Admission Test Syllabus For Class XI- 2026-27

MATHEMATICS

1. **Algebra:**

   - Quadratic equations

2. **Trigonometry:**

   - Trigonometric ratios
   - T - ratios of particular angles (30^0, 45^0, 60^0 etc.)
   - Trigonometric identities
   - Heights and distance

3. **Similarity of Triangles**

4. **Mensuration:**

   - Areas related to circles - problems related to areas and perimeter/ circumference of circle
   - Surface areas and volumes of combinations of any two of the following: cubes, cuboids, spheres, hemispheres and right- circular cylinders/ cones

5. **Statistics:**

   - Mean, median and mode

PHYSICS

➢ **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 carrying conductor, 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.

➢ **Light - Reflection and Refraction**

Reflection of light by curved surfaces; Images formed by spherical mirrors, centre of curvature, principal axis, principal focus, focal length, mirror formula, magnification.

Refraction; Laws of refraction, refractive index. Refraction of light by spherical lens; Image formed by spherical lenses; Lens formula; Magnification. Power of a lens.

➢ **Human Eye and The colourful world**

Functioning of a lens in human eye, defects of vision and their corrections by using a spherical lens.

Refraction of light through a prism, dispersion of light, scattering of light, applications in daily life.

CHEMISTRY

1. Chemical reactions and equations

- Chemical equation,
- Balanced chemical equation,
- Implications of a balanced chemical equation,
- Types of chemical reactions:
  - a) Combination,
  - b) Decomposition,
  - c) Displacement,
  - d) Double displacement,
  - e) Precipitation,
  - f) Neutralization,
  - g) Oxidation and reduction.

2. Acids, Bases and Salts

- Their definitions in terms of furnishing of H^+ and OH^- ions,

- General properties, examples and uses, 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.

3. Metals and non-metals

- Properties of metals and non-metals (Physical and chemical)
- Reactivity series;
- Formation and properties of ionic compound.

4. Carbon and its compound

- Naming of carbon compound
- Chemical Reaction (Addition, Oxidation, Substitution)

ENGLISH

1. READING COMPREHENSION PASSAGES

2. GRAMMAR

- Determiners
- Tenses
- Transformation of Sentences (Affirmative, Negative, Assertive, Interrogative,
- Exclamatory, Imperative, Simple, Complex, Compound, Do as Directed)

3. WRITING SKILL/CREATIVE WRITING

- Letter to the Editor (120-150 words)
- Long Composition (Paragraph Writing-Narrative/Descriptive/Discursive-150-200 words)