Class X Science — Practice Paper 1

Practice paper in the CBSE section pattern · Time: 1 hour · Maximum marks: 30

General instructions

1. This is an original practice paper, shorter than a board paper. It is not an official CBSE sample paper; official sample papers are published at cbseacademic.nic.in.
2. All questions are compulsory. Marks are shown in brackets.
3. Section A has 1-mark questions, Section B 2-mark, Section C 3-mark, Section D a 5-mark question and Section E a case-based question.
4. Write neatly, show your working and check your answers in the last five minutes.

Section A (6 marks)

Multiple choice and assertion–reason. 1 mark each.

1. The chemical formula of baking soda is: [1]
   (a) Na_2CO_3
   (b) $NaHCO_3$
   (c) NaOH
   (d) $CaCO_3$

2. The part of the eye that controls the size of the pupil is the: [1]
   (a) cornea
   (b) retina
   (c) iris
   (d) lens

3. The SI unit of electrical resistance is the: [1]
   (a) volt
   (b) ohm
   (c) ampere
   (d) watt

4. $Fe + CuSO_4 \rightarrow FeSO_4 + Cu$ is an example of a: [1]
   (a) combination
   (b) decomposition
   (c) displacement
   (d) double displacement reaction

5. Which of these is a decomposer? [1]
   (a) grass
   (b) deer
   (c) fungus
   (d) lion

6. Assertion (A): The clear sky looks blue. [1]
   Reason (R): Very small particles in the air scatter blue light more than red light.
   (a) Both true, R explains A
   (b) Both true, R does not explain A
   (c) A true, R false
   (d) A false, R true

Section B (6 marks)

Very short answers. 2 marks each.

7. Write the balanced equation for magnesium burning in air and name the product. [2]

8. Why do arteries have thick, elastic walls? [2]

9. Resistors of 4 Ω and 6 Ω are joined in series to a 10 V battery. Find the current. [2]

Section C (9 marks)

Short answers. 3 marks each.

10. Give three differences between aerobic and anaerobic respiration. [3]

11. An object is placed 15 cm in front of a concave mirror of focal length 10 cm. Find the image position and magnification, and describe the image. [3]

12. What happens when dilute hydrochloric acid is added to zinc granules? Write the equation and the test for the gas. [3]

Section D (5 marks)

Long answer. 5 marks.

13. A pure tall pea plant (TT) is crossed with a pure dwarf plant (tt). Show the F1 and F2 generations and give the phenotypic and genotypic ratios of F2. [5]

Section E (4 marks)

Case-based question. 4 marks.

14. A family runs a 1000 W electric heater on the 220 V mains. The circuit has a fuse and an earth wire. [4]
    (i) Why is the fuse connected in series? (1)
    (ii) Find the current drawn by the heater. (2)
    (iii) What is the earth wire for? (1)

Answer key and marking guide

Award marks for each correct step shown in brackets. Accept any correct method or equivalent wording; value points are a guide, not a script.

Section A

Q	Answer	Marking
1	(b) $NaHCO_3$	Sodium hydrogencarbonate.
2	(c) iris	1 mark for the correct answer.
3	(b) ohm	1 mark for the correct answer.
4	(c) displacement	Iron displaces copper from its salt.
5	(c) fungus	1 mark for the correct answer.
6	(a)	Scattering of light by fine particles.

Section B

Q	Answer	Marking
7	$2Mg + O_2 \rightarrow 2MgO$; magnesium oxide	Balanced equation (1); product named (1).
8	Blood leaves the heart under high pressure	High pressure (1); walls stretch and recoil without bursting (1).
9	1 A	R = 10 Ω (1); I = V/R = 1 A (1).

Section C

Q	Answer	Marking
10	Oxygen used / not used; CO_2 + water vs ethanol + CO_2 or lactic acid; much more / less energy released	Any three correct differences, 1 mark each.
11	v = −30 cm, m = −2; real, inverted, enlarged	Mirror formula with signs (1); v = −30 cm (1); m = −2 and nature (1).
12	$Zn + 2HCl \rightarrow ZnCl_2 + H_2$; gas burns with a pop	Observation (1); equation (1); burning-splint test (1).

Section D

Q	Answer	Marking
13	F1 all Tt (tall); F2 phenotype 3 tall : 1 dwarf; genotype 1 TT : 2 Tt : 1 tt	Gametes (1); F1 (1); checkerboard for F2 (1); phenotype ratio (1); genotype ratio (1).

Section E

Q	Answer	Marking
14	(i) So it breaks the whole circuit when it melts (ii) ≈ 4.5 A (iii) Carries leakage current safely to earth	(i) 1. (ii) I = P/V (1) = 1000/220 ≈ 4.5 A (1). (iii) 1.

Marking guide in brief

- Step marks: a correct method with a slip in arithmetic keeps most of the marks.
- Units, labels and a final statement are part of the answer.
- In long answers, marks go to the points made, not the length.

- Time check: about 1 minute per mark leaves time to revise.