

## CLASS-10

### Chemical Reaction and Equations

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#### PART-A

Q1- When iron is heated with sulphur iron sulphide is formed. What is the reaction called?

Q2 -What type of reaction is represented by the digestion of food in our body?

Q3-Write the balanced equation for the following chemical reactions. (2 marks)

(i) Hydrogen + Chlorine ----- Hydrogen chloride

(ii) Barium chloride + Aluminium sulphate ----- Barium sulphate + Aluminium chloride

(iii) Sodium + Water ----- Sodium hydroxide + Hydrogen.

Q4-Write a balanced chemical equations with state symbols for the following reactions:

(i) Solutions of barium chloride and sodium sulphate in water react to give insoluble barium sulphate and the solution of sodium chloride.

(ii) Sodium hydrogen solution (in water) reacts with hydrochloric acid solution (in water) to produce sodium chloride solution and water.

Q5-What is meant by a displacement reaction? Give two examples.

Q6-A reaction takes place with the absorption of heat energy. What is this reaction called

Q7 Why the colour of copper sulphate solution change when an iron nail is dipped in it?

Q8“Write the balanced chemical equations for the following and identify the type of reaction in each

(i) Barium chloride (aq) + potassium sulphate (aq) ----Barium sulphate (s) +Potassium chloride (aq)

(ii) Zinc carbonate (s) -----Zinc oxide (s) + Carbon dioxide (g)

(iii) Magnesium (s) + Hydrochloric acid (aq) -----Magnesium chlor“Write the balanced

9. What way the two reactions in each of the following pairs are different from each other?

(i) (a)  $\text{NH}_3 (\text{g}) + \text{H}_2\text{O} (\text{l}) \rightarrow \text{NH}_4\text{OH} (\text{aq})$

(b)  $2 \text{Mg} (\text{s}) + \text{O}_2 (\text{g}) \rightarrow 2 \text{MgO} (\text{s})$

(3 marks)

(ii) (a)  $\text{Zn} (\text{s}) + \text{CuSO}_4 (\text{aq}) \rightarrow \text{ZnSO}_4 (\text{aq}) + \text{Cu} (\text{s})$

(b)  $\text{H}_2\text{S} (\text{aq}) + \text{CuSO}_4 (\text{aq}) \rightarrow \text{CuS} (\text{s}) + \text{H}_2 \text{SO}_4 (\text{aq})$

(iii) (a)  $\text{CaCO}_3 \rightarrow \text{CaO} (\text{s}) + \text{CO}_2 (\text{g})$

(b)  $2\text{H}_2\text{O} (\text{l}) \rightarrow 2\text{H}_2 (\text{g}) + \text{O}_2 (\text{g})$

Q10 Translate the following statements into chemical equations and then balance them.

(i) Hydrogen gas combines with nitrogen to form ammonia.

(ii) Hydrogen sulphide gas burns in air to give water and sulphur dioxide.

(iii) Barium chloride reacts with aluminium sulphate to give aluminium chloride and a precipitate of barium sulphate.

Q11 Write the balanced reactions for the following

(i) Potassium Bromide (aq) + Barium iodide (aq) → Potassium iodide (aq) + Barium Bromide(aq)

(ii) Zinc carbonate (s)  $\rightarrow$  Zinc oxide (s) + carbon dioxide (g)

(iii) Hydrogen (g) + chlorine (g)  $\rightarrow$  Hydrogen chloride

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## PART B

Q1 Take about 5 ml of dil. HCl in a test tube and add a few pieces of fine granules to it. Which gas is evolved?

- (a) Chlorine
- (b) Hydrogen
- (c) HCl
- (d) Nitrogen

Q2 Dissolving suger is an example of-

- (a) Physical change
- (b) Chemical change
- (c) Redox Reaction
- (d) None of these.

Q3 Heat is evolved during

- (a) Endothermic Reaction
- (b) Displacement Reaction
- (c) Combustion Reaction
- (d) Combination Reaction

Q4 When dilute HCl is added to zinc pieces taken in a test tube

- (a) No change takes place
- (b) the colour of the solution becomes yellow.
- (c) A pungent smelling gas gets liberated.
- (d) small bubbles of H<sub>2</sub> gas appear on the surface of zinc pieces

Q5 PbS reacts with ozone (O<sub>3</sub>) and forms PbSO<sub>4</sub>. As per the balanced equation, molecules of ozone required for every one molecule of PbS is / are

- (a) 4 (b) 3
- (c) 2 (d) 1