



YDAVINDRA PUBLIC SCHOOL, PATIALA
SYLLABUS FOR ENTRANCE EXAMINATION 2021-22

CLASS – VI

SUBJECT: ENGLISH (1Hour)

M.M.: 50

1. Composition (10) - One out of four topics
2. Prepositions (5) - 10 Fill in the Blanks
3. Punctuation (5) - 10 Corrections
4. Verbs (10) - 10 Words – (Simple, Continuous & Past Perfect)
5. Direct-Indirect (5) - 5 Sentences
6. Comprehension (15)

SUBJECT: MATHEMATICS (1 HOUR)

1. Integers
2. Fractions
3. Decimals
4. Factors and Multiples
5. Number System (Up to 9 digits)
6. Area and Perimeter
7. The four operations
8. Percentages

SUBJECT: GENERAL SCIENCE (1 HOUR)

1. Human body (Skeletal, muscular and circulatory system)
2. Solids, Liquids and Gases
3. Light and Shadow
4. Plants (Gen Study parts of plant, germination, pollination)
5. Work and Energy
6. Simple Machines
7. Food and Health (Nutrition and Diseases)



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CLASS-VII
ENGLISH (1 Hr)

1. Composition (15) - One out of four topics
2. Comprehension Passage (20)
3. Prepositions (5) - 10 Fill in the Blanks
4. Verbs (5) - 10 Words
5. Direct-Indirect (5) - 5 Sentences

MATHEMATICS (1 Hr)

1. **SIMPLE ARITHMETIC**
Integers
Fractions
Decimal Fractions
Playing with Numbers
2. **COMMERCIAL MATHEMATICS**
Ratio
Lowest term and comparison of fractions
Percentages
3. **ALGEBRA**
Simple equations in one variable
4. **MENSURATION**
Perimeter and Area of Plane figures
5. **GEOMETRY**
Types of angles
Triangles

SCIENCE (1 Hr)

PHYSICS

1. Physical quantities and measurements

a) Measurement of length (Importance of measurement in everyday life, measurement of length, need for a standard scale, standard unit, standard unit of length, inch and foot as units of length, how to measure length accurately with metre scale, error while measuring length)

b) Measurement of mass and time (measurement of mass and time, early methods of measurement of time, reading twenty four hour clock and its advantages)

2. Force

a) Force and its effects (what is force, effects of force, consequential force, forces in nature)

b) Friction and its effects (force of friction, units of force, spring balance, magnitude and direction of force, addition and subtraction of forces)

3. Simple machines and their importance (why we need a machine, a simple machine and its types, terms related to machines)

CHEMISTRY

1. **Introduction to Chemistry**- Chemistry & importance of Chemistry, Development of Chemistry, Notable Scientists and their contributions.

2. **Elements, Compounds & Mixtures**- Definitions of-elements, compounds, atoms, molecules, mixtures (heterogeneous & Homogeneous); Metals & Non-Metals and their Characteristics; Names and Symbols of first 20 elements, and formulas and names of some compounds; differences between mixtures and compounds, Reasons why water is a compound while air is considered a mixture. Separation techniques of mixtures: winnowing, handpicking, sieving, Sedimentation and decantation, evaporation, filtration, distillation, sublimation, separate constituents of a mixture of sand, saw and common salt, to separate constituents of a mixture of iron filings, sulphur and common salt.

3. **Matter**- What is matter? States of matter, Properties of solids, liquids and gases, Arrangement of atoms/ molecules in solids, liquids and gases Processes involved in interconversion of states of matter, arrangement of atoms/ molecules in the three states of matter. Brownian movement, Diffusion, Effect of heat on matter.

BIOLOGY

1. **THE CELL**—Plant cell-cell organelles and their functions,Animal cell-cell organelles and their structure.Only the following organelles to be included-Cell wall ,Cell membrane ,Plastids ,Nucleus, Vacuole, Cytoplasm (Structure and functions of these organelles).Differences between plant and animal cells.

2 PLANT LIFE-----**(A)The Leaf:** External structure (parts of leaf in detail) ,Kinds of leaves(simple & compound),Types of venation(reticulate and parallel) ,Functions of leaf(main functions),Leaf modifications (tendrils,spines,scale leaves),Insectivorous plants ,need for modification with an example. Vegetative propagation in leaf (ex. Bryophyllum).

(B)The Flower: Parts of a flower (4 whorls), structure and function of each whorl,Pollination (self and cross pollination),Cross pollination agents (wind,water & insects-their examples),Fertilization :process in simple terms, Formation of fruit-fate of each part (whorl) of the flower after fertilization,Parts of fruits:dry and fleshy fruits with examples,parts of pericarp of fleshy fruits(epicarp,mesocarp,endocarp) and function of each part,Seed-parts and types(monocot & dicot with examples) Germination-conditions required for germination(moisture,warmth),seed germination of different seeds.

3 HEALTH & HYGIENE---Define health,hygiene,disease,Types of diseases (communicable & non communicable diseases),Communicable diseases (bacterial,viral---common examples of each),Modes of transmission of diseases(air,water,food,insects),ways to prevent communicable diseases.Hygiene—ways to keep the surroundings clean,safe disposal of garbage,healthy practices of hygiene.



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CLASS-VIII

ENGLISH (1 Hr)

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|----|----------------------------------------|---|------|
| 1. | Composition. | - | (20) |
| 2. | Reported Speech | - | (10) |
| 3. | Active - Passive | - | (10) |
| 4. | Agreement of the verb with the subject | - | (5) |
| 5. | Tenses | - | (5) |

MATHEMATICS (1 Hr)

6. (a) **PURE ARITHMETIC:**
Ratio & Proportion
Percentages
- (b) **COMMERCIAL MATHEMATICS:**
Profit & Loss
Simple Interest
Speed, Time and Distance.
- (c) **ALGEBRA:**
Exponents
Simple Equations
Algebraic Expressions.
- (d) **GEOMETRY:**
Parallel Lines
Triangles and its properties in detail

SCIENCE (1 Hr)

PHYSICS

- 1. ENERGY** (Definition and its Units (joule and calorie), Different forms of energy, Inter-conversion of energy, Law of Conservation of Energy: Real world examples)
- 2. LIGHT ENERGY** (Reflection: Definition and Examples, Terms related to reflection - Normal, plane, point of incidence, angle of incidence, angle of reflection, Laws of Reflection, Plane mirror: Virtual and real image, Lateral inversion and its uses, Speed of light)
- 3. HEAT** (Heat as a form of energy and its units, Different units of Temperature ($^{\circ}\text{C}$, $^{\circ}\text{F}$, K). (No numerical to be done) , Effects of Heat: Change in Temperature, Change in Size (Expansion and contraction), Change in State, Good Conductors and Bad Conductors of Heat and their examples, Choice of conductors and insulators in day to day life (Pan handles, metal cooking utensils etc.), Methods of Heat Transfer: Conduction, Convection ,Radiation)

4. SOUND (Sound as a longitudinal wave, Characteristics of a sound wave: Amplitude (Relate amplitude with loudness) and Frequency, Sound needs a medium to propagate, Reflection and Absorption of sound, Relative speed of sound in different mediums)

5. ELECTRICITY AND MAGNETISM (Laws of magnetism, Resistors as components that oppose the flow of current, Symbolic representation of electrical components (key, battery, bulb, conducting wire, resistor) Battery as a collection of cells connected in series, Good and Bad conductors of electricity)

CHEMISTRY

1. **Matter and Composition**- Definition, Explanation of arrangement of molecules, States of matter and their properties.

2. **Physical and Chemical Changes**- Physical and Chemical Changes- Definitions and explanation with a few examples. Differences between physical and chemical changes.

3. **Atomic Structure**- Concepts of Atoms, Molecules and Radicals; Atomicity; Associate the first twenty elements in the periodic table; Atomicity; Valency.

4. **Language of chemistry** - Chemical reactions and chemical equations, Explanation of Chemical equations, Characteristics of occurrence of chemical reactions -Change of colour. State, Smell, Evolution of gas, Precipitate formed, Heat evolved/ Released; Writing word equations for Chemical reactions and emphasise on observational skills and names of products formed.

5. **Metals and Non Metals**- Properties. Distinguish between metals and non-metals on the basis of properties, classification of elements as metals and non-metals, corrosion of iron, ways to prevent rusting, uses of certain metals, metalloids and a few examples.

BIOLOGY

1. **PHOTOSYNTHESIS**: Definition, basic process, function of leaf and stomata in photosynthesis, factors affecting photosynthesis (light, carbon dioxide, water, chlorophyll), significance of photosynthesis-set up, Photosynthesis process (demonstration).

2. **RESPIRATION**: Definition, basic process, word equation, respiration as a process which releases energy, respiration in plants, Types (aerobic and anaerobic respiration), basic concept, word equation for both, examples, Respiration and photosynthesis in plants, difference in both processes.

3. **KINGDOM CLASSIFICATION**: Meaning and concept of classification, need and advantages of classification, Five kingdom system of classification-Characteristics of each kingdom with suitable examples (Monera, Protista, Fungi, Plantae, Animalia), Major groups of animals—Vertebrates, Invertebrates, 8 phyla of Invertebrates (2 characteristics and 2 examples of each phylum), draw diagrams of organisms representing each kingdom. Names of phyla of invertebrates with 2 examples of each.

4. **TISSUE: (Plant Tissues)**- Definition of tissue, classification of plant tissues –Meristematic and Permanent (simple and complex), meristematic tissues: characteristics (any two), simple structure, location, function, examples. Simple permanent tissues: parenchyma, collenchyma, sclerenchyma, (simple structure, location and functions of each), examples. Complex permanent tissues: xylem, phloem-function only.

(B) Animal Tissues: Epithelial tissue: simple location and function, Connective Tissue –location and functions of bone, cartilage, blood, ligament, tendon. Muscular tissue: location and one function of: striated muscle, unstriated muscle, cardiac muscle, Nerve tissue: parts of neuron (cell body, Dendron, axon), functions.



YADAVINDRA PUBLIC SCHOOL, PATIALA
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CLASS-IX
ENGLISH (1 Hr)

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|----|----------------------------------------|---|------|
| 1. | Composition (300 words). | - | (20) |
| 2. | Reported Speech | - | (10) |
| 3. | Active Passive | - | (10) |
| 4. | Agreement of the verb with the subject | - | (5) |
| 5. | Tenses | - | (5) |

MATHEMATICS (1 Hr)

6. **(a) ARITHMETIC:**
HCF and LCM of fractions
Square and Square Roots
Profit, Loss and Discount
Simple Interest
Time & Distance
- (b) ALGEBRA:**
Expansions
Factorization
Formula
Simplification of Linear equations in one or two variables.
- (c) GEOMETRY:**
Finding out the angles of Triangles and Quadrilaterals, using different properties.
- (d) MENSURATION:**
Circumference and Area of a circle
Volume and Surface Area of Solids

SCIENCE (1 Hr)

PHYSICS

- 1. ENERGY** (Concept of Work and its unit, Kinetic Energy, Potential Energy (Basic Concept), Gravitational Potential Energy, Energy transformation in common daily life situations, Difference between energy and power)
- 2. LIGHT ENERGY** (Refraction: Definition and its examples of Refraction. (examples such as, bending of pencil when placed in water, raising of coin when placed in water.), Curved Mirrors: Convex and Concave: Uses and terms related to Curved mirrors such as–focus, principal axis, centre of curvature, radius of curvature etc. Dispersion of white light into constituent colours.)
- 3. HEAT**(Difference between Boiling and Evaporation, Thermal Expansion: Linear Expansion, Cubical Expansion, Superficial Expansion, Compare expansion in Solids, Liquids and Gases -with examples and real world applications)
- 4. SOUND**(Sound as a longitudinal wave. Terms related with sound such as – amplitude, time period, pitch, frequency, loudness and amplitude Unit of loudness (decibels)

- 5. ELECTRICITY** (Identify Live wire, neutral wire and earth wire in terms of their energy and path they travel and colour code, Safety Components (fuses/circuit breakers), Static Electricity: Conservation of charges: Conduction, induction, Electroscope (Gold Leaf Electroscope), Lightning Conductor, Battery as a collection of cells connected in series.)

CHEMISTRY

- 1. Matter** - Definition, Postulates of kinetic theory of matter; Reasons of change of one state to another on the basis of inter particle space, inter particle attraction and collision; Definition and explanation of law of conservation of mass, using examples
- 2. Atomic Structure**- Atomic Structure and chemical Bonding-Discovery of protons, neutrons and nucleus (historic perspective), John Dalton's atomic theory. Atom--its structure, Atomic number (Z), Mass number (A), Distribution of electrons in the orbits, Valence electrons, Reason for chemical activity of an atom, isotopes.
- 3. Language of chemistry**- Symbols of elements, concept of valency, Formulae of compounds, Radicals, Writing Chemical Formula, Naming certain compounds, Chemical equations, Law of conservation of mass, Balancing simple equations, Information gathered from chemical equation, Limitations of chemical equations, Role of catalysts in a chemical reaction.
- 4. Chemical Reactions**- Types of chemical reactions- Combination, Decomposition, Displacement, Double displacement- Precipitation reactions, Neutralisation Reaction, Reactivity series, Exothermic & Endothermic Reactions, Classification of oxides.
- 5. Carbon and its compounds**- Occurrence of carbon and its allotropic forms; Crystalline and Amorphous forms of carbon; Uses of diamond, graphite, coal, soot; Carbon dioxide gas and Carbon monoxide gas.

BIOLOGY

- 1. CIRCULATORY SYSTEM** (Heart –structure and function, Blood vessels, Double circulation, Blood groups)
- 2. ENDOCRINE SYSTEM** (Endocrine glands; Thyroid, Adrenal, Pancreas, Pituitary, (Location, secretion, function), Adolescence and stress management
- 3. NERVOUS SYSTEM** (Central nervous system; structure and function, Reflex action.)
- 4. REPRODUCTION IN PLANTS** (Flower- structure and function, Pollination- Types and agents with examples, Fertilisation.)
- 5. ECOSYSTEM** (Biotic and abiotic factors, Biotic components, Food chain, Food web, Pyramid of numbers, Symbiosis, predation, parasitism, Forest Ecosystem-flora and fauna.)



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CLASS-XI

ENGLISH

MM: 50

1. Composition (300 words) (20)
2. Transformation of sentences -
 - (a) Direct - Indirect, (10)
 - (b) Active - Passive (10)
3. Change the Tense (5)
4. Agreement of the Verb with the Subject (5)

SCIENCE (1 Hr)

PHYSICS

1. **Refraction:** laws of refraction, refractive index, Refraction of light through a glass block and a triangular prism, qualitative treatment of simple applications such as real and apparent depth of objects in water and apparent bending of stick in water. Applications of refraction of light. Refraction of light by spherical lens, Image formed by spherical lenses, Lens formula (Derivation not required), Magnification, applications of lenses. Dispersion of light.
2. **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, Inter relation between P, V, I and R.

CHEMISTRY

1. Study of Acids, Bases and Salts

- (i) Simple definitions in terms of the molecules and their characteristic properties.
- (ii) Ions present in mineral acids, alkalis and salts and their solutions; use of litmus and pH paper to test for acidity and alkalinity.
- (iii) Salts are formed by partial or complete replacement of the hydrogen ion of an acid by a metal.
- (iv) Definition of salt; types of salts. Types of salts: normal salts, acid salt, basic salt, definition and examples.

2. Metallurgy

- (i) Occurrence of metals in nature. • Mineral and ore - meaning only. • Common ores of aluminium.
- (ii) Extraction of Aluminium. (a) Chemical method for purifying bauxite by using NaOH – Baeyer's Process. (b) Electrolytic extraction – Hall Heroult's process:

3. Organic Chemistry

- (i) Introduction to Organic compounds. • Unique nature of Carbon atom –
- (ii) Structural formulae of hydrocarbons. Structural formula must be given for: alkanes, alkenes, alkynes up to 5 carbon atoms.

- (iii) Alkane, alkene, alkyne series and their gradation in properties and their relationship with the molecular mass or molecular formula.
- (iv) Simple nomenclature. Simple nomenclature
- (v) Hydrocarbons: alkanes, alkenes, alkynes. • Alkanes - general formula; methane (greenhouse gas) and ethane, Complete combustion of methane and ethane, reaction of methane and ethane with chlorine through substitution. • Alkenes – (unsaturated hydrocarbons with a double bond); ethene as an example. • Alkynes -(unsaturated hydrocarbons with a triple bond); ethyne as an example of alkyne.

BIOLOGY

1. **PHOTOSYNTHESIS** – Definition, Mechanism, Significance, Physiological Experiments
2. **CELL DIVISION** -Mitosis stages, Meiosis- Basic idea, Significance and differences
3. **ENDOCRINE SYSTEM** - Adrenal gland, Pancreas, Thyroid Gland, Pituitary Gland, (Location, shape, structure, Function, Hormone, Hypo and Hyper secretion effects), Feed Back Mechanism
4. **CIRCULATORY SYSTEM** – Blood, Blood vessels, Heart- structure and function
Double circulation, Lymphatic system
Blood clotting
5. **NERVOUS SYTEM** - Components –structure and function, Reflex action, Basic terms of reflex and reflex action with examples.

HISTORY

1. Union Parliament: lok Sabha , Rajya Sabha.
2. Union Legislature: President and Prime Minister of India.
3. Union Judiciary: Supreme Court , High Court and Subordinate Courts.
4. Indian Freedom Struggle from 1919 to 1947.
5. The first World War.
6. The Second World War.
7. The United Nations Organisation.

GEOGRAPHY

1. Agriculture
2. Water Resources
3. Transport
4. Minerals
5. Natural Vegetation

ECONOMICS

1. Concept and definitions of Economics – Acc. to Marshall, Robins and Samuelsson.
2. Basic problems of Economics and solution to the problems.
3. Various forms of Economics: Capitalistic, Socialistic and Mixed Economy.
4. Money and banking.
5. Consumer awareness.

MATHEMATICS

1. **Quadratic Equation:**
Quadratic equation in one unknown. Solving by factorization and formula.
Nature of roots
2. **Arithmetic Progression**
General term
Sum of n terms
Simple applications of the above

3. **Coordinate Geometry:**
Section and Midpoint formula
Equation of a line
4. **Similarity:**
Similarity of triangles. Ratio of areas of similar triangles are proportional to the squares of the ratios of the corresponding sides.
5. **Circles:**
Angle Properties
Tangent properties
6. **Mensuration:**
Three dimensional solids – Cylinder & Cone
7. **Trigonometry:**
Trigonometrical identities
8. **Probability:**
Simple problems on Probability