Sr. Inter Chemistry Model Paper

Time : 3 Hrs   [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 x 2= 20 M**

1. What is PDI (Poly Dispersity Index)?

2. How is Dacron obtained from ethylene glycol and terephthalic acid.

3. State Raoults 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_2 and O_3 on passing through water?

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

9. What are artificial sweetening agent? Give example?

10. Write equation for the preparation of Phenol from Cumene.

SECTION-B

II.   **SAQ: Answer any SIX of the following questions.**   **6 x 4 = 24 M**

11. Boiling point of water at 750 mm Hg is 99.63°C. How much sucrose is to be added to 500 g of water such that it boils at 100°C. Molal elevation constant for water is 0.52 K kg mol^{-1}.

12. What are different types of adsorption? Give any four differences between characteristics of the different types.

13. Giving examples to differentiate between roasting and calcination

14.   Using IUPAC norms write the formulas for the following:
    (i) Tetrahydroxozincate (II)   (ii) Hexammine cobalt (III) sulphate
    (iii) Potassium tetrachloro palladate (II) and   (iv) Potassium tri(oxaiato) chromate (III)

15.   Derive Bragg's equation.

16. Write a note on vitamins.

17. Explain the mechanism of SN^2 reaction with one example.

18. Explain the following name reactions

    (i) Sandmeyer reaction   (ii) Gatterman reaction

SECTION-C

III. LAQ: Answer any TWO of the following questions.   **2 x 8 = 16 M**

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

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

20. a) Explain the structure of (a) XeF_2 and (b) XeF_4.
    b) How is O_3 prepared from oxygen? Explain its reactions with

    a) C_2H_4 b) Hg

21. Write the following named reaction with one example.
    (a) Williamson synthesis   (b) Reimer - Tiemann reaction
    (c) Cannizzaro reaction   (d) Decarborylation reaction.