INTERMEDIATE-II YEAR CHEMISTRY

Model Paper-1

Time: 3hours   **Maximum marks: 60**

SECTION-A

 NOTE: Answer all questions.   **(10x2=20M)**

1. What are Frenkel and Schottky defects in crystalline solids ?

2. What is van't Hoff factor 'i' and how it is related to α in the case of a binary

   Electrolyte (1:1)?

 3. How is Gibbs free energy related to the emf of the cell mathematically?

4. Calculate the 'spin only' magnetic moment of $Fe^{2+}_{(aq)}$ ion.

5. What is the role of depressant in froth floatation process?

6. Explain Ferromagnetism with suitable examples.

7. What is condensation polymer? Give example.

8. Write the names and structures of monomers of the following polymers?

   i) Bakelite   and   ii) Nylon- 6, 6.

9. How is Ethane converted into bromo ethane?

10. What are ambident nucleophiles? Give an example.

SECTION-B

Note: Answer any Six of the following. **(6x4m=24marks)**

11. What is relative lowering of vapour pressure?

    Calculate the mass of a non-volatile solute (molar mass 40g) which should be dissolved in 114gm octane to reduce its vapour pressure to 80%.

12. Compare and contrast the phenomenon of physisorption and chemisorption.

13. Giving examples to differentiate roasting and calcination.

14. Explain the structure of a) XeF_2 and b) XeF_4

15. What is lanthanoid contraction? What are the consequences of lanthanoid contraction?

16. Give the sources of the following vitamins and name the diseases caused by their deficiency.

    a) A   b) D   c) E   and   d) K

17. What are antacids and antihistamines? Give example.

18. Explain   (a) Hoffmann bromamide degradation reaction and (b) Gattermann reaction

SECTION-C

Note: Answer any Two of the following questions. **(8x2=16M)**

19. a) State and explain Nernst equation with the help of a metallic electrode .

    b) What is 'molecularity' of a reaction? How is it different from the 'order' of a reaction? Name one bimolecular and one tri molecular gaseous reactions

20. a) How does SO_2 reacts with the following? Give equations.

i) $Na_2SO_{3(aq)}$ ii) Cl_2 iii) Fe^{+3} ions   iv) $KMnO_4$

b) Write balanced equations for the following?

a) NaCl is heated with conc. H_2SO_4 in the presence of MnO_2

b) Chlorine is passed into a solution of NaI in water.

21. a) Give the equations for the preparation of phenol from

a) Cumune   and   b) Benzene, conc. H_2SO_4 and NaOH

b) Complete each synthesis by giving missing starting material, reagent or products.

i.

ii.

iii.

iv.

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