

# hellooo

## hello

Class 10 - Science

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Date: 02-10-2025

### Section A - Multiple Choice Questions

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Q1. Which gas is typically produced when a dilute acid reacts with a metal? (1 marks)

- a. Oxygen
- b. Carbon Dioxide
- c. Hydrogen
- d. Sulphur Dioxide

Q2. Which structure in the plant body is responsible for transporting water and dissolved minerals from roots to the leaves? (1 marks)

- a. Phloem
- b. Xylem
- c. Sieve tubes
- d. Parenchyma

Q3. If three resistors  $R_1$ ,  $R_2$ , and  $R_3$  are connected in parallel, the reciprocal of the equivalent resistance ( $1/R_p$ ) is given by: (1 marks)

- a.  $R_1 + R_2 + R_3$
- b.  $1/R_1 + 1/R_2 + 1/R_3$
- c.  $(R_1 + R_2 + R_3) / 3$
- d.  $R_1 * R_2 * R_3$

Q4. A method of asexual reproduction in which a small outgrowth or 'bud' detaches from the parent body to form a new individual is seen in: (1 marks)

- a. Amoeba
- b. Yeast
- c. Planaria
- d. Rhizopus

Q5. An object is placed 10 cm from a convex mirror of focal length 15 cm. The image formed will be: (1 marks)

- a. Real and inverted
- b. Virtual and magnified
- c. Virtual and diminished
- d. Real and diminished

Q6. Which of the following belongs to the same homologous series as  $C_2H_6$ ? (1 marks)

- a.  $CH_4$
- b.  $C_2H_4$
- c.  $C_3H_4$
- d.  $C_3H_8$

### Section B - Fill in the Blanks

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Q7. The process of heating a sulfide ore strongly in the presence of air to convert it into a metal oxide is called \_\_\_\_\_ . (1 marks)

Q8. The hormone responsible for lowering the concentration of glucose in the blood is \_\_\_\_\_ . (1 marks)

Q9. The principle on which an electric generator works is \_\_\_\_\_ . (1 marks)

Q10. The flow of energy in an ecosystem is always \_\_\_\_\_ . (1 marks)

Q11. When an ant sting causes irritation, the substance injected by the ant is \_\_\_\_\_ acid. (1 marks)

### Section C - Short Answer Questions

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Q12. Explain the condition of Myopia (near-sightedness). Draw a labeled ray diagram showing how this defect is corrected. (3 marks)

Q13. Why are decomposition reactions considered endothermic reactions? Give one balanced chemical equation of a decomposition reaction where heat is supplied. (3 marks)

Q14. Differentiate between acquired traits and inherited traits. Give one example for each. (3 marks)

Q15. State the three R's to save the environment. Explain any one of them with a suitable example. (3 marks)

## Section D - Long Answer Questions

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- Q16. Describe the main steps of digestion that occur in the small intestine. Mention the role of the liver and pancreas in this process. (5 marks)
- Q17. Define resistance. List the four factors on which the resistance of a conductor depends. Calculate the current flowing through an electric heater operating at 220 V if its resistance is 50  $\Omega$ . (5 marks)
- Q18. a) Draw the electron dot structure for Ethyne ( $C_2H_2$ ) and Propanone ( $CH_3COCH_3$ ). b) Explain two unique properties of the Carbon atom that enable it to form such a large number of compounds. (5 marks)
- Q19. Explain the principle and working of an Electric Motor. Draw a labeled diagram showing the main components. (5 marks)
- Q20. a) Write down three points of difference between sexual and asexual reproduction. b) Describe the process of 'Tissue Culture' as a method of artificial propagation. (5 marks)

## Section E - Matching Questions

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- Q21. Match the items in Column I with the correct description or function in Column II. (5 marks)

## Section F - Case Study

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- Q22. Read the following passage and answer the questions based on the concepts of light and vision. The eye lens is a flexible, biconvex structure whose curvature can be altered by the action of the ciliary muscles. This flexibility allows the lens to adjust its focal length, enabling the eye to focus on objects located at various distances. This ability is called accommodation. However, this power of accommodation is limited. For a normal eye, the far point is infinity and the near point is 25 cm. (4 marks)
- Q23. A student studied the experiments performed by Mendel using pea plants. He crossed pure tall pea plants (TT) with pure dwarf pea plants (tt). He found that all offspring in the F1 generation were tall. When he self-pollinated the F1 generation, he observed that both tall and dwarf plants appeared in the F2 generation, in a ratio of 3:1. (4 marks)