**SAINIK SCHOOL GOAPLGANJ**

**SUMMER VACATION ASSIGNMENT : 2021-22**

**CHEMISTRY**

**PROJECT**

1. Project to study electrochemical principles on any electrochemical cell.
2. Project to study the diffusion of solids in liquids.

**Extra Questions:**

1. Draw the structure of Graphite and diamond.
2. Derive the formulae of Packing Efficiency of hcp, body – centred and simple cubic with the help of neat diagrams.
3. Solve all the numerical problems (intext and exercise) from the chapter Solid State.
4. Explain Schottky Defect, Frenkel Defect , Impurity Defect and, F- Centre with the help of neat diagram.
5. What are p-type and n- type semiconductor? Give examples.
6. Explain magnetic properties on the basis of magnetic moments with suitable diagram.
7. Solve all the questions of the chapter Solution (intext and exercise).w
8. Explain Raoult’s law graphically and find out the formula for total pressure.
9. Explain Maximum and Minimum Boiling Azeotrope with the help of suitable graph.
10. Find out the formula for molar mass of the solute on the basis of ‘elevation of boiling point’.
11. Explain Osmosis, Osmotic Pressure, Reverse Osmosis, Isotonic, Hypertonic and Hypotonic solution.
12. What is meant by Abnormal Molar Mass. Find out the formula for ‘i’ in both Association and Dissociation.
13. Explain the functioning of Daniel Cell with the help of a neat diagram.
14. Draw the diagram for S H E . How will you measure the electrode potential with the help of this.
15. Solve all the numerical problems (intext and exercise) from the chapter Electrochemistry.
16. Explain Limiting Molar Conductivity graphically.
17. Draw the neat and clean diagram of Dry Cell and Lead Storage Batteries. Explain their functioning.
18. Explain the term ‘Instantaneous Rate Of Reaction’ for both reactant and product of the reaction.
19. Solve all the numerical problems (intext and exercise) from the chapter Chemical Kinetics.
20. Derive the formulae for the Rate Constant of Zero and First order reaction.
21. Explain the dependence of the rate of reaction on temperature. Derive the relationship between the Rate Constant and temperature .
22. Project to study electrochemical principles on any electrochemical cell.
23. Project to study the diffusion of solids in liquids.