

SCHOLARSHIP cum ADMISSION Test
(April Test for XI–Medical)

Duration of Test : 1 hr. 50 minutes

Total Marks : 336

Pattern of Test

- i. The question paper will be in pen-paper format using OMR sheet at Helix Chandigarh.
- ii. There will be **84** multiple choice objective type questions with single answer.
- iii. Each question carries **4** marks for correct answer.
- iv. **(–1) mark will be deducted for incorrect answer.**
- v. No mark will be awarded/deducted for unattempted questions.

Physics Syllabus (24 questions) Marks : 96

• **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 Colourful world**

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 daily life.

• **Electricity**

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 and field lines; Magnetic field due to a current carrying conductor; Force on a current carrying conductor in a magnetic field; Fleming's Left Hand Rule, Electromagnetic Induction, Domestic Electric Circuits

Chemistry Syllabus (24 questions) Marks : 96

• **Chemical reactions and equations**

Chemical equation, Balanced chemical equation, implications of a balanced chemical equation, types of chemical reactions: combination, decomposition, displacement, double displacement, precipitation, neutralization, oxidation and reduction.

• **Acids, Bases and Salts**

Their definitions in terms of furnishing of H^+ and OH^- ions, General properties, examples and uses, concept of pH scale, importance of pH in everyday life; preparation and uses of Sodium Hydroxide, Bleaching powder, Baking soda, Washing soda and Plaster of Paris.

• **Metals and non – metals**

Properties of metals and non-metals; Reactivity series; Formation and properties of ionic compounds.

• **Carbons & its compounds**

The Covalent bond; Saturated and Unsaturated carbon compounds; Chains, Branches and Rings; Functional groups in carbon compounds; Homologous Series.

Biology Syllabus (36 questions) Marks : 144

• **Life processes**

Basic concepts of nutrition, respiration, transportation and excretion in plants and animals.

• **How do Organisms Reproduce**

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

• **Our Environment (Ecosystem & Pollution)**

Eco-system ; Environmental problems, Ozone depletion, waste production ; Biodegradable and non-biodegradable substances

• **Heredity and evolution**

Heredity; Mendel's contribution- Laws for inheritance of traits: Sex determination: brief introduction