

Class X — SA1 Model Question Paper

General Science Paper I — Physical Science (English Version)

SA1 syllabus covered

- Ch 1 Chemical Reactions and Equations; Ch 2 Acids, Bases and Salts; Ch 3 Metals and Non-metals; Ch 4 Carbon and its Compounds
- Ch 9 Light – Reflection and Refraction; Ch 10 The Human Eye and the Colourful World; Ch 11 Electricity
- Not included for SA1: Ch 12 Magnetic Effects of Electric Current

Question paper pattern

Section	Type of question	No. of questions	Marks
I	Objective / very short answer	8 (Q 1–8)	$8 \times 1 = 8$
II	Short answer	3 (Q 9–11)	$3 \times 2 = 6$
III	Short answer — Q 12 (diagram) has internal choice	3 (Q 12–14)	$3 \times 4 = 12$
IV	Long answer — internal choice in every question	3 (Q 15–17)	$3 \times 8 = 24$
	Total	17	50

Where each chapter is tested

Chapter	Paper 1 — question numbers	Paper 2 — question numbers
Chemical Reactions and Equations	1, 9	1, 9, 17(A)
Acids, Bases and Salts	2, 16(A)	2, 10, 16(B)
Metals and Non-metals	3, 13, 16(B)	3, 13
Carbon and its Compounds	4, 10	4, 14, 16(A)
Light – Reflection and Refraction	5, 12(A), 15(A), 15(B)	5, 12(A)
Human Eye and the Colourful World	6, 11, 12(B), 17(B)	6, 11, 15(A)
Electricity	7, 8, 14, 17(A)	7, 8, 12(B), 15(B), 17(B)

Notes for teachers

- Pattern follows the BSEAP SSC 2025-26 model paper for General Science Paper I (2 hours including 15 minutes reading time, 50 marks, 17 questions).
- Numerical answers: P1 Q5 = 10 cm; P1 Q14 — $I \approx 0.45 \text{ A}$, $R = 484 \Omega$, 0.5 kWh , ₹3; P1 Q15(b) — $v = +16.7 \text{ cm}$, $h' \approx -2.7 \text{ cm}$ (real, inverted, diminished); P2 Q5 = $2 \times 10^8 \text{ m/s}$; P2 Q8 = 8Ω .

Time: 2 Hours

Max. Marks: 50

Instructions:

1. Question paper consists of 4 sections and 17 questions.
2. Internal choice is there only for Q.No. 12 in Section III and for all the questions in Section IV.
3. In the duration of 2 hours, 15 minutes of time is allotted to read the question paper.
4. All answers should be written in the answer booklet only.
5. Answers should be written neatly and legibly.

SECTION – I**8 × 1 = 8 M***Note: 1) Answer all the questions. 2) Each question carries 1 mark.*

1. Identify the type of chemical reaction: $\text{CaO(s)} + \text{H}_2\text{O(l)} \rightarrow \text{Ca(OH)}_2\text{(aq)}$
2. The gas liberated when zinc granules react with dilute sulphuric acid is
A) oxygen B) hydrogen C) chlorine D) carbon dioxide
3. Name the alloy of copper and zinc.
4. Write the molecular formula of the third member of the alkane series.
5. The refractive index of glass is 1.5. Find the speed of light in glass. (Speed of light in vacuum = 3×10^8 m/s)
6. The ability of the eye lens to adjust its focal length is called _____.
7. Draw the circuit symbol of a variable resistor (rheostat).
8. Two resistors of 4Ω each are connected in series. Their equivalent resistance is _____.

SECTION – II**3 × 2 = 6 M***Note: 1) Answer all the questions. 2) Each question carries 2 marks.*

9. Why are packets of chips flushed with nitrogen gas?
10. Why does dry HCl gas not change the colour of dry blue litmus paper?
11. Why do stars twinkle, while planets do not?

SECTION – III**3 × 4 = 12 M***Note: 1) Answer all the questions. 2) Each question carries 4 marks. 3) Internal choice only for Q.No. 12.*

12. Draw any one of the following diagrams:

(A) A ray diagram of the image formed by a convex lens when the object is placed between F_1 and $2F_1$.**(OR)**

(B) A circuit diagram having a battery, a plug key, a resistor, an ammeter and a voltmeter to verify Ohm's law.

13. Write any four differences between metals and non-metals based on their physical properties.
14. Study the table and answer the questions.

Compound	Molecular formula
Methane	CH_4

Ethene	C_2H_4
Ethyne	C_2H_2
Propane	C_3H_8

- i) Which of these are saturated hydrocarbons?
- ii) Which compound has a carbon–carbon double bond?
- iii) Write the general formula of alkenes.
- iv) Which of these compounds would burn with a sooty flame? Why?

SECTION – IV

3 × 8 = 24 M

Note: 1) Answer all the questions. 2) Each question carries 8 marks. 3) Each question has an internal choice.

15. A) Ravi cannot see the writing on the blackboard clearly from the last bench, but he reads his textbook easily. Name the defect of vision, give its two causes and explain how it is corrected with the help of ray diagrams.

(OR)

- B) State Ohm's law. Describe an experiment to verify it and draw the V–I graph.

16. A) Explain the following chemical properties of carbon compounds with an equation each: (i) combustion (ii) oxidation (iii) addition reaction (iv) substitution reaction.

(OR)

- B) Describe an activity to show that acids react with metal carbonates and hydrogencarbonates to give carbon dioxide. How do you test the gas evolved? Write the equations.

17. A) Explain displacement, double displacement and redox reactions with one balanced equation each. Which of these is also called a precipitation reaction?

(OR)

- B) Derive $H = I^2Rt$ for the heating effect of electric current. Write any three practical applications of the heating effect.