

Chapter 1: Chemical Reactions and Equations

Short Answer Type I Questions: [2 Marks]

- Write balanced chemical equation for the following reactions.
 - Silver bromide on exposure to sunlight decomposes into silver and bromine.
 - Sodium metal reacts with water to form sodium hydroxide and hydrogen gas.
- Change the following reactions into balanced chemical equations.
 - Manganese dioxide is heated with aluminium powder.
 - Iron is treated with steam.
- Why do we store silver chloride in dark coloured bottles?
- Balance the following chemical equations and state whether they are exothermic or endothermic.
 - $\text{Na} + \text{H}_2\text{O} \rightarrow \text{NaOH} + \text{H}_2$
 - $\text{FeSO}_4 \rightarrow \text{Fe}_2\text{O}_3 + \text{SO}_2 + \text{SO}_3$
- A white salt of lead on heating decomposes to give brown fumes and a residue is left behind.
 - Name the salt.
 - Write the equation for the decomposition reaction.

Short Answer Type II Questions: [3 Marks]

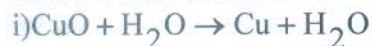
- Write balanced chemical equations for the following and identify the type of chemical reactions.
 - Hydrogen iodide on reacting with chlorine gas gives iodine and hydrochloric acid.
 - Methane gas burns in oxygen of air to form carbon dioxide and water.
 - On passing electric current through molten aluminium oxide, it decomposes to form aluminium metal and oxygen gas.
- State one example each characterized by the following along with the chemical equation:
 - Change in state
 - Evolution of gas
 - Change in temperature
- Write chemical equations for the reactions taking place when
 - Magnesium reacts with dil. HNO_3
 - Sodium reacts with water
 - Zinc reacts with dilute hydrochloric acid
- A housewife wanted her house to be white washed. She bought 10 kg of quicklime from the market and dissolved in 30L of water. On adding lime to water, she noticed that the water started boiling even when it was not being heated. Give reason for her observation. Write the corresponding equation and name the product formed.
- State the type of chemical reactions with chemical equations that take place in the following.
 - Magnesium wire is burnt in air.
 - Electric current is passed through water.
 - Ammonia and hydrogen chloride gases are mixed.
- What is a reduction reaction? Identify the substances that are oxidized and the substances that are reduced in the following reactions:
 - $\text{Fe}_2\text{O}_3 + 2\text{Al} \rightarrow \text{Al}_2\text{O}_3 + 2\text{Fe}$
 - $2\text{PbO} + \text{C} \rightarrow 2\text{Pb} + \text{CO}_2$

7. State reason for the following:

- i) Small amount of acid is added to water during electrolysis of water.
- ii) When ammonium chloride is dissolved in water in a test tube, the test tube becomes cold.
- iii) Paint is applied on iron articles.

8. Zinc oxide reacts with carbon, on heating to form zinc metal and carbon monoxide. Write a balanced chemical equation for this reaction. Name oxidizing agent and reducing agent in this reaction.

9. What is redox reaction? Identify the substance oxidized and reduced in the following reactions:



Long Answer Type Questions: [5 Marks]

1. Define rancidity. What kind of substances are used to prevent rancidity? Explain any three methods to prevent rancidity.

2. i) Identify the type of reactions taking place in each of the following cases and write the balanced chemical equations for the reactions:

- a) Barium chloride solution is mixed with copper sulphate solution and a white precipitate is obtained.
- b) On heating copper powder in air, the surface of the copper powder turns black.

ii) What happens when hydrogen gas is passed over the heated copper oxide? Write the chemical equation involved in this reaction.