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Class 10 - Science

Date: 02-10-2025

Section A - Multiple Choice Questions

Q1. Which of the following reaction types is correctly represented by the conversion of ferrous sulphate (FeSO_4) into ferric oxide (Fe_2O_3), sulfur dioxide (SO_2), and sulfur trioxide (SO_3)? (1 marks)

- a. Combination reaction
- b. Decomposition reaction
- c. Displacement reaction
- d. Double displacement reaction

Q2. The primary function of Villi in the small intestine is to: (1 marks)

- a. Secrete digestive enzymes
- b. Increase the surface area for absorption of digested food
- c. Store undigested food materials temporarily
- d. Initiate the digestion of fats

Q3. An electric heater is rated 1500 W and is operated for 2 hours daily. If the electrical energy costs ₹ 5 per kWh, what is the cost of running the heater for 30 days? (1 marks)

- a. ₹ 450
- b. ₹ 900
- c. ₹ 225
- d. ₹ 150

Q4. What is the general molecular formula for the homologous series of Alkynes? (1 marks)

- a. $\text{C}_n\text{H}_{2n+2}$
- b. C_nH_{2n}
- c. $\text{C}_n\text{H}_{2n-2}$
- d. $\text{C}_n\text{H}_{2n-6}$

Q5. A convex mirror always produces a virtual, erect, and diminished image, regardless of the position of the object. Which one of the following magnification values (m) is physically possible for a convex mirror? (1 marks)

- a. $m = +1.5$
- b. $m = -0.8$
- c. $m = +0.5$
- d. $m = -1.0$

Q6. Wings of a bat and wings of an insect are considered analogous organs. This classification means they: (1 marks)

- a. Have the same structure but different functions, indicating divergent evolution.
- b. Have different structures but perform the same function, indicating convergent evolution.
- c. Are vestigial structures that have lost their original function.
- d. Share a common ancestor and identical bone structures.

Section B - Fill in the Blanks

Q7. A substance that has a pH value of 9 is considered a/an solution. (1 marks)

Q8. The plant hormone primarily responsible for cell elongation and growth in response to light (phototropism) is (1 marks)

Q9. Bio-gas is primarily composed of methane, which is produced when biomass is decomposed in the absence of oxygen. This process is known as respiration. (1 marks)

Q10. In the process of electrolytic refining of copper, impure copper is used as the and a thin sheet of pure copper serves as the cathode. (1 marks)

Q11. The rule used to determine the direction of the force experienced by a current-carrying conductor placed in a magnetic field is known as Hand Rule. (1 marks)

Q12. Organisms like Planaria exhibit the remarkable ability to cut themselves into several pieces, where each piece grows into a complete new individual. This method of asexual reproduction is called (1 marks)