

Total No. of Questions : 21]

[Total No. of Printed Pages : 4

XIIKDRO/N19

24802-Z

CHEMISTRY

Time : 3 Hours]

[Maximum Marks : 70

(Long Answer Type Questions)

5 each

1. What are carboxylic acids ? Describe briefly the methods of preparation of carboxylic acids.

Or

How does acetaldehyde react with :

- (i) Hydroxylamine
 - (ii) Hydrazine
 - (iii) Semicarbazide
 - (iv) Hydrogen cyanide
 - (v) Sodium bisulphite
2. State Kohlrausch's law for electric conductance of an electrolyte at infinite dilution. Give an example.

Or

Define corrosion. What are the various factors affecting corrosion ?
How can it be prevented ?

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Turn Over

B-2-Z

3. Discuss the general properties of transition elements with reference to 3d-transition series.

Or

Give the method of preparation of KMnO_4 . Discuss three oxidising properties of it in acidic medium.

4. Name the important oxides and oxoacids of nitrogen and phosphorus. Give their structures:

Or

What are interhalogen compounds ? Give the structures of IF_7 and ClF_3 .

(Short Answer Type Questions)

3 each

35. What are point defects in crystals ? Describe the Schottky defect in crystals.
36. Give characteristics of physical and chemical adsorption.
37. How will you convert phenol into ?
- (i) Salicylaldehyde
 - (ii) Benzene
 - (iii) Picric acid
38. How is PCl_3 prepared ? Give its reaction with ?
- (i) SO_3
 - (ii) S_2Cl_2
39. Distinguish between ideal and non-ideal solutions.
- 3 10. Give the uses and environmental effects of DDT.

11. What are the diseases caused due to deficiency of Vitamin A, D and C ?
12. Give at least *three* points of difference between molecularity and order of a reaction. <https://www.jkboseonline.com>

(Very Short Answer Type Questions)

2 each

13. What is meant by the terms ?
- (i) Smelting
 - (ii) Roasting
14. Molality of a solution is 0.1. Elaborate with an example.
15. Give mechanism of diazotisation reaction.
16. Differentiate between rate of reaction and rate constant.
17. What are artificial sweetening agents ?
18. Give one test for distinction of 1°, 2°, and 3° amines.
19. Give the geometry of the following complexes.
- (i) $[\text{Ni}(\text{CO})_4]$
 - (ii) $[\text{Ni}(\text{CN})_4]^{2-}$
20. Define a homopolymer giving an example.

(Objective Type Questions)

21. (i) The coordination number of each sphere in hexagonal close packing is
- (ii) Cast iron is usually extracted from the ore
- (iii) Freon is used as a refrigerant. (True/False)
- (iv) Aldehydes are more easily oxidised than ketones. (True/False)

- (v) Name the monomer of Nylon-6.
- (vi) What is the directive influence of phenolic group ?
- (vii) What is a monodentate ligand ?
- (viii) Preservative used to protect processed food is :
- (A) Sodium sulphate
 - (B) Saccharin
 - (C) Sodium metabisulphite
 - (D) Sodium benzoate
- (ix) Soap removes grease by :
- (A) Adsorption
 - (B) Emulsification
 - (C) Coagulation
 - (D) None of these
- (x) Amino acids are building blocks of :
- (A) Carbohydrates
 - (B) Vitamins
 - (C) Fats
 - (D) Proteins