JP INTERNATIONAL SCHOOL, GREATER NOIDA
SESSION 2023-24
PRE BOARD SYLLABUS
CLASS – X

Date :21-11-2023   **CIRCULAR NO: JPIS/189**

SUBJECT	SYLLABUS
ENGLISH (184)	**1. FIRST FLIGHT** **A. Prose** **i.** A Letter to God ii. Nelson Mandela - Long Walk to Freedom iii. Two Stories About Flying iv. From the Diary of Anne Frank v. Glimpses of India vi. Mijbil the Otter vii. Madam Rides the Bus viii. The Sermon at Benares ix. The Proposal (Play) **B. Poems** 1. Dust of Snow 2. Fire and Ice 3. A Tiger in the Zoo 4. How to Tell Wild Animals 5. The Ball Poem 6. Amanda! 7. The Trees 8. Fog 9. The Tale of Custard the Dragon 10. For Anne Gregory **2. FOOTPRINTS WITHOUT FEET** 1. A Triumph of Surgery 2. The Thief's Story 3. The Midnight Visitor 4. A Question of Trust 5. Footprints Without Feet 6. The Making of a Scientist 7. The Necklace 8. Bholi 9. The Book that Saved the Earth **Grammar Writing Skills and Grammar** Determiners , Tenses, Modals, Subject – verb concord Reported speech o Commands and requests o Statements o Questions Formal Letter(100-120 words) and Analytical Paragraph(100-120 words)

HINDI (002)	गदय पाठ -1 नेताजी का चश्मा, पाठ- 2 बालगोबिन भगत, पाठ - 3 लखनवी अंदाज, पाठ-5 एक कहानी यह भी है, पाठ-7- नौबत खाने में इबादत पाठ -8 संस्कृति पदय- पाठ -1 सूरदास, पाठ-2 तुलसीदास, पाठ-4 जयशंकर प्रसाद, पाठ- 5 उत्साह एवं एट नहीं रही है, पाठ- 6 यह दंतुरित मुस्कान , फसल ,पाठ 9 संगतकार कहानी -पाठ 1 माता का आंचल , पाठ-3 साना हाथ जोड़ि, पाठ--4 मैं क्यों लिखता हूं व्याकरण- अपठित गद्यांश, अपठित काव्यांश , पत्र लेखन , अनुच्छेद लेखन , रचना के आधार पर वाक्य, वाच्य, पद परिचय, अलंकार – श्लेष, मानवीकरण, अतिशयोक्ति एवं उत्प्रेक्षा अलंकार ,विज्ञापन लेखन, संदेश लेखन, ई-मेल लेखन, स्ववृत लेखन।
MATHEMATICS (041)	**UNIT I: NUMBER SYSTEMS** **1. REAL NUMBER** Fundamental Theorem of Arithmetic - statements after reviewing work done earlier and after illustrating and motivating through examples, Proofs of irrationality of $\sqrt{2}, \sqrt{3}, \sqrt{5}$ **UNIT II: ALGEBRA** **1. POLYNOMIALS** Zeros of a polynomial. Relationship between zeros and coefficients of quadratic polynomials. **2. PAIR OF LINEAR EQUATIONS IN TWO VARIABLES** Pair of linear equations in two variables and graphical method of their solution, consistency/inconsistency. Algebraic conditions for number of solutions. Solution of a pair of linear equations in two variables algebraically - by substitution, by elimination. Simple situational problems. **3. QUADRATIC EQUATIONS** Standard form of a quadratic equation $ax^2 + bx + c = 0$, $(a \neq 0)$. Solutions of quadratic equations (only real roots) by factorization, and by using quadratic formula. Relationship between discriminant and nature of roots. Situational problems based on quadratic equations related to day to day activities to be incorporated. **4. ARITHMETIC PROGRESSIONS** Motivation for studying Arithmetic Progression Derivation of the nth term and sum of the first n terms of A.P. and their application in solving daily life problems. **UNIT III: COORDINATE GEOMETRY** **Coordinate Geometry Review**: Concepts of coordinate geometry, graphs of linear equations. Distance formula. Section formula (internal division). **UNIT IV: GEOMETRY** **1. TRIANGLES** Definitions, examples, counter examples of similar triangles. 1. (Prove) If a line is drawn parallel to one side of a triangle to intersect the other two sides in distinct points, the other two sides are divided in the same ratio. 2. (Motivate) If a line divides two sides of a triangle in the same ratio, the line is parallel to the third side. 3. (Motivate) If in two triangles, the corresponding angles are equal,

	their corresponding sides are proportional and the triangles are similar. 4. (Motivate) If the corresponding sides of two triangles are proportional, their corresponding angles are equal and the two triangles are similar. 5. (Motivate) If one angle of a triangle is equal to one angle of another triangle and the sides including these angles are proportional, the two triangles are similar. **2. CIRCLES** Tangent to a circle at point of contact 1. (Prove) The tangent at any point of a circle is perpendicular to the radius through the point of contact. 2. (Prove) The lengths of tangents drawn from an external point to a circle are equal. **UNIT V: TRIGONOMETRY** **1. INTRODUCTION TO TRIGONOMETRY** Trigonometric ratios of an acute angle of a right-angled triangle. Proof of their existence (well defined); motivate the ratios whichever are defined at $0°$, and $90°$. Values of the trigonometric ratios of $30°$, $45°$, and $60°$. Relationships between the ratios. **2. TRIGONOMETRIC IDENTITIES** Proof and applications of the identity $\sin^2 A + \cos^2 A = 1$. Only simple identities to be given. **3. HEIGHTS AND DISTANCES**: Angle of elevation, Angle of Depression. Simple problems on heights and distances. Problems should not involve more than two right triangles. Angles of elevation / depression should be only $30°$, $45°$, and $60°$. **UNIT VI: MENSURATION** **1. AREAS RELATED TO CIRCLES** Area of sectors and segments of a circle. Problems based on areas and perimeter / circumference of the above said plane figures. (In calculating area of segment of a circle, problems should be restricted to central angle of $60°$, $90°$ and $120°$ only. **2. SURFACE AREAS AND VOLUMES** Surface areas and volumes of combinations of any two of the following: cubes, cuboids, spheres, hemispheres and right circular cylinders/cones. **UNIT VII: STATISTICS AND PROBABILITY** **1. STATISTICS** Mean, median and mode of grouped data (bimodal situation to be avoided). **2. PROBABILITY** Classical definition of probability. Simple problems on finding the probability of an event.
SCIENCE (086)	**Theme: Materials** **Unit I: Chemical Substances -** Nature and Behaviour Chemical reactions: Chemical equation, Balanced chemical equation, implications of a balanced chemical equation, types of chemical reactions: combination, decomposition, displacement, double displacement, precipitation, endothermic exothermic reactions, oxidation and reduction. Acids, bases and salts: Their definitions in terms of furnishing of H+ and OH– ions, General properties, examples and uses, neutralization, concept of pH scale (Definition relating to logarithm

not required), importance of pH in everyday life; preparation and uses of Sodium Hydroxide,Bleaching
powder, Baking soda, Washing soda and Plaster of Paris.

Metals and nonmetals: Properties of metals and non-metals; Reactivity series; Formation and
properties of ionic compounds; Basic metallurgical processes; Corrosion and its prevention.

Carbon compounds: Covalent bonding in carbon compounds. Versatile nature of carbon.

Homologous series. Nomenclature of carbon compounds containing functional groups (halogens,
alcohol, ketones, aldehydes, alkanes and alkynes), difference between saturated hydro carbons and
unsaturated hydrocarbons. Chemical properties of carbon compounds (combustion, oxidation,
addition and substitution reaction). Ethanol and Ethanoic acid (only properties and uses), soaps and
detergents.

Theme: The World of the Living

Unit II: World of Living

Life processes: 'Living Being'. Basic concept of nutrition, respiration, transport and excretion in plants and animals.

Control and co-ordination in animals and plants: Tropic movements in plants; Introduction of plant
hormones; Control and co-ordination in animals: Nervous system; Voluntary, involuntary and reflex
action; Chemical co-ordination: animal hormones.

Reproduction: Reproduction in animals and plants (asexual and sexual) reproductive health - need
and methods of family planning. Safe sex vs HIV/AIDS. Child bearing and women's health.

Heredity and Evolution: Heredity; Mendel's contribution- Laws for inheritance of traits: Sex
determination: brief introduction: (topics excluded - evolution; evolution and classification and
evolution should not be equated with progress).

Theme: Natural Phenomena

Unit III: Natural Phenomena

Reflection of light by curved surfaces; Images formed by spherical mirrors, centre of curvature,
principal axis, principal focus, focal length, mirror formula (Derivation not required),magnification.

Refraction; Laws of refraction, refractive index.

Refraction of light by spherical lens; Image formed by spherical lenses; Lens formula(Derivation
not required); Magnification. Power of a lens.

Functioning of a lens in human eye, defects of vision and their corrections, applications of
spherical mirrors and lenses.

Refraction of light through a prism, dispersion of light, scattering of light, applications in dailylife
(excluding colour of the sun at sunrise and sunset).

	Theme: How Things Work **Unit IV: Effects of Current** Electric current, potential difference and electric current. Ohm's law; Resistance, Resistivity, Factors on which the resistance of a conductor depends. Series combination of resistors, parallel combination of resistors and its applications in daily life. Heating effect of electric current and its applications in daily life. Electric power, Interrelation between P, V, I and R. Magnetic effects of current : Magnetic field, field lines, field due to a current carryingconductor, field due to current carrying coil or solenoid; Force on current carrying conductor, Fleming's Left Hand Rule, Direct current. Alternating current: frequency of AC. Advantage of AC over DC. Domestic electric circuits. **Theme: Natural Resources** **Unit V: Natural Resources** Our environment: Eco-system, Environmental problems, Ozone depletion, waste production and their solutions. Biodegradable and non-biodegradable substances.
SOCIAL SCIENCE (087)	**History: India and the Contemporary World – II** Chap 1. The rise of nationalism in Europe Chap.2 Nationalism in India (Map also) Chap 3..The making of a global world Subtopics__1 to 1.3(pre modern world to conquest disease and trade) Chap 5 .Print culture and the modern world.... **Political Science: Democratic Politics – II** 1 Power – sharing 2 Federalism 3 Gender, Religion and Caste 4 Political Parties 5 Outcomes of Democracy **Geography: Contemporary India – II** 1 Resources and Development 2 Forest and Wildlife Resources 3 Water Resources 4 Agriculture 5 Minerals and Energy Resources 6 Manufacturing Industries 7 Life Lines of National Economy **Economics: Understanding Economic Development** Ch-1 Development Ch-2 sectors of Indian economy Ch-3 Money and Credit Ch-4 Globalisation 　Sub topics: What is Globalization? Factors that have enabled Globalisation.

INFORMATION TECHNOLOGY (402)	**Part A –** Communication Skills II Self-Management Skills II **Part B-** Digital Documentation (Advanced) Electronic Spreadsheet (Advanced)
ARTIFICIAL INTELLIGENCE (417)	**PART A-** **1.** Unit 1: Communication Skills-II 2. Unit 2: Self-management Skills-II 3. Unit 3: Information and Communication Technology Skills-II 4. Unit 4: Entrepreneurial Skills-II 5. Unit 5: Green Skills-II **Part B-** UNIT 1: INTRODUCTION TO ARTIFICIAL INTELLIGENCE · Foundational concepts of AI · Basics of AI: Let's Get Started UNIT 2 : AI PROJECT CYCLE · Introduction · Problem Scoping · Data Acquisition · Data Exploration · Modelling · Evaluation UNIT 4: DATA SCIENCES · Introduction · Getting Started UNIT 5: COMPUTER VISION · Introduction · Concepts of Computer Vision UNIT 6: NATURAL LANGUAGE PROCESSING · Introduction · Chatbots · Language Differences · Concepts of Natural Language Processing UNIT 7: EVALUATION · Introduction · Model Evaluation Terminology · Confusion Matrix · Evaluation Method