BOARD OF INTERMEDIATE EDUCATION

SENIOR INTER CHEMISTRY

MODEL PAPER

Time: 3 hours **Max. Marks: 60**

SECTION - A

I. i) Very short answer type questions.

ii) Answer ALL questions.

iii) Each question carries TWO marks. **10 × 2 = 20**

1. What is reverse osmosis? What is its practical utility?

2. Calculate half life period of first order reaction whose rate constant is 200 sec^{-1}.

3. What is 'matte'? Give its composition.

4. What is 'aquaregia'? Write its reaction with gold and platinum.

5. How is $XeOF_4$ prepared? Discuss its molecular structure.

6. Zn^{+2} is diamagnetic whereas Mn^{+2} is paramanganetic. Why?

7. What is 'Zwitter ion'? Give one example.

8. What is 'denaturaton of proteins'?

9. What are 'Antibiotics'? Give two examples?

10. What are 'Tranquilizers'? Give two examples.

SECTION - B

II. i) Short answer type questions.

ii) Answer any SIX questions.

iii) Each question carries FOUR marks. **6 × 4 = 24**

11. What are lyophilic and lyophobic sols? Compare them in terms of stability and reversibility.

12. Explain the following stoichiometric defects with structures.

a) Schottky defect b) Frenkel defect

13. State Raoult's law. Calculate the vapour pressure of a solution containing 10 gms of a non volatile solute in 80 gms of ethanol at 298 K. Given the molar mass of solute as 120 and the vapour pressure of alcohol at 298 K is 22.45 mm.

14. Explain froth flotation method for the purification of sulphide ores.

15. Explain Werner's theory of coordinate compounds with suitable examples.

16. Write the names and structures of the monomers of the following polymers.

a) Teflon b) Bakelite c) Polyvinyl Chloride d) Dacron

17. Explain the following

a) Enantiomers b) Recemic mixture

18. Write short notes on

a)) Wurtz - Fittig reaction b) Gattermann - Koch reaction

SECTION - C

III. i) Long answer type questions.

ii) Answer any TWO questions.

iii) Each question carries EIGHT marks. **$2 \times 8 = 16$**

19. a) How is nitric acid manufactured by Ostwald's process?

b) Write the reactions of O_3 with

i) Hg ii) KI iii) PbS iv) C_2H_4

20. a) Explain the effect of temperature and catalyst that effect the rate of reaction.

b) What are Galvanic cells? Explain the working of Galvanic Cell with a neat sketch taking Daniel cell as an example.

21. Write the following named reactions with one example for each.

a) Aldol condensation b) Hell-Volhard-Zelensky reaction

c) Kolbe's reaction d) Clemmensen reduction of aldehydes