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**Max Time : 1 hr** **Class = 12th Chemistry Test**  **Max Marks : 25**

**Co-ordination compounds – 2**

1. What is meant by chelating effect? Give one example. [ 1 ]
2. Why is CO a strong ligand than Cl – ? [ 1 ]
3. How many isomers are there for octahedral complexes [Co Cl2 (en) (NH3)3 ] + ? [ 1 ]
4. What type of isomerism is shown by the following complexes: [Co (NH3)6 ] [Cr (CN)6 ] ? [ 1 ]
5. Write the electronic configuration of Fe (III) on the basis of crystal field theory when it forms an octahedral complex in the presence of: [ 1 ]

(i) Strong field ligand (ii) Weak field ligand

1. Why are low spin tetrahedral complexes not formed? [ 1 ]
2. Write IUPAC name of the complex [Co (en)2 (NO2) Cl ] +. What type of structural isomerism is shown by this complex? [ 1 ]
3. [Ni Cl4] 2 – is paramagnetic while [Ni (CO)4] is diamagnetic though both are tetrahedral. Why? [ 2 ]
4. What is meant by unidentate , Bidentate and Ambidentate ligands? Give two examples for each.

[ 3 ]

1. Write the formulas for the following co-ordination compounds: [ 3 ]
2. dichloridobis(ethane-1,2-diamine) platinum (IV) nitrate.
3. potassium tetracyanidonickelate (II).
4. diamminechlorido(methylamine) platinum (II) chloride.
5. Write IUPAC names of the following coordination compounds: [ 3 ]

(a) [Co (NH3)5 Cl ] Cl2 (b) [Pt (NH3) Br Cl (NO2) ] –  (c) [Zn (OH)4 ] 2 –

1. (a) For the complex [Fe (H2O)6 ]3 +, write the hybrisation , magnetic character and spin of the

complex. [ 3 ]

(b) Draw one of the geometrical isomer of the complex [Pt (en)2 Cl2]2+ which is optically active.

1. (a) If PtCl2. 2 NH3 does not react with AgNO3 , what will be its formula? [ 4 ]

(b) What is the secondary valency of [Co (en)3 ] 3+ ?

(c) Write the Hybridisation and magnetic behavior of [Ni (CN)4 ] 2 – .