




**Date:30-09-2023**  
**GRADE: X**

**Term 1 (2024-25)**  
**SCIENCE (086)**  
**Marking Scheme**

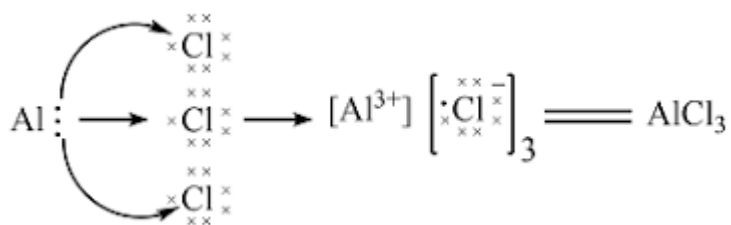
**Max marks : 80**  
**Time: 3 hours**

i.

<b>Section-A</b>		
<b>Select and write the most appropriate option out of the four options given for each of the questions 1 - 20. There is no negative mark for an incorrect response.</b>		
1	d	1
2	b	1
3	c	1
4	b	1
5	c	1
6	c	1
7	b	1
8	(a) Cytoplasm	1
9	a	1
10	(d) Medulla oblongata	1
11	Mouth	1
12	(c) lack of oxygen and formation of lactic acid	1
13	d	1
14	d	1
15		1
16	(a) Tubule	1

	<p>Question No. 17 to 20 consist of two statements – Assertion (A) and Reason (R).          Answer these questions selecting the appropriate option given below:          (a) Both A and R are true, and R is the correct explanation of A.          (b) Both A and R are true, and R is not the correct explanation of A.          (c) A is true but R is false.          (d) A is false but R is true.</p>	
17	<b>d</b>	1
18	<b>d</b>	1
19	<b>c</b>	1
20	<b>a</b>	1
<b>Section-B</b> <b>Question No. 21 to 26 are very short answer questions</b>		
21	$2\text{Na} + 2\text{HCl} \rightarrow 2\text{NaCl} + \text{H}_2$ Glowing splinter burns with a pop sound in the presence of hydrogen gas.	2
22	Pancreas secrete insulin when the blood sugar rises. It also produces the enzyme trypsin in an inactive form called trypsinogen.	2
23	 <ul style="list-style-type: none"> <li>• Auxins: A growth promoter</li> <li>• Gibberellins: A growth promoter</li> </ul>	2
24	i)intext fig 10.10 ii) $\frac{3 \times 10^8 \text{ m/s}}{2 \times 10^8 \text{ m/s}}$ $= 1.5$	2
25	Myopia Excessive curvature of the eye lens elongation of the eyeball  <b>OR</b> The splitting of light into its component colours  intext fig 11.5	2
26	Strategies used by plants for excretion are :i They can get rid of excess water and oxygen through stomata. ii Many plant waste products are stored in cellular vacuoles. iii Waste products may	2

	be stored in leaves that fall off. iv Waste products are stored as resin and gums especially in old xylem.	
<b>Section-C</b> <b>Question No. 27 to 33 are short answer question</b>		
27	i) White ii) Photolytic decomposition reaction $2\text{AgCl} \rightarrow 2\text{Ag} + \text{Cl}_2$ b) Magnesium and Manganese	3
28	a) when bacteria in your mouth break down sugar and food particles left behind after eating, producing acids that lower the pH level b) X - Washing Soda. Uses: Glass making, softening of hard water. c) Copper sulphate loses water molecules on heating to turn white. $\text{CuSO}_4 \cdot 10\text{H}_2\text{O} \xrightarrow{\text{heat}} \text{CuSO}_4 + 10\text{H}_2\text{O}$	3
29	(a) the gastric glands in our stomach secrete hydrochloric acid. it helps in digestion of carbohydrate, and it kills harmful bacteria present in the wall lining of the stomach.  (b) breaking down of larger fat globules into smaller ones, and finally into fatty acids and glycerol is termed as emulsification	3
30	(i) Increased sugar level in blood-Insulin (ii) Changes at puberty in boys-Testosterone (iii) Inhibits growth of plants-Abscisic acid (iv) Rapid development of fruits-ethylene (v) Dwarfism-Growth hormone (vi) Goitre-Thyroxine	3
31	i) Behind the mirror ii) Magnified iii) virtual and erect iv) Intext fig 10.7 (f)	3
32	$\frac{1}{f} = \frac{1}{v} - \frac{1}{u}$ $\frac{1}{30} = \frac{1}{v} - \frac{1}{-50}$ $v = 75 \text{ cm}$  $\frac{v}{u} = \frac{h'}{h}$ $\frac{75}{-50} = \frac{h'}{6}$ $h' = -9 \text{ cm}$  image is real, inverted and enlarged.  intext fig 10.17 (d)	3
33	The p.d across a the ends of a metallic wire in an electric circuit is directly proportional to the current flowing through it, provided the temp.remains the same.	3

	intext fig 12.1	
<b>Section-D</b>		
<b>Question No. 34 to 36 are long answer questions</b>		
34	<p>a) Sodium metal reacts vigorously with air and water to produce hydrogen gas which catches fire. Hence it is kept immersed in kerosene oil.</p> <p>b) <math>Zn + 2AgNO_3 \rightarrow Zn(NO_3)_2 + 2Ag</math>  <math>2HNO_3 + Ca(OH)_2 \rightarrow Ca(NO_3)_2 + 2H_2O</math></p> <p>c)</p> 	1+2+2
35	<p>a) Lymph is a clear-to-white fluid made of: White blood cells, especially lymphocytes, the cells that attack bacteria in the blood and body tissues. Fluid from the intestines called chyle, which contains proteins and fats</p> <p>b) The movement of water upward (towards the top of the plant) from the soil is called capillary action. The mechanism that pulls the water in an upward direction against gravitation is called transpiration pull</p>	5
36	<ul style="list-style-type: none"> <li>• dispersion of sunlight by tiny water droplets</li> <li>• formed in the direction opposite to the Sun</li> <li>• water droplet acts like a prism</li> <li>• refraction, dispersion, internal reflection inside the droplet</li> <li>• again refraction when it comes out of the droplet</li> </ul> <ul style="list-style-type: none"> <li>• Due to scattering of light</li> <li>• blue colour - short wavelength</li> <li>• red colour - longer wavelength</li> <li>• fine particles in the air scatter the blue light more strongly than red.</li> <li>• Scattered blue light enters our eye</li> </ul>	5
<b>SECTION - E</b>		
<b>Question No. 37 to 39 are case-based/data -based questions with 2 to 3 short sub-parts. Internal choice is provided in one of these sub-parts.</b>		
37	<p>a) Copper is displaced from the solution by iron forming iron sulphate. The Cu is deposited on the Fe nail. Hence the colour changes from blue to light green.</p> <p>b) No reaction would take place as Cu is less reactive than Fe.</p>	4

38	<p>1. phototropism</p> <p>2. Nastic movements are non-directional responses to stimuli that occur in plants, and are usually associated with changes in turgor or growth</p> <p>3. Plant hormones are chemical messengers produced by plants to regulate growth, development, and response to environmental stimuli. Plant hormones and their functions include auxins, cytokinins, gibberellins, abscisic acid, and ethylene</p> <p>4. Auxin is a plant hormone that helps in cell growth at the shoot tips by elongating cells and regulating many aspects of plant growth and development</p>	4
39	<p>(i) c</p> <p>(ii) d</p> <p>(iii) c</p> <p>(iv) b</p>	1+1+1+1
<b>THE END</b>		