

# M.L. Syal's Helix Institute

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## HELIX SCHOLARSHIP CUM ADMISSION TEST FOR 11th MEDICAL

Test Date : 27-10-2024

(for Students studying in 10th and moving to 11th Medical for NEET)

Time Duration : 1 Hr. 50 Min

**HSAT SYLLABUS**

Total Marks : 300

### SCIENCE

#### Section- A : 60 QUESTIONS (240 MARKS)

- **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**

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

- **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.

- **Life processes**

Basic concepts of nutrition, respiration, transportation 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

### APTITUDE & LOGICAL REASONING

#### Section- B : 15 QUESTIONS (60 MARKS)

- **Alphanumeric series**

- **Blood Relations**

- **Coding-Decoding**

- **Dices**

- **Directions**

- **Arithmetic aptitude**

- **Age problems**

### HSAT PATTERN

- The question paper will be of objective type in pen-paper format using OMR sheet.
- There will be 75 objective type questions. Section-A will have 60 Questions and Section-B will have 15 Questions.
- Section-A will carry 240 Marks and Section-B will carry 60 Marks. Total Question Paper will carry 300 Marks.
- Each question carries 4 marks for correct answer.
- There will be **NO** negative marking.