Indian School Al Wadi Al Kabir
Pre-Midterm Exam (2026-2027)

Class: X Subject: SCIENCE (086)
Max. marks: 30 Marking scheme
Date:17/05/2026 Set- I Time: 1 hour

	Section – A	MARKS
1	C. Lactic acid	1
2	C. A is true, but R is false	1
3	**Students to attempt either option A or B.** A. (i) Guard cells function to regulate the opening and closing of stomata (ii) Carbon-dioxide (½ + 1 + ½) **OR** B. (i) Pseudopodia (ii) Holozoic nutrition, Holozoic nutrition is the mode of nutrition in which organisms ingest, digest, absorb, and egest food (½ + ½ + 1)	2
4	(i) To increase the surface area for exchange of gases, thin cell wall and rich blood supply. (ii) The amount of air that remains in the lungs even after a forceful exhalation. Ensures continuous gas exchange. (1+2=3)	3
5	A. To destarch the leaves. B. The green parts of the leaf test positive for starch. C. Chlorophyll is necessary for photosynthesis. (1 + 1 + 1 = 3)	3
	Section – B	
6	C. (i), (ii) and (iv)	1
7	C. A is true, but R is false.	1
8	(i) • Green crystals of ferrous sulphate turn white (loss of water of crystallisation) and then brown on further heating. • Pungent-smelling gases (sulphur dioxide and sulphur trioxide) are evolved. (ii) $2FeSO_4(s) \xrightarrow{\Delta} Fe_2O_3(s) + SO_2(g) + SO_3(g)$	2
9	**Attempt either option A or B.** A(i) A is calcium oxide, CaO, which is used in the manufacturing of cement. B is calcium hydroxide, $Ca(OH)_2$.	3

	(ii) $\underset{(A)}{CaO_{(s)}} + H_2O_{(l)} \longrightarrow \underset{(B)}{Ca(OH)_{2(s)}}$ (iii) The given reaction is a combination reaction as well as an exothermic reaction **OR** B. (i) When white silver chloride is left exposed to sunlight, its colour changes to grey as it decomposes to silver in the presence of sunlight. $\underset{\text{White}}{2AgCl_{(s)}} \xrightarrow{\text{sunlight}} \underset{\text{Grey}}{2Ag_{(s)}} + Cl_{2(g)}$ This type of reaction is called a photochemical decomposition reaction. (ii) When copper powder is strongly heated in the presence of oxygen, the reddish-brown surface of the copper powder becomes coated with a black substance, which is copper oxide. $\underset{\text{Reddish brown}}{2Cu_{(s)}} + O_{2(g)} \longrightarrow \underset{\text{Black}}{2CuO_{(s)}}$ (iii) When a piece of zinc is dropped in copper sulphate solution, then the blue colour of copper sulphate fades gradually due to the formation of colourless zinc sulphate solution and reddish brown copper metal gets deposited on the zinc piece. $\underset{\text{Blue}}{CuSO_{4(aq)}} + Zn_{(s)} \longrightarrow \underset{\text{Colourless}}{ZnSO_{4(aq)}} + \underset{\text{Reddish brown}}{Cu_{(s)}}$	
10	A. A is exothermic, and B is endothermic B. Exothermic reactions are reactions in which heat energy is released along with the formation of products. C. Respiration is called an exothermic reaction because it involves the breaking down of glucose in the presence of oxygen, during which energy is released**.** Since energy is released during respiration, it is exothermic.	3
	Section – C	
11	C. i, ii, and iii	1
12	C. A is true, but R is false.	1
13	A. Concave mirror; the tooth must be placed between the pole (P) and the principal focus (F). B. Focal length = R/2 = 15 cm; the principal focus lies behind the mirror (it is virtual). C.When the object is placed between the principal focus (F) and the centre of curvature (C).	3
14	**<u>Attempt either option A or B.</u>** A. (i) Type of mirror – Concave mirror (0.5 mark), Any use -1 mark	5

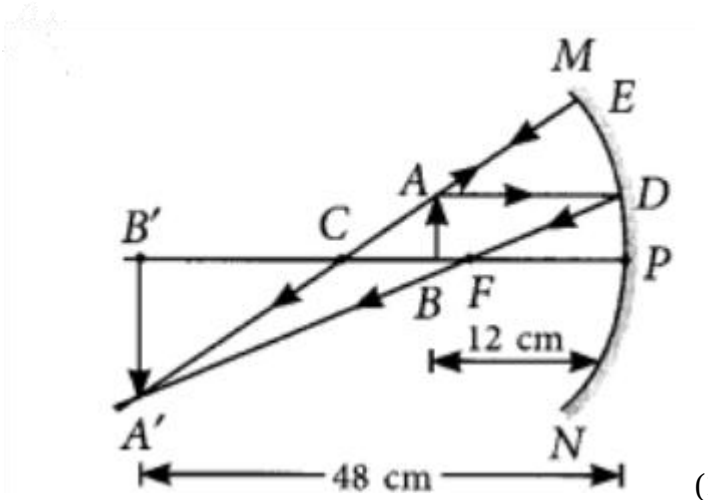
(ii)

$$m = -\frac{v}{u} = -\frac{(-48)}{(-12)} = -\frac{48}{12} = -4$$ (1 mark)

(iii)Both object and image are in front of the mirror:

- Object distance from mirror = 12 cm
- Image distance from mirror = 48 cm
- Distance between them=48−12=36 cm (1 mark)

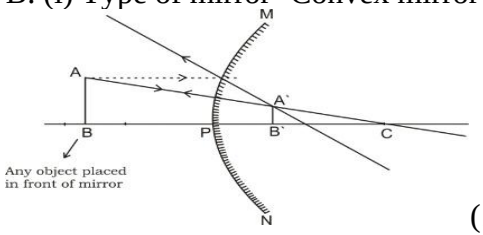
(iv)



(1.5 marks)

OR

B. (i) Type of mirror- Convex mirror (0.5 marks)



(1.5 marks)

(ii) **Given:** Focal length f = −30 cm (concave/converging mirror), Magnification m = −2 (real, inverted image on screen)

Using magnification formula:

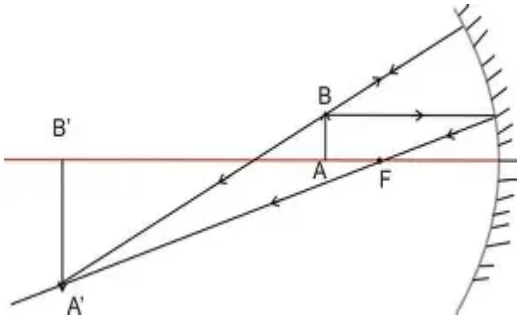
$$m = -\frac{v}{u} \implies -2 = -\frac{v}{u} \implies v = 2u$$

Using mirror formula:

$$\frac{1}{f} = \frac{1}{v} + \frac{1}{u}$$

$$\frac{1}{-30} = \frac{1}{2u} + \frac{1}{u} = \frac{3}{2u}$$

$$2u = -90 \implies \boxed{u = -45 \text{ cm}}$$ (1.5 marks)



(1.5 marks)