



## Multiple Choice Questions :

1. Which of the following is a characteristic of non-metal elements?
  - a) High electrical conductivity
  - b) Ductility
  - c) Brittle
  - d) Malleability
2. What is the primary function of a catalyst in a chemical reaction?
  - a) Increase the activation energy
  - b) Decrease the rate of reaction
  - c) Increase the rate of reaction without being consumed
  - d) Decrease the energy released during the reaction
3. What is the main difference between exothermic and endothermic reactions?
  - a) Exothermic reactions absorb heat, while endothermic reactions release heat.
  - b) Exothermic reactions release heat, while endothermic reactions absorb heat.
  - c) Exothermic reactions only occur in living organisms, while endothermic reactions occur in non-living systems.
  - d) Exothermic reactions involve the release of oxygen, while endothermic reactions involve the absorption of carbon dioxide.
4. Which of the following is not a property of waves?
  - a) Refraction
  - b) Diffraction
  - c) Interference



## d) Compression

### **Short Answer Questions:**

- 1.Explain the difference between a homogeneous and a heterogeneous mixture.
- 2.Describe the process of enzyme-substrate specificity.
- 3.Explain how the process of convection contributes to the movement of tectonic plates.
- 4.Define inertia and its role in Newton's first law of motion.

### **Long Answer Questions:**

- 1.Discuss the role of feedback mechanisms in maintaining homeostasis in the human body.
- 2.Describe the process of nuclear fusion and its significance in the Sun.
- 3.Explain the relationship between wavelength, frequency, and energy in electromagnetic waves.
- 4.Discuss the potential benefits and risks of genetic engineering in agriculture.
- 5.Explain the concept of acid rain, its causes, and its environmental impacts.

### **Competency Based Questions:**

- 1.Design an experiment to investigate the factors that affect the rate of chemical reaction, providing a detailed procedure and expected outcomes.
- 2.