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Class 10 - Science

Date: 02-10-2025

Section A - Multiple Choice Questions

Q1. Which of the following is an example of a displacement reaction? (1 marks)

- a. $2\text{H}_2 + \text{O}_2 \rightarrow 2\text{H}_2\text{O}$
- b. $\text{CaCO}_3 \rightarrow \text{CaO} + \text{CO}_2$
- c. $\text{Zn} + \text{CuSO}_4 \rightarrow \text{ZnSO}_4 + \text{Cu}$
- d. $\text{NaOH} + \text{HCl} \rightarrow \text{NaCl} + \text{H}_2\text{O}$

Q2. If the length of a metallic wire is doubled, keeping the area of cross-section constant, how does its resistance change? (1 marks)

- a. It becomes half
- b. It remains the same
- c. It becomes double
- d. It becomes four times

Q3. In humans, where does the maximum absorption of digested food occur? (1 marks)

- a. Stomach
- b. Large intestine
- c. Small intestine
- d. Oesophagus

Q4. Which of the following represents the correct general formula for an alkyne series? (1 marks)

- a. $\text{C}_n\text{H}_{2n+2}$
- b. C_nH_{2n}
- c. $\text{C}_n\text{H}_{2n-2}$
- d. $\text{C}_n\text{H}_{2n-1}$

Q5. A lens has a power of +2.5 D. What is the focal length and the nature of this lens? (1 marks)

- a. 40 cm, Convex

- b. -40 cm, Concave
- c. 25 cm, Convex
- d. -25 cm, Concave

- Q6. If a male human (XY) inherits a recessive sex-linked trait (e.g., colour blindness), where did he definitely inherit the gene from? (1 marks)
- a. His father only
 - b. His mother only
 - c. Both parents
 - d. It is a spontaneous mutation, not inherited

Section C - Short Answer Questions

- Q7. Define pH scale. If a solution has a pH of 9, what is its nature and why? (2 marks)
- Q8. Differentiate between asexual and sexual reproduction based on the number of parents involved and the genetic similarity of the offspring. (2 marks)
- Q9. Explain briefly why stars twinkle but planets do not, when viewed from the Earth. (2 marks)
- Q10. What is the primary function of the ozone layer? List two major adverse effects resulting from its depletion. (2 marks)
- Q11. Draw a labelled diagram of a reflex arc. State the direction of the signal flow. (2 marks)
- Q12. Why are silver and copper not used for making fuses, even though they are excellent conductors of electricity? Which material is ideally used for fuses and why? (2 marks)