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Class 10 - Science

Date: 02-10-2025

Section A - Multiple Choice Questions

Q1. When dilute hydrochloric acid is added to zinc granules, the products formed are: (1 marks)

- a. Zinc hydroxide and hydrogen gas
- b. Zinc chloride and water
- c. Zinc chloride and hydrogen gas
- d. Zinc oxide and water

Q2. The inner lining of the small intestine has numerous finger-like projections called Villi. What is the primary function of Villi? (1 marks)

- a. To store undigested food temporarily.
- b. To produce digestive enzymes.
- c. To increase the surface area for absorption of digested food.
- d. To filter waste products from the blood.

Q3. An electric bulb is rated 220V and 100W. When it is operated at 110V, the power consumed will be: (1 marks)

- a. 100 W
- b. 50 W
- c. 25 W
- d. 75 W

Q4. Which of the following processes leads to variation in sexually reproducing organisms? (1 marks)

- a. Binary fission
- b. Budding
- c. Crossing over during meiosis
- d. Regeneration

Q5. Which characteristic correctly defines members of a homologous series in Carbon chemistry? (1 marks)

- a. They have the same functional group and differ by a -CH_2 group.

- b. They have different functional groups but the same general formula.
- c. They have the same molecular mass but different structures.
- d. They show high reactivity due to presence of double bonds.

Q6. A person needs a lens of power -4.5 D for correcting their vision. (1 marks)
Which defect is the person suffering from?

- a. Hypermetropia
- b. Presbyopia
- c. Cataract
- d. Myopia

Section C - Short Answer Questions

Q7. Balance the following chemical equation and identify the type of reaction shown: $\text{Fe}_2\text{O}_3 + \text{Al} \rightarrow \text{Fe} + \text{Al}_2\text{O}_3$ (2 marks)

Q8. Draw a labelled diagram showing the basic structure of a reflex arc. (2 marks)

Q9. State Fleming's Left-Hand Rule. Give one application of a device that uses this principle. (3 marks)

Q10. Aluminum oxide (Al_2O_3) is known as an amphoteric oxide. (3 marks)
Explain this property with the help of chemical equations showing its reaction with both an acid and a base.

Q11. Differentiate between inherited traits and acquired traits, providing one example for each. (3 marks)

Q12. What is the role of decomposers in an ecosystem? Why is the maintenance of the ozone layer crucial for the survival of life on Earth? (3 marks)