unit XIII Amines	Amines: Nomenclature, classification, structure, methods of preparation, physical and chemical properties, uses, identification of primary, secondary and tertiary amines. Diazonium salts: Preparation, chemical reactions and importance in synthetic organic chemistry.
10	November	Unit XIV Biomolecules	Carbohydrates - Classification (aldoses and ketoses), monosachharides (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.

Term I syllabus :- unit :- II, III,IV, IX,X,XI, (Revision in September)
Revision and Pre-Board 1 Exam in December
Revision and Pre- Board 2 exam in December

Subject – Maths (041)

Sl No.	Month	Chapter/ unit	Topics
1	April	Unit II : Algebra 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)..

2	May	Determinants	Determinant of a square matrix (up to 3 x 3 matrices), minors, co-factors and applications of determinants in finding the area of a triangle. Adjoint and inverse of a square matrix. Consistency, inconsistency and number of solutions of system of linear equations by examples, solving system of linear equations in two or three variables (having unique solution) using inverse of a matrix
3	June	Unit-V 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).
4		Unit VI Probability	Conditional probability, multiplication theorem on probability, independent events, total probability, Bayes' theorem, Random variable and its probability distribution, mean of random variable.
5	July	Unit-IV 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.
6		Three-Dimensional Geometry	Direction cosines and direction ratios of a line joining two points. Cartesian equation and vector equation of a line, skew lines, shortest distance between two lines. Angle between two lines.
7		Unit I Relations and Functions	Types of relations: reflexive, symmetric, transitive and equivalence relations. One to one and onto functions.
8	August	Inverse Trigonometric Functions	Definition, range, domain, principal value branch. Graphs of inverse trigonometric functions

9		Unit-III Calculus 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.
10	September	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 reallife situations).
11	October	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. Fundamental Theorem of Calculus (without proof). Basic properties of definite integrals and evaluation of definite integrals.
12		Applications of the Integrals	Applications in finding the area under simple curves, especially lines, circles/ parabolas/ellipses (in standard form only)
13	November	Differential Equations	Definition, order and degree, general and particular solutions of a differential equation. Solution of differential equations by method of separation of variables, solutions of homogeneous differential equations of first order and first degree. Solutions of linear differential equation of the type: dy/dx + py = q, where p and q are functions of x or constants. dx/ dy + px = q, where p and q are functions of y or constants.

Term I syllabus :- Algebra matrices , Determinates, linear programming ,probability ,vector three dimensional geometry, relation and function.

Revision and Pre-Board 1 Exam in December .

Revision and Pre- Board 2 exam in December.

Class – XII (science)

Subject – Biology (044) syllabus (2024 -25)

Sl No.	Month	unit	Chapter	Topics
1	April	Unit-VI Reproduction	Chapter-2 Sexual Reproduction in Flowering Plants	Flower structure; development of male and female gametophytes; pollination - types, agencies and examples; out breeding devices; pollen-pistil interaction; double fertilization; post fertilization events - development of endosperm and embryo, development of seed and formation of fruit; special modes- apomixis, parthenocarpy, polyembryony; Significance of seed dispersal and fruit formation.

2			Chapter-3 Human Reproduction	Male and female reproductive systems; microscopic anatomy of testis and ovary; gametogenesis -spermatogenesis and oogenesis; menstrual cycle; fertilisation, embryo development upto blastocyst formation, implantation; pregnancy and placenta formation (elementary idea); parturition (elementary idea); lactation (elementary idea).
3	May		Chapter-4 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).
4	June	Unit-VII Genetics and Evolution	Chapter-5 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.
5	July		Chapter-6 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 expression and regulation - lac operon; Genome, Human and rice genome projects; DNA fingerprinting.
6			Chapter-7 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.
7	August	Unit-VIII: Biology and Human Welfare	Chapter-8 Human Health and Diseases	Pathogens; parasites causing human diseases (malaria, dengue, chikungunya, filariasis, ascariasis, typhoid, pneumonia, common cold, amoebiasis, ring worm) and their control; Basicconcepts of immunology - vaccines; cancer, HIV and AIDS; Adolescence - drug and alcoholabuse.

8			Chapter-10 Microbes in Human Welfare	Microbes in food processing, industrial production, sewage treatment, energy generationand microbes as bio-control agents and bio-fertilizers. Antibiotics; production and judicioususe.
9	September	Unit-IX Biotechnology and its Applications	Chapter-11 Biotechnology - Principles and Processes	Genetic Engineering (Recombinant DNA Technology).
10	October		Chapter-12 Biotechnology and its Applications	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.
11		Unit-X Ecology and Environment	Chapter-13 Organisms and Populations	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)
12	November		Chapter-14 Ecosystem	Ecosystems: Patterns, components; productivity and decomposition; energy flow; pyramids of number, biomass, energy (Topics excluded: Ecological Succession and Nutrient Cycles).
16			Chapter-15 Biodiversity and its Conservation	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.

Term I syllabus :- chapter :- 2,3,4,5,6,7,8,10,11. (Revision & half yearly exam in September)
Revision and Pre-Board -I Exam in December.
Revision and Pre-Board -I Exam in December.

Subject – Computer science (083)

Sl No.	Month	Chapter	Topics
1	April	Functions	Types of function (built-in functions, functions defined in module, user defined functions), creating user defined function, arguments and parameters, default parameters, positional parameters, function returning value(s), flow of execution, scope of a variable (global scope, local scope).

2	May	Exception Handling	Exception Handling: Introduction, handling exceptions using try-except-finally Blocks.
3	June	Types of files	Introduction to files, types of files (Text file, Binary file, CSV file), relative and absolute paths 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.
4	July	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.
5	August	Stack ,Data Structure	Stack, operations on stack (push & pop), implementation of stack using list. Database concepts: introduction to database concepts and its need.
6	September	Relational data mode	Relation, attribute, tuple, domain, degree, cardinality, keys (candidate key, primary key, alternate key, foreign key).
7	October	Structured Query Language	Introduction, Data Definition Language and Data Manipulation Language, data type (char(n), varchar(n), int, float, date), constraints (not null, unique, primary key), create database, use database, show databases, drop database, show tables, create table, describe table, alter table (add and remove an attribute, add and remove primary key), drop table, insert, delete, select, operators (mathematical, relational and logical), aliasing, distinct clause, where clause, in, between, order by, meaning of null, is null, is not null, like, update command, delete command, aggregate functions (max, min, avg, sum, count), group by, having clause, joins: cartesian product on two tables, equi-join and natural join.
8	November	Interface of python with and 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

Term I syllabus :- Functions and Relational data mode. (Revision in September)
Term II syllabus :- Full syllabus. (Revision in February)

Subject – PHYSICAL EDUCATION (048)

Sl No.	Month	Chapter/ unit	Topics
1	April	CHAPTER :-1 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 – KnockOut (Bye & Seeding) & League (Staircase, Cyclic, Tabular method) and Combination tournaments. 4. Intramural & Extramural tournaments – Meaning, Objectives & Its Significance 5. Community sports program (Sports Day, Health Run, Run for Fun, Run for Specific Cause & Run for Unity)
2	May	CHAPTER :-2 Children & Women in Sports	1. Exercise guidelines of WHO for different age groups. 2. Common postural deformities-knock knees, flat foot, round shoulders, Lordosis, Kyphosis, Scoliosis, and bow legs and their respective corrective measures. 3. Women'sparticipation in Sports – Physical, Psychological, and social benefits. 4. Special consideration (menarche and menstrual dysfunction) 5. Female athlete triad (osteoporosis, amenorrhea, eating disorders.
3	June	CHAPTER :-3 Yoga as Preventive measure for Lifestyle Disease	1. Obesity: Procedure, Benefits & Contraindications for Tadasana, Katichakrasana, Pavanmuktasana, Matsayasana, Halasana, Pachimottansana, Ardha – Matsyendrasana, Dhanurasana, Ushtrasana, Suryabedhan pranayama. 2. Diabetes: Procedure, Benefits & Contraindications for Katichakrasana, Pavanmuktasana,Bh ujangasana, Shalabhasana, Dhanurasana, Supta - vajarasana, Paschimottanasan -a, Ardha - Mastendrasana, Mandukasana, Gomukasana, Yogmudra, Ushtrasana, Kapalabhati. 3. Asthma: Procedure, Benefits & Contraindications for Tadasana, Urdhwahastottansan a, UttanMandukasan - a, Bhujangasana, Dhanurasana, Ushtrasana, Vakrasana, Kapalbhati, Gomukhasana Matsyaasana, Anuloma - Viloma. 4. Hypertension: Procedure, Benefits & Contraindications for Tadasana, Katichakransan, Uttanpadasana, Ardha Halasana, Sarala Matyasana, Gomukhasana, UttanMandukasan -a, Vakrasana, Bhujangasana, Makarasana, Shavasana, Nadi - shodhanapranayam, Sitlipranayam. 5. Back Pain and Arthritis: Procedure, Benefits & Contraindications of Tadasan, Urdhawahastootansa na, ArdhChakrasana, Ushtrasana, Vakrasana, Sarala Maysyendrsana, Bhujandgasana, Gomukhasana, Bhadrasana, Makarasana, NadiShodhana pranayama.

4	July	CHAPTER :-4 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 with special needs. 5. Strategies to make Physical Activities assessable for children with special needs.
5	August	CHAPTER :-5 Sports & Nutrition Test & Measurement in Sports	1. Concept of balanced diet and nutrition 2. Macro and Micro Nutrients: Food sources & functions 3. Nutritive & NonNutritive 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 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, Push-Ups for boys, Modified Push-Ups for girls). 2. Measurement of Cardio -Vascular Fitness – Harvard Step Test – Duration of the Exercise in Seconds x100/5.5 X Pulse count of 1 -1.5 Min after Exercise. 3. Computing Basal Metabolic Rate (BMR) 4. Rikli & Jones - Senior Citizen Fitness Test • Chair Stand Test 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 (Front Roll, Roll, Jumping Half-Turn, Jumping full-turn
6	September	CHAPTER :-6 Physiology & Injuries in Sport Biomechanics and Sports	1. Physiological factors determining components of physical fitness 2. Effect of exercise on the Muscular System 3. Effect of exercise on the CardioRespiratory System 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) **2.** 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 Gravity and its application in sports 4. Friction & Sports 5. Projectile in Sports

7	October	CHAPTER :-7 Psychology and Sports	1. Personality; its definition & types (Jung Classification & Big Five Theory) 2. Motivation, its type & techniques. 3. Exercise Adherence: Reasons, Benefits & Strategies for Enhancing it 4. Meaning, Concept & Types of Aggressions in Sports 5. Psychological Attributes in Sports – Self-Esteem, Mental Imagery, Self-Talk, Goal Setting
8	November	CHAPTER :-8 Training in Sports	1. Concept of Talent Identification and Talent Development in Sports 2. Introduction to Sports Training Cycle – Micro, Meso, Macro Cycle. 3. Types & Methods to Develop – Strength, Endurance, and Speed. 4. Types & Methods to Develop – Flexibility and Coordinative Ability. 5. Circuit Training - Introduction & its importance

Term I syllabus :- Chapter :- 1,2,3,4,5 . (revision in September)
Term II syllabus :- Full syllabus. (Revision in November).

Subject – Fine Arts , Painting (049)

Sl No.	Month	Chapter/ unit	Topics
1	April	Chapter-1.	1.The Manuscript painting Tradition western Indian school of painting Pala school of painting 2.Rajasthani school of painting Themes of painting -Art Overview Malwa school of paintings Mewar school of paintings Bundi school of paintings Kota school of paintings Bikaner school of paintings Practical -Still life pencil shading drawing (Object drawing) composition Practical- Still life Colour shading drawing (Object drawing) composition
2	May	Chapter -2	Kishangarh school of paintings Jodhpur school of paintings Jaipur school of paintings Important paintings – 1.Bhagvata purana 2. Maru Ragini 3. Raja Aniruddha singh Hara 4. Chaugan players 5. Krishna swinging Radha in sad mood 6. Bani Thani Practical -Nature study, Landscape drawing (pencil shading drawing)

			Practical -Nature study, Landscape drawing (Colour shading drawing) Water colour Practical -Still Life (Flower pot drawing with flowers) in pencil shading
3	June	Chapter -3	Practical – Still life flower pot drawing with flowers (colour shading drawing) Rama meets members of His Family at Chitrakut The Mughal school of Miniature paintings Influences of Mughal school of paintings Early Mughal paintings. Later Mughal paintings Process of Mughal paintings Colours and Technique of Mughal paintings Important Mughal paintings 1. NZoAH'S ARK painting 2. KRISHNA LIFT MOUNT GOVARDHANA 3. FALCON ON A BIRD REST Practical – Radha Krishna art painting in pencil shading.
4	July	Chapter -3	4. ZEBRA Painting 5. The Marriage procession of Dara Sikoh Practical – Radha Krishna paintings in Colour shading drawing.
5		Chapter -4	The Deccani School of paintings Ahmadnagar school of paintings Bijapur school of paintings Golkonda school of paintings Important paintings 1. Composite Horse 2. Ragini Pathamshika of Raga Hindoola 3. Sultan Abdullah Kutb shah 4. Hazrat nizamuddin Auliya and Amir Khusrau 5. Chand Bibi playing Polo Practical – Bird drawing, painting in colour shading
			The Pahari school of paintings Basohli school of paintings Guler school of paintings Kangra school of paintings

6	August	Chapter -5	Important paintings 1. Awaiting Krishna and the Hasitant Radha 2. Balwant Singh looking at a painting with Nainsukh 3. Nanda, yashoda and Krishna Practical – A mandala art drawing in pen shading. Practical – A sunset painting with trees in colour shading
7	September	Chapter -6 Chapter -7	The Bengal school and Cultural Nationalism Raja Ravi Verma and his paintings The Bengal school Abnindranath tagore and E.B Havells Shantiniketan -Early modernism Pan asinaism and Modernism Different Concepts of Modernism – western and Indian Important paintings 1. Tiller of the Soil 2. Rasa -Lila 3. Radhika 4. City of the Night 5. Raja vanaquishing the Pride of The Ocean 6. Woman with Child 7. Journeys End The Modern Indian art Introduction to modernism in India Modern indelogies and political Art in India The progressive artists group of Bombay and the Multifaceted Indian Art Abstraction -in new Trend Practical – Any abstract painting in colour shading. Practical – Madhubani paintings in pen shading Practical – Any Madhubani paintings in colour shading.
8	November	Chapter -7	Tracing the Modern Indian Art The New Figurative art and Modern art from 1980s New media art from 1990s Important paintings 1. The Lives of Mediveval Saints 2. Mother Teresa 3. Haldi Grinder 4. Fairy Tales from Purvapalli 5. Whirlpool 6. Devi 7. Of- walls 8. Triumph of Labour 9. Santhal family The Living art Tradition of India Tribal paintings 1. Madhubani paintings 2. Warli painting

			3. Gond painting 4. Pithoro paintings 5. Pata paintings 6. Phad paintings Dhokra Casting Art Terracotta art Practical –Any wari paintings in pen shading. Practical – Any portrait drawing in pencil shading. Practical – Any traditional painting of jharkhand in watercolor.

Term I syllabus :- (chapter – 1,2,3,4)
Pre Board -1 syllabus :- (chapter – 1to7)
Pre Board -2 Syllabus:- (Chapter -1to7)

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