SAHODAYA PREBOARD EXAMINATION – 2025-26

CLASS – X

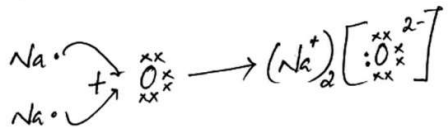
SUBJECT : SCIENCE (086)

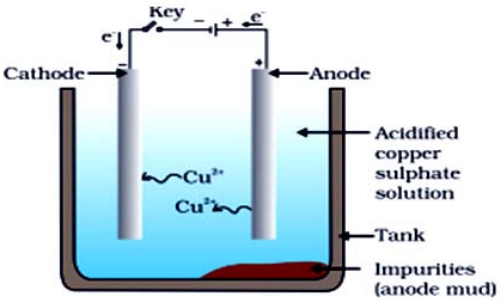
MARKING SCHEME

SET-1

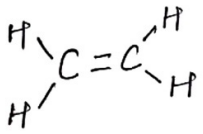
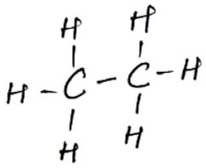
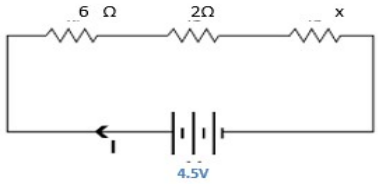
<table>
<tr><th colspan="2">SECTION-A</th><th>BIT MARKS</th><th>FULL MARK</th></tr>
<tr><td>1</td><td><table><tr><td>C.</td><td>Q</td><td>R</td></tr></table></td><td>1</td><td>1</td></tr>
<tr><td>2</td><td>C. (i) and (iv)</td><td>1</td><td>1</td></tr>
<tr><td>3</td><td>B. Receptor, Sensory Neuron ,Spinal Cord, Motor Neuron ,Effector</td><td>1</td><td>1</td></tr>
<tr><td>4</td><td>D. Thyroid-Thyroxine</td><td>1</td><td>1</td></tr>
<tr><td>5</td><td><table><tr><th colspan="2">Phenotypic Ratio</th><th>Genotypic ratio</th></tr><tr><td>B.</td><td>3:1(3round:1 wrinkled)</td><td>1:2:1(RR:Rr:rr)</td></tr></table></td><td>1</td><td>1</td></tr>
<tr><td>6</td><td><table><tr><td></td><td>Z</td><td>X</td></tr><tr><td>C.</td><td>Tertiary consumer</td><td>Primary consumer</td></tr></table></td><td>1</td><td>1</td></tr>
<tr><td>7</td><td>C.CFCs; Ozone</td><td>1</td><td>1</td></tr>
<tr><td>8</td><td>A. Both A and R are true, and R is the correct explanation of A.</td><td>1</td><td>1</td></tr>
<tr><td>9</td><td>A. Both A and R are true, and R is the correct explanation of A.</td><td>1</td><td>1</td></tr>
<tr><td>10</td><td>(Any two)<table><tr><th>Movement of leaves of Chhui-mui plant</th><th>Movement of a shoot</th></tr><tr><td>➢ Movement is independent of growth.</td><td>➢ Movement is dependent on growth</td></tr><tr><td>➢ It is not related to the direction of stimulus</td><td>➢ It is related to the direction of stimulus.</td></tr><tr><td>➢ Movement is fast and temporary.</td><td>➢ Movement is slow and permanent.
(Any other relevant differences)</td></tr></table></td><td>1+1</td><td>2</td></tr>
</table>

11	A. (i) Cytoplasm and Mitochondria (ii) Requirement of the plant and environmental condition. OR B. (i) The internal energy reserve in plants is starch and in animals is glycogen. (ii) Desert plants take in CO_2 at night and store it in the form of an intermediate which is used during the day for photosynthesis .	½ x 2 ½ x 2 ½ x2 1	2
12	A. Algae ⟶ Zooplankton ⟶ Fish ⟶ Cranes B. Tertiary consumer-4 Joule	1 1	2
13	A.(i) Walking in a straight line-Hindbrain/Cerebellum (ii) Salivation –Hind brain /Medulla (iii) Feeling full- Forebrain/Hypothalamus (iv) Region which receives sensory impulses from various receptors-Fore brain /Cerebrum B.Feedback mechanism-Refer to NCERT TEXT BOOK Pg no.111	½ x 4 1	3
14	A. Tt B. The tall progeny is present in heterozygous conditions and the tall trait is dominant that expresses itself and suppresses the expression of the short trait. C. tall -600 and short plants-200, the genotype of F_2 -Tt	½ 1 1+ ½	3
15	***Attempt either subpart A or B.*** A. A-Pulmonary vein B-Aorta C-Vena cava and D- Pulmonary artery **OR** B. Refer to NCERT TEXT BOOK Pg no.93 C. To prevent mixing of oxygenated blood with deoxygenated blood. D. Reptile and amphibian.	½ x 4 1 x 2 1 ½ x 2	4
16	***Attempt either option A or B.*** A (i) 2- Ovary , produces ova and release estrogen hormone (any one) 1-Fallopian tube , fertilization takes place / transfer ova from ovary to uterus/ collect ova (any one) (ii) (a) inner layer of endometrium thickens , a special disc shaped tissue called placenta develops . (b)Inner layer of uterus shrink and breaks and comes out through the vagina as blood and mucus (iii) providing nutrient to the foetus , supply O_2 to foetus , Removal wastes from the foetus. (ANY OTHER RELEVANT ANSWER)	½ x 4 1 1 ½ x 2	5

	OR B. (i) Organism X- is Bryophyllum, mode of asexual reproduction is vegetative propagation through leaves. Organism Y- is Rhizopus (or bread mould), mode- Spore formation (ii) Spores are highly durable and can germinate even after years of dormancy. Spores are covered with thick walls that protect them until they come in contact with the moist surface. (Any one) (iii) Two asexual methods are budding and regeneration Any one explanation- budding- a bud develops as an outgrowth due to repeated cell division at a specific site. These buds develop into tiny individuals, mature and detach from the parent to become new individuals Regeneration – Specialized cells divide to form large number of cells that undergo changes to become various cell types and tissues.	1+1 1 ½ x 2 1	
	SECTION-B		
17	B. HCl	1	1
18	A. 3, 4,1, 4	1	1
19	D. I, II and IV	1	1
20	B. Clove oil	1	1
21	B. (iv) only	1	1
22	C. Silver sulphide and basic copper carbonate	1	1
23	D. Lead + Tin	1	1
24	D. A is false but R is true.	1	1
25	$Na \longrightarrow Na^+ + e^-$ (2,8,1 → 2,8) $O + 2e^- \longrightarrow O^{2-}$ (2,6 → 2,8) 	½ ½ 1	2
26	A. X – $FeSO_4$ Y – $BaSO_4$ B. $FeSO_4 + BaCl_2 \longrightarrow BaSO_4 + FeCl_2$ C. $2\,FeSO_4 \xrightarrow{heat} Fe_2O_3 + SO_2 + SO_3$	½ + ½ 1 1	3
27	This is because these metals have more affinity for oxygen than carbon. Top of reactivity series. These metals are obtained by electrolytic reduction/electrolysis of their molten chlorides. At cathode: $Na^+ + e^- \longrightarrow Na$ At anode: $2Cl^- \longrightarrow Cl_2 + 2e^-$	1 ½ ½ 1	

	OR On passing electric current through the electrolyte, the pure metal from the anode dissolves into the electrolyte. An equivalent amount of pure metal from the electrolyte is deposited on the cathode.  	1 2	3
28	A. (i) Less than 7 – A & B (ii) greater than 7 – C B. Baking Soda – The excess acid secreted in stomach during indigestion can be neutralised by using baking soda as it is basic in nature. C. Sodium acetate / Sodium ethanoate , basic salt, $CH_3COOH + NaOH \rightarrow CH_3COONa + H_2O$ **OR** D. CO_2, Lime water turns into milky. $CaCO_3 + H_2O + CO_2 \rightarrow Ca(HCO_3)_2$	½ + ½ ½ + ½ ½ + ½ 1 ½ + ½ 1	4
29	A. (i) Hard water forms scum with soap. (ii) (iii) Propanal Propanone **OR** B. (i) $2C_2H_5OH + 2Na \rightarrow 2C_2H_5ONa + H_2$ (ii) When ester is treated with an alkali such as sodium hydroxide it is converted back into alcohol and sodium salt of the carboxylic acid. This reaction is known as saponification reaction. $CH_3COOC_2H_5 \xrightarrow{NaOH} C_2H_5OH + CH_3COONa$	1 1+1 ½ x 4 1 1 1	5

Saturated Hydrocarbon	Unsaturated Hydrocarbon
Hydrocarbon contains only single bond between the carbon atoms in the chain	Hydrocarbon contains double bond or triple bond between the carbon atoms in the chain
These compounds burns with a clear blue flame.	These compounds burns with a sooty yellow flame.

	(iii)  A- Ethene  B - Ethane	½ x 4	
	SECTION-C		
30	D. II Only	1	1
31	A. Light undergoes two refractions: at the entry surface and at the exit surface.	1	1
32	C. A is true but R is false.	1	1
33	A. Glass Slab diagram including lateral displacement B. Definition of Lateral displacement	1 1	2
34	A.  Total resistance R= V/I = 4.5 x 3 = 13.5 Ω X = 13.5 - (6+2) = 5.5 Ω B. $R_{eq}= \frac{(6x12)}{(6+12)}+8$ = 4+8=12Ω So, I=V/R_{eq} =24/12=2A	1 1 1 1	2
35	A. The iron fillings arrange themselves in a pattern because they get attracted by the bar magnet. B. The pattern demonstrates that the magnetic field is the strong at poles of the magnet and magnetic field becomes weaker if we goes far from the magnet. C. Iron fillings arranged themselves in closed loops around a bar magnet because magnetic field lines influences it which is closed curved.	1 1 1	3
36	A. Statement of Joule's law of heating B. When heating is at the maximum rate , I = 840 w / 220 V = 3.82 A And the resistance of, the electric iron is 220 V/ 3.82 A = 57.60 Ohm When heating is the minimum rate, I = 360 W/ 220 V = 1.64 A And the resistance of the electric iron is 220 V/1.64 A = 134.15 Ohm	1 1 1	3

37	A. Name: Myopia B. Excessive curvature of the eye lens and elongation of eyeball C. Corrected ray diagram	½ ½ + ½ 1 ½	3
38	A. Real Image (the final image is formed due to the lens at the eye-piece) B. Concave Mirror C. f = 50 mm (focal length), v = 60 mm (image distance), using lens formula 1/v − 1/u = 1/f value putting and calculation u= -300 mm **OR** D. m= −20mm/80 mm= −1/4 M= v/u v = m × u = −0.25 × −150 mm = 37.5 mm using lens formula 1/v − 1/u = 1/f value putting and calculation f= 30 mm	1 1 ½ 1 ½ ½ ½ 1	4
39	A. (i) Derivation for parallel connection using circuit diagram $1/R_p= 1/R_1+1/R_2+1/R_3$ (ii) (a) Reading in ammeter A_1 and A_2 are the same Reason- Total current in the circuit is measured by both the ammeters which are same. (b)1/Rp =1/30 + 1/30 +1/30 =3/30 =1/10 R_p=10 Ω (c) Total Resistance = 10+20=30 Ω Total current= I=V/R=3/30= 0.1A **OR** B. (i) Any two correct factors (ii) R = $\rho\frac{l}{A}$ hence ρ = R $\frac{A}{l}$ = Ωm (iii) (a) Equivalent resistance R = 3 Ω (b) I = V/R =12/3 =4A (c) V_1 =I x R_1 =4x 1 =4V	1½ 1 ½ 1 1 ½ + ½ ½ + ½ 1 1 1	5

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