Model Question Paper

Coordination Compounds and Bio-Coordination Compounds - Part III

12th Standard

Chemistry

Reg.No. : | | | | | | |

I.Answer all the questions.

II.Use Blue pen only.

Time : 01:00:00 Hrs

Total Marks : 60

Section-A

5 x 1 = 5

1) The co-ordination number of Cr(III)in $[Cr(H_2O)_4Cl_2]Cl.2H_2O$

   (a) 3 (b) 4 (c) 6 (d) 2

2) An example of bidentate chelating ligand is

   (a) NO_2^- (b) NO_3^- (c) en (d) SO_4^{2-}

3) Chlorophyll is a _____ complex

   (a) Magnesium-Porphyrin (b) Iron-Porphyrin (c) Copper-Porphyrin (d) Nickel-Porphyrin

4) A simple salt is formed by the neutralization of

   (a) an acid by a base (b) an oxidizing agent by a reducing agent (c) a complex salt by a double salt (d) all of these

5) Which of one of the following is a false statement regarding a double salt

   (a) it dissocciates in solution into its constitutent icons (b) it retains its properties in solid state (c) It is also called as lattice compound

   (d) It does not give the test of all its constituent icons in solution

Section-B

5 x 3 = 15

6) What are the special features of a coordination sphere?

7) How are ionization isomers identified?

8) Define primary and secondary valencies

9) What is the requirement of a ligand?

10) What is the use of EDTA in titration experiments?

Section-C

4 x 5 = 20

11) $[Ni(CN)_4]^{2-}$ diamagnetic, whereas $[NiCl_4]^{2-}$ is paramagnetic. Explain.

12) $[Cu(NH_3)_4]^{2+}$ is square planer, where as $[NiCl_4]^{2-}$ is tetrahedral. Explain.

13) Explain the limitations of VB theory.

14) Taking $[FeF_6]^{4-}$ as an example, discuss geometry, nature of d-orbital splitting and magnetic property using VB theory.

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