

I YEAR CHEMISTRY IPE QUESTION PAPER – MARCH 2010

SECTION - A

I. Answer all the following : **10 × 2 = 20**

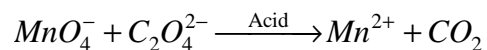
1. What are the coordination numbers of NaCl and CsCl crystals ?
2. What is the effect of hydrogen bonding on boiling points ?
3. What are disproportionation reactions ? Give an example.
4. What is Deuterolysis ? Give an example.
5. Give the formulae of Barytes and Dolomite.
6. What is the kinetic energy of 5 moles of N_2 gas at $27^\circ C$ in calories ?
7. Name two important sinks for carbondioxide.
8. Define C.O. D and B.O.D
9. Write the structures of the following compounds.
 - (a) 3 – chloro – 4 – methyl hexane
 - (b) 2 – Methoxy – 3, 3 – dibromo – 1- pentanol
10. What is functional group isomerism ? Give an example.

SECTION - B

II. Answer any six of the following : **6 × 4 = 24**

11. Explain sp^3d^2 hybridization with an example.
12. Write the reactions of Diborane with the following along with equations.
 - (a) NH_3 at $120^\circ C$ and $200^\circ C$
 - (b) HCl in the presence of $AlCl_3$
13. 100cm^3 of CO_2 gas is diffused in 25 seconds through a porous membrane. How much time does the same volume of sulphur dioxide gas take to diffuse.

14. Balance the following reaction by Ion – electron method.



15. Describe the electrolytic method for the preparation of H_2O_2

16. Mention the hybridizations of Xenon in XeF_4 and XeF_6 and give their structures.

17. Describe the preparation of NaOH by Nelson cell.

18. What is Blue gas ? How is it prepared ?

SECTION - C

III. Answer any two of the following :

2 × 8 = 16

19. What are Quantum numbers ? Explain the significances of various types of quantum numbers.

20. Define $I.P_1$ and $I.P_2$. Why $I.P_2$ is greater than $I.P_1$? Discuss four factors effecting I.P. values of elements.

21. a) Describe any two methods for the preparation of Ethylene.

b) i) How C_2H_2 reacts with HCl ? Give the equation.

ii) How C_6H_6 reacts with $\text{C}_2\text{H}_5\text{Cl}$ in the presence of anhydrous AlCl_3 ? Give the equation.