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**CYCLE TEST-2**

**GRADE – XII MARK - 20**

**SUBJECT – CHEMISTRY(043) TIME – 40 MINS**

1. Indicate the types of isomerisms exhibited by the complex [Co(NH3)5 (NO2)] (NO3)2. (1m)

2. Give two examples of ligands which form coordination compounds useful in analytical chemistry.(1m)

3. Why are low spin tetrahedral complexes not formed? (1m)

4. Which of the following is more stable complex and why?  
[Co(NH3)6]3+ and [Co(en)3]3+ (1m)

5. What is the IUPAC name of the complex [Ni(NH3)6]Cl2? (1m)

6. Describe the shape and magnetic behaviour of following complexes:(3m)

(i)[CO(NH3)6]3+  
(ii) [Ni(CN)4]2-

7. Explain why [Co(NH3)6]3+ is an inner orbital complex whereas [Ni(NH3)6]2+ is an outer orbital complex.(3m)

8. Compare the following complexes with respect to their shape, magnetic behaviour and the hybrid orbitals involved (i)[CoF4]2- (ii)[Cr(H2O)2(C2O4)2]– (iii) [Ni(CO)4] (3m)

9. Magnetic moment of [MnCl4]2- is 5.92 BM. Explain why.(3m)

10. On the basis of crystal field theory explains why Co (III) forms a paramagnetic octahedral complex with weak field ligands whereas it forms a diamagnetic octahedral complex with strong field ligands.(3m)