

**Sr. Inter Chemistry Model Paper**

**Time: 3Hrs**

**Max.Marks:60**

**Note:** Read the following instructions carefully.

1. Answer all questions of 'Section-A'. Answer any six questions in 'Section-B' and any two questions in 'Section - C'.
2. Answer all the questions in 'Section - A' in a sequence.
3. Draw labeled diagrams wherever necessary for questions in 'Section - B' and 'C'. No need of drawing any diagram in 'Section - A'.

**SECTION – A**

**I. VSAQ: Answer ALL the questions.**

**10 × 2 = 20M**

1. What is PDI (Polydispersity Index)?
2. How is Dacron obtained from ethylene glycol and Terephthalic acid?
3. State Raoult's law.
4. What are pseudo first order reactions? Give one example.
5. How cast iron different from pig iron?
6. What are food preservatives? Give example.
7. Which halogen produces O<sub>2</sub> and O<sub>3</sub> on passing through water?
8. Calculate the spin only magnetic moment of Fe<sup>+2</sup><sub>(aq)</sub> ion.
9. What are artificial sweetening agents? Give example.
10. Write equation for the preparation of Phenol from Cumene.

**SECTION – B**

**II. SAQ: Answer any SIX of the following questions.**

**6 × 4 = 24M**

11. Boiling point of water at 750 mm of Hg is 99.63°C. How much sucrose is to be added to 500g of water such that it boils at 100°C. Molal elevation constant for water is 0.52 K kg mol<sup>-1</sup>.
12. What are different types of adsorption? Give any four differences between characteristics of the different types.
13. Give examples to differentiate between Roasting and Calcination.

14. Using IUPAC norms write the formulas for the following:

- i) Tetrahydroxozincate (II)
- ii) Hexamminecobalt (III) sulphate
- iii) Potassium tetrachloropalladate (II) and
- iv) Potassium Tri(oxaiato) chromate (III)

15. Derive Bragg's equation.

16. Write a note on vitamins.

17. Explain the mechanism of  $S_N2$  reaction with one example.

18. Explain the following name reactions

- (i) Sandmeyer reaction
- (ii) Gattermann reaction

### SECTION – C

**III. LAQ: Answer any TWO of the following questions.**

**2 × 8 = 16 M**

19. a) State and explain Kohlrausch's law of independent migration of ions.

b) The conductivity of 0.2M solution of  $KCl$  at 298K is  $0.0248\text{Scm}^{-1}$ . Calculate the molar conductance.

20. a) Explain the structure of

- i)  $\text{XeF}_2$       and      ii)  $\text{XeF}_4$ .

b) How is  $\text{O}_3$  prepared from oxygen? Explain its reactions with

- i)  $\text{C}_2\text{H}_4$       ii)  $\text{Hg}$

21. Write the following named reaction with one example.

- (a) Williamson synthesis
- (b) Reimer - Tiemann reaction
- (c) Cannizzaro reaction
- (d) Decarboxylation reaction.