

**Section A - Multiple Choice Questions**

- Q1. Which of the following is NOT a characteristic of a chemical reaction? (2 marks)
- Q2. What is the formula for calculating the speed of an object? (2 marks)
- Q3. Which of the following is an example of a renewable resource? (2 marks)
- Q4. What is the role of the ozone layer in the atmosphere? (2 marks)
- Q5. Explain the process of photosynthesis. (2 marks)
- Q6. What are the different types of chemical bonds? (2 marks)
- Q7. Describe the structure of an atom. (2 marks)
- Q8. Explain the concept of Newton's laws of motion. (2 marks)
- Q9. Discuss the various types of pollution and their effects on the environment. (2 marks)
- Q10. Explain the process of human reproduction. (2 marks)

**Section B - Fill in the Blanks**

- Q11. The chemical formula for water is \_\_\_\_\_. (1 marks)
- Q12. The SI unit of force is \_\_\_\_\_. (1 marks)
- Q13. Photosynthesis converts \_\_\_\_\_ energy into \_\_\_\_\_ energy. (1 marks)
- Q14. The process of converting a solid directly into a gas is called \_\_\_\_\_. (1 marks)
- Q15. The basic unit of heredity is \_\_\_\_\_. (1 marks)
- Q16. Acids turn blue litmus paper \_\_\_\_\_. (1 marks)
- Q17. The process by which plants lose water is called \_\_\_\_\_. (1 marks)

**Section C - Short Answer Questions**

- Q18. State the law of conservation of mass. (3 marks)

- Q19. Define acceleration and give its SI unit. (3 marks)
- Q20. What are the different types of pollution? (3 marks)
- Q21. Explain the process of respiration. (3 marks)
- Q22. What are the different types of chemical reactions? (3 marks)
- Q23. Explain the concept of sustainable development. (3 marks)
- Q24. Describe the different types of mirrors and their uses. (3 marks)
- Q25. Explain the working of a simple electric circuit. (3 marks)

## Section D - Long Answer Questions

- Q26. Explain the different types of chemical bonds with suitable examples. (5 marks)
- Q27. Describe the structure and function of the human digestive system. (5 marks)
- Q28. Explain the different types of energy sources and their advantages and disadvantages. (5 marks)
- Q29. Discuss the various methods of preventing pollution. (5 marks)
- Q30. Explain the process of electrolysis. (5 marks)
- Q31. Explain the different types of reproduction in plants. (5 marks)

## Section E - Matching Questions

### Q32. Match the following: (4 marks)

#### Column A

1. Force
2. Velocity
3. Acceleration
4. Work

#### Column B

- a.  $\text{m/s}^2$
- b. Joule
- c. Newton
- d.  $\text{m/s}$

## Section F - Case Study

Q33. A farmer observes that his crops are not growing well. He notices that the soil is lacking in essential nutrients. He decides to consult an agricultural expert. The expert suggests using fertilizers and improving irrigation techniques. The farmer follows the suggestions and notices significant improvement in crop yield. (a) Identify the problem faced by the farmer. (b) What were the solutions suggested by the expert? (c) Explain the importance of nutrients in plant growth. (d) Discuss the importance of proper irrigation techniques. (e) What are the other factors that can affect crop growth? (15 marks)