

CHEMISTRY ASSIGNMENT 1 (CHAPTER 1-3)

CLASS 10

- 1) In the electrolysis of water:
 - a) Name the gas collected at anode and cathode.
 - b) Why is the volume of gas collected at one electrode double than the other.
 - c) What would happen if dilute H_2SO_4 is not added to water.
- 2) "PH has a great importance in our daily life." Explain by giving three examples.
- 3) A compound which is prepared from gypsum has the property of hardening when mixed with a proper quantity of water. Identify the compound and write chemical formula. Write the chemical equation for its preparation. Mention uses of the compound.
- 4) Answer following :
 - a) What is reactivity series? How does the reactivity series of metals help in predicting the relative activities of various metals?
 - b) Suggest different chemical processes used for obtaining a metal from its oxides for metals in the middle of the reactivity series and metals towards the top of the reactivity series support your answer with one example each.
- 5) What do you observe when you drop a few drops of Acetic acid in a test tube containing :
 - a) Phenolphthalein
 - b) Universal indicator(pH paper)
 - c) Distilled water
 - d) sodium hydrogen carbonate
- 6) Give the example of a reaction in which following changes occurs
 - a) Change in colour
 - b) Change in physical state
 - c) Exothermic reaction
 - d) Endothermic reaction
 - e) Formation of precipitate
 - f) Evolution of gas

- 7) How are sodium hydroxide and chlorine gas produced from common salt. What is this process called?
- 8) Differentiate between metals and non-metals on the basis of their chemical properties.
- 9) A gas is liberated immediately with a brisk effervescence when you add Acetic Acid to sodium hydrogen carbonate powder in a test tube .Name the gas and describe the test that confirms the identification of the gas. Write the chemical reaction involved.
- 10) What type of material is formed when aqueous solution of sodium sulphate and Barium Chloride are mixed. Give the balance chemical equation involved. Name the type of reaction it is.
- 11) Write the reactions for following :
- While studying the combination reaction on adding water to quicklime, name the product formed and write its colour.
 - While studying the decomposition reaction by heating ferrous sulphate crystals in a test tube ,a product is formed in the test tube. Name the product and write its colour.
 - Dilute sulphuric acid reacts with aluminium powder .
 - Dilute hydrochloric acid reacts with sodium carbonate.
 - Carbon dioxide is passed through lime water.
 - Decomposition of a substance used in black and white photography. Write the colour change.
- 12) A metal 'M' is found in nature as its carbonate. It is used in the galvanising of iron. Identify 'M' and name its ore. How will you convert this into free metal?
- 13) Answer following:
- What is observed when a solution of potassium iodide is added to a solution of Lead Nitrate taken in a test tube?
 - What type of reaction is this?
 - Write a balanced chemical equation to represent the above reaction.
- you are provided with three test tubes A ,B and C which contain distilled water, acidic solution and basic solution respectively. If you are given blue Litmus Paper only how will you identify the contents of each test tube.
- 14) Name the substance oxidized and the substance reduced and also identify the oxidising agent and reducing agents in the following reaction:

- a) $3\text{MnO}_2 + 4\text{Al} \rightarrow 3\text{Mn} + 2\text{Al}_2\text{O}_3$
- b) $\text{Fe}_2\text{O}_3 + 3\text{CO} \rightarrow 2\text{Fe} + 3\text{CO}_2$
- c) $\text{SO}_2 + 2\text{H}_2\text{S} \rightarrow 3\text{S} + 2\text{H}_2\text{O}$
- 15) Give reasons for following:
- Lemon is used for restoring the shine of tarnished copper vessels.
 - A metal sulphide is converted into its oxide to extract the metal from the sulphide ore.
 - Copper wires are used in electrical connections.
 - Aluminium do not displace hydrogen from nitric acid.
 - Baking powder makes cake soft and spongy.
 - Blue colour copper sulphate disappears when some aluminium powder is added in it.
- 16) Define the following: A) Malleability B) Ductility C) Ore D) Ionic compounds E) Universal indicator F) Rancidity G) Corrosion F) Neutralization reaction G) Roasting H) Calcination I) Ore J) Metallurgy
- 17) How washing soda is obtained from baking powder. Justify with the reactions. Give the uses of washing soda as well as baking powder.
- 18) What are amphoteric oxides? Give the reaction of the amphoteric oxide with base and acid.