



**YADAVINDRA PUBLIC SCHOOL, PATIALA**  
**SYLLABUS FOR ENTRANCE EXAMINATION 2024-25**  
**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 SYSTEM** - 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

\*\*\*\*\*