



PRE - MIDTERM - 2025

CLASS -10

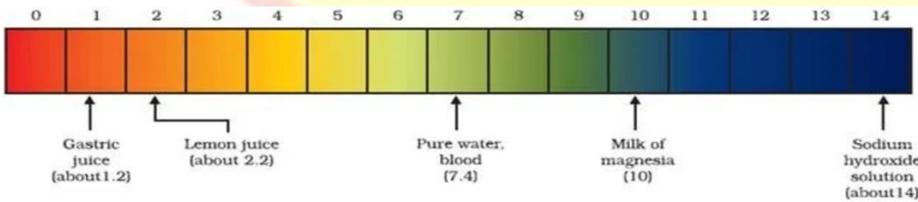
TIME ALLOWED : 2&1/2 HRS

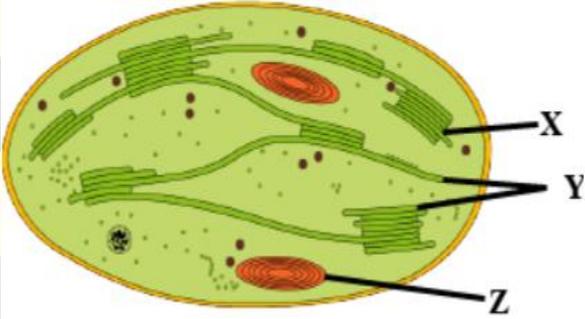
NAME OF THE STUDENT \_\_\_\_\_

SUBJECT- SCIENCE  
MAXIMUM MARKS : 70

Section A		
1	Name the substance oxidized and reduced in the following reaction: $\text{Fe}_2\text{O}_3 + 3\text{CO} \rightarrow 2\text{Fe} + 3\text{CO}_2$ a) $\text{Fe}_2\text{O}_3$ , Fe                      b) CO, $\text{CO}_2$ c) Fe, CO                      d) CO, $\text{Fe}_2\text{O}_3$	[1]
2	Observe the given figure carefully. <div style="text-align: center;"> </div> Which of the following observations are correct? 1. A white coloured residue is left behind in the test tube. 2. Water droplets are observed on the upper cooler part of the test tube. 3. On adding water to the residue, the colour changes to green. a) I and III only                      b) II and III only                      c) I, II and III                      d) I and II only	[1]
3	What do all acids and all bases have in common? a) all acid and bases release $\text{OH}^-$ ions in solution                      b) all acids and bases form ions in solution c) all acid release $\text{OH}^-$ and bases release $\text{H}^+$ ions in solution d) all acids and bases release $\text{H}^+$ ions in solution	[1]
4	Name the blood vessel which carries deoxygenated blood from the heart to the lungs. a) Capillaries                      b) Pulmonary vein                      c) Pulmonary artery                      d) Aorta	[1]
5	Which is the first step of photosynthesis? a) Formation of ATP                      b) Excitation of electron of chlorophyll c) Ionization of water                      d) Attachment of $\text{CO}_2$ to 5 - carbon sugar	[1]
6	Cretinism results due to: a) Excess secretion of adrenaline                      b) Excess secretion of growth hormone c) Under secretion of thyroxin                      d) Under secretion of growth hormone	[1]



	purpose.	
18	A compound which is prepared from gypsum has the property of hardening when mixed with a proper quantity of water. Identify the compound. Write the chemical equation for its preparation. For what purpose is it used in hospitals?	[3]
19	Leaves of healthy potted plant were coated with vaseline. Will this plant remain healthy for long? Give reasons for your answer.	[3]
20	Nervous and hormonal system together performs the functions of control and coordination in human beings. Justify the statement.	[3]
21	"A concave mirror of focal length $f$ can form a magnified, erect as well as an inverted image of an object placed in front of it." Justify this statement stating the position of object with respect to the mirror in each case for obtaining these images.	[3]
22	How are the power and focal length of a lens related? You are provided with two lenses of focal length 20 cm and 40 cm respectively. Which lens will you use to obtain more convergent light?	[3]
23	What are the common defects of vision that can be corrected by the use of suitable eyeglasses or spectacles?	[3]
<b>Section D</b>		
24	What is a chemical reaction? Describe one activity each to show that a chemical change has occurred in which (i) change of colour, and (ii) change in temperature has taken place.	[5]
25	What are reflex actions? Give examples? Explain reflex arc by an example with labelled diagram?	[5]
26	A person is unable to see objects distinctly placed within 50 cm from his eyes. <ol style="list-style-type: none"> <li>Name the defect of vision the person is suffering from and list its two possible causes.</li> <li>Draw a ray diagram to show the defect in the above case.</li> <li>Mention the type of lens used by him for the correction of the defect and calculate its power. Assume that the near point for the normal eye is 25 cm.</li> <li>Draw a labelled diagram for the correction of the defect in the above case.</li> </ol>	[5]
<b>Section E</b>		
27	<p><b>Read the following text carefully and answer the questions that follow:</b></p> <p>The strength of acid and base depends on the number of <math>H^+</math> and the number of <math>OH^-</math> respectively. If we take hydrochloric acid and acetic acid of the same concentration, say one molar, then these produce different amounts of hydrogen ions. Acids that give rise to more <math>H^+</math> ions are said to be strong acids, and acids that give less <math>H^+</math> ions are said to be weak acids. Can you now say what weak and strong bases are?</p>  <p>The diagram shows a horizontal pH scale from 0 to 14. The colors transition from red at 0, through orange, yellow, green, to blue at 14. Specific examples are labeled with arrows pointing to their respective pH values on the scale: Gastric juice (about 1.2) at pH 1.2, Lemon juice (about 2.2) at pH 2.2, Pure water, blood (7.4) at pH 7.4, Milk of magnesia (10) at pH 10, and Sodium hydroxide solution (about 14) at pH 14.</p> <ol style="list-style-type: none"> <li>Fresh milk has a pH of 6. How do you think the pH will change as it turns into curd? (1)</li> <li>What is neutralization reaction? Give Example? (1)</li> <li>Milk of magnesia is an acid or base? For what purpose it can be used? (2)</li> </ol>	[4]
<b>OR</b>		

	<p>What is the pH value of saliva after the meal? Why? (2)</p>	
28	<p><b>Read the following text carefully and answer the questions that follow:</b></p> <p>The green plants make their food, through photosynthesis and are therefore called autotrophs. All other organisms depend upon green plants for food and are referred to as heterotrophs. Green plants carry out photosynthesis by using light energy of sun. The first phase of reactions are directly light driven therefore called light reactions. The second phase of reactions are not directly light driven but are dependent on the products of light reactions and are called dark reactions.</p> <ol style="list-style-type: none"> <li>1. What is photosynthesis ? Give Equation (1)</li> <li>2. List three steps involved in the process of photosynthesis? (2)</li> <li>3. State the Raw materials for the process of Photosynthesis? How plants obtain these raw materials. (1)</li> </ol> 	[4]
29	<p><b>Read the following text carefully and answer the questions that follow:</b></p> <p>Many optical instruments consist of a number of lenses. They are combined to increase the magnification and sharpness of the image. The net power (P) of the lenses placed in contact is given by the algebraic sum of the powers of the individual lenses <math>P_1, P_2, P_3 \dots</math> as</p> $P = P_1 + P_2 + P_3 \dots$ <p>This is also termed as the simple additive property of the power of lens, widely used to design lens systems of cameras, microscopes and telescopes. These lens systems can have a combination of convex lenses and also concave lenses.</p> <ol style="list-style-type: none"> <li>1. What is the nature (convergent/divergent) of the combination of a convex lens of power + 4D and a concave lens of power - 2D? (1)</li> <li>2. Calculate the focal length of a lens of power 2.5 D. (1)</li> <li>3. Draw a ray diagram to show the nature and position of an image formed by a convex lens of power + 0.1 D, when an object is placed at a distance of 20 cm from its optical centre. (2)</li> </ol> <p style="text-align: center;"><b>OR</b></p> <ol style="list-style-type: none"> <li>4. How is a virtual image formed by a convex lens different from that formed by a concave lens? Under what conditions do a convex and a concave lens form virtual images? (2)</li> </ol>	[4]