



SHIKSHA CLASSES

Subject : Chemistry
Class : XII

Topic: 9. Co-ordination Compound

Total Marks : 20
Time : 1 Hr.

Section A

Q.1 : Select and write the most appropriate answer from given alternatives in each sub-question . 5

- i) The complex ion $[\text{Co}(\text{NH}_3)_3\text{Br}]\text{SO}_4$ and $[\text{Co}(\text{NH}_3)_3\text{SO}_4]\text{Br}$ are
- a) Ionization Isomer b) Linkage Isomer
c) Co-ordinate Isomer d) Hydrate Isomer
- ii) Which of the following complex shows Trigonal bi-pyramidal Geometry?
- a) $[\text{Fe}(\text{CO})_5]$ b) $[\text{Ni}(\text{CN})_4]^{2-}$ c) $[\text{Ni}(\text{CO})_4]$ d) $[\text{Cu}(\text{CN})_2]$
- iii) A Complex involved sp^3 Hybridization is
- a) Tetrahedral b) Square Planer
c) Octahedral d) Trigonal Bi-pyramidal
- iv) Cobalt contain in Vitamin
- a) B_{12} b) B_1 c) B_6 d) A
- v) Which of the following has a coordination number as a feature?
- a) Coordination entity b) Ligand
c) Central atom d) Coordination compound

Q.2 : Very short answer type Question. 2

- i) What is primary valency in co-ordinate complex?
- ii) What is the geometry of $[\text{Ni}(\text{CN})_4]^{2-}$ complex?

Section B

Attempt any THREE. 6

Q.3 : What are the Isomer in Co-ordination Compound of Linkage Isomer Explain with an example ?

Q.4 : Explain the structure of complex: $[\text{CO}(\text{NH}_3)_4\text{Cl}_2]$ in Geometrical Isomer.

Q.5 : What are the Assumption of Valence Bond Theory?

Q.6 : What are the Effective Atom Number (EAN). Explain with an Example.

Section C

Attempt any one of following.

3

Q.7 : Explain the structure of $[\text{Ni}(\text{CN})_4]^{2-}$ On the basis of Valence Bond Theory.

Q.8 : Write the formula for following compounds.

- Tris(ethylenediammine) Cobalt (III)
- Potassium hexacyano ferrate (III) Chloride
- Tetracarbonyl Nickel (0)

Section D

Attempt any one.

4

Q.9 : Explain the geometrical Isomer of $[\text{COCl}_2(\text{en})_2]^+$

Q.10 : Explain the application of co-ordination compound.

Q.11: Explain types of ligands.

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