

**Higher Secondary – Second year****Chemistry (Vol-2)****Question Bank****Unit– 8. Ionic equilibrium.**

1. Write the Arrhenius concept of acids and bases? Give example.
2. Discuss the Lowry – Bronsted theory of acids and bases? Give example?
3. What are Lewis acids and bases? Give two examples for each.
4. Define ionic product of water. Give its value at room temperature?
5. Explain common ion effect with an example?
6. Define  $P^H$ ?
7. Derive the Ostwald dilution law?
8. What are the buffer solutions?
9. Define the solubility product?
10. Relate  $P^H$  and  $P^{OH}$ ?
11. Write the expression for the solubility product of  $Ca_3(PO)_4$ ?
12. Write the expression for the solubility product of  $Hg_2Cl_2$ ?
13. Calculate the  $P^H$  of 0.04M  $HNO_3$ ?

**Unit– 9. Electrochemistry.**

1. Define molar conductance?
2. Define equivalent conductance?
3. What are the factors affecting electrolytic conductance?
4. Why molar conductance increase on dilution?
5. Why does conductivity of a solution decrease on dilution of the solution?
6. Why is AC current used instead of DC in measuring the electrolytic conductance?
7. State Kohlrausch law?

8. How determine the molar conductivity of weak electrolyte at infinite dilution based on Kohlrausch law?
9. Discuss the Standard Hydrogen Electrode (SHE)?
10. How will you calculate emf of cell?
11. Define standard electrode potential?
12. State faraday first law and second law for electrolysis?
13. Discuss the thermodynamic quantities of cell reactions?
14. Derive the expression for Nernst equation?
15. What is electrochemical equivalence?
16. Describe the electrolysis of molten NaCl using inert electrodes?
17. Discuss  $H_2 - O_2$  fuel cell?
18. Write short notes on sacrificial electrode?

**Unit– 10. Surface Chemistry.**

1. What are Physisorption? Give its example?
2. What are Chemisorptions? Give the example?
3. Discuss the characteristics of adsorption?
4. Distinguish between Chemical and Physical adsorption?
5. In case of chemisorptions, why adsorption first increases and then decrease with temperature?
6. Which will be adsorbed more readily on the surface of charcoal and why?  $NH_3$  or  $CO_2$ ?
7. Heat of adsorption is greater for chemisorptions than Physisorption. Why?
8. Write freundlich adsorption isotherm? And its limitation?
9. What is catalyst?
10. Write short notes on positive and negative catalysis?
11. What are the promoters and catalyst poisons?

12. Discuss the characteristics of catalysts?
13. Define Auto catalysis?
14. Discuss the intermediate theory of catalysis?
15. Discuss the adsorption theory of catalysis?
16. What are active centres?
17. What is the difference between sol and gel?
18. Differentiate lyophobic and lyophilic colloids?
19. Write short notes on Tyndall effect and Brownian movement?
20. Write short notes on electrophoresis and electro osmosis?
21. What is peptisation?
22. What is coagulation?
23. Explain condensation methods for colloids preparation?
24. Discuss the enzyme catalysis?
25. Discuss the zeolites catalysis?

#### **Unit-14. Biomolecules**

1. What is anomer?
2. What are epimer?
3. Write short notes on mutarotation?
4. What is invert sugar?
5. Discuss the structure of glucose?
6. Explain the structure of fructose?
7. Write cyclic structure of glucose and fructose?
8. Write the importance of carbohydrates?
9. What is zwitter ion?
10. What is isoelectric point of amino acids?
11. Explain peptide bond formation?
12. Discuss the types of RNA?

13. Explain the structure of proteins?
14. Explain the types of proteins?
15. Discuss the denaturation of proteins?
16. Differentiate hormones and vitamins?

#### **15 – CHEMISTRY IN EVERYDAY LIFE**

1. Differentiate disinfectant and antiseptic?
2. Write short notes on antioxidants?
3. Write short notes on antibiotics?
4. What are food preservatives?
5. Explain the cleaning activity of soap and detergents?
6. What are artificial sugars?
7. What is vulcanization of rubbers?
8. Preparation of terylene?
9. Preparation of Teflon?
10. Preparation of nylon-6?
11. Preparation of nylon-6,6?
12. Preparation of buna-N rubber?
13. Preparation of buna-S rubber?
14. Explain narcotic and non-narcotic drugs.
15. What is ant-acids?