

HSETIRKON17

15319-A

CHEMISTRY

(Long Answer Type Questions)

1. What are galvanic cells ? Describe the construction of Daniell cell and the reactions involved. How is it represented ?

Or

State Kohlrausch's law for electric conductance of an electrolyte at infinite dilution. Give an example.

2. How is ammonia manufactured industrially ? Draw flow chart for manufacture of ammonia. Give any two uses of ammonia

Or

Discuss the gradation in the following properties of the elements of group 17:

- (a) Ionisation Potential (b) Electronegativity
(c) Oxidising power (d) Bond energy (e) Atomic radius

3. What is Lanthanide Contraction ? What is its cause and what consequences?

Or

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

4. Describe briefly the mechanism of nucleophilic addition reaction. Explain the relative reactivities of aldehydes and ketones toward these reactions.

Or

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

(Short Answer Type Questions)

5. Briefly describe the radius ratio rules.

6. Give characteristics of physical adsorption and chemisorptions.

7. What are Phenols? How do they differ structurally from aromatic alcohols ?

8. What are Interhalogens ? How are they formed? Give structure of IF ?

9. Distinguish between ideal and non-ideal solutions

10. Give three physical and chemical properties of haloalkanes.

11. What are carbohydrates? How are they classified ?

12. Give at least three points of difference between molecularity and order of reactions.

(Very Short Answer Types Question)

13. What is the actual reducing agent of hematite in the blast furnace?

14. What do you mean by saying that the molality of a solution is 0.1? Give an example.

15. How are Carbonyl laminates formed?

16. The reaction $A + B \rightarrow C$ has zero order. What is the rate equation for such a reaction?

17. Name a broad spectrum antibiotic and state two diseases for which it is prescribed.

18. What is an ambident group? Give two examples

19. Give IUPAC names for :

$K_3[Fe(CN)_6]$ and $[CoCl_2(NH_3)_4]$

20. Write the information asked for the polymer.

(a) Bakelite : materials used for its preparation

(b) Synthetic rubber : monomer unit

(Objective Type Questions)

21. (i) What is the coordination number of CS^+ and Cl^- ions in the $CaCl$ structure?

(ii) What is annealing?

(iii) The well known refrigerant Freon has the formula.....

(iv) What type of aldehydes and ketones undergo aldol condensation?

(v) Nylon is a Vinyl polymer,

(vi) Phenols form coloured complex with neutral ferric chloride. (True / False)

(vii) Porphyrin ligand in haemoglobin isdentate.

(viii) Which is used as a preservative to protect processed food?

(a) Sodium sulphate

(b) Saccharin

(c) BHT

(d) Sodium metabisulphite.

(ix) Action of a catalyst depends :

(a) Mass

(b) Solubility

(c) Particle size

(d) None of the above

(x) Amino acids are building blocks of :

(a) Carbohydrates

(b) Vitamins

(c) Fats

(d) Proteins