Co-ordination Compounds

Q1 ⇒ IUPAC Name of complex $K_3[Al(C_2O_4)]$ is

(A) Potassium alumino-oxalate (C) Potassiumaluminium(III) oxalate

(B) Potasium Trioxalate aluminate(III) (D) Potasium trioxalatealuminium(IV)

Q2 ⇒ Type of isomerism exhibited by $[Cr(NCS)(NH_3)_5][ZnCl_4]$

(A) Coordination isomerism (B) Linkage isomerism

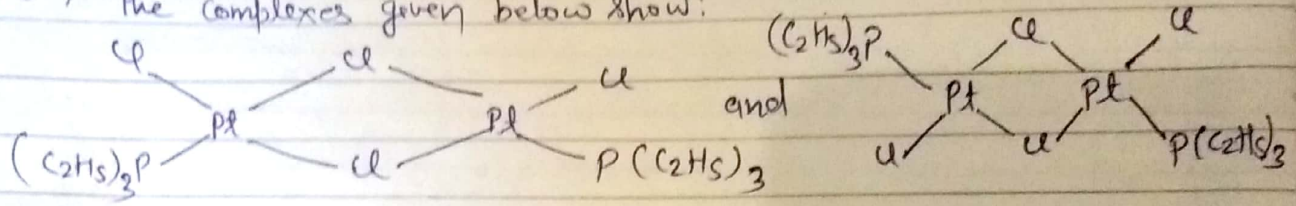
(C) Ionization isomerism (D) Both Coordination & Linkage isomerism.

Q3 ⇒ Which complex ion has not tetrahedral geometry.

(A) $[AgF_4]^-$ [B] $[HgI_4]^{2-}$

(C) $[NiCl_4]^{2-}$ (D) $[Ni(CN)_4]^{4-}$

Q3 ⇒ The complexes given below show:



(A) Optical isomers (B) Coordination isomers

(C) Geometrical isomers (D) Coordination Position isomerism

Q4 ⇒ In Which of the following complexes the Nickel metal is in highest oxidation state

(A) $[Ni(CO)_4]$ (B) $[Cr(NH_3)_6]_2[NiF_6]_3$

(C) $[Ni(NH_3)_6](BF_4)_2$ (D) $K_4[Ni(CN)_6]$

Q5 ⇒ The total No. of Possible isomers of the Compound $[Cu^{II}(NH_3)_4][Pt^{II}Cl_4]$ are:

(A) 3 (B) 5

(C) 4 (D) 6

Q6 ⇒ Which of the following complex exhibits cis-Trans isomerism.

(A) $[Zn(gly)_2]$ (B) $[Cl_4(en)(NH_3)_2]^+$

(C) $[Pt\,BrCl(NH_3)(Py)]$ (D) $[Ni(CN)_2(CO)_2]^{2-}$

Q7 ⇒ The hybridisation and unpaired electrons in $[Fe(H_2O)_6]^{2+}$ ion

(A) sp^3d^2 , 4 (B) d^2sp^3 ; 3
(C) d^2sp^3 , 4 (D) sp^3d^2 ; 2

Q8 ⇒ In which complex is the transition metal in zero oxidation state

(A) $[Co(NH)_6(H_2)]$ (B) $[Fe(H_2O)_6]SO_4$
(D) $H[Co(CO)_4]$ (D) $K_4[Ni(CN)_4]$

Q-9 The oxidation state of Mo in its oxo-complex species $[Mo_2O_4(C_2H_4)_2(H_2O)_2]^{2-}$ is

(A) +2 (B) +3
(C) +4 (D) +5

Q-10 The Hybridisation of Co in $[Co(H_2O)_6]^{3+}$ is

(A) d^2sp^3 (B) dsp^2
(C) sp^3 (D) sp^3d^2

Q-11. The two compounds $Co(SO_4)(NH_3)_5]Br$ and $[Co(SO_4)(NH_3)_5]Cl$ represent

(A) Linkage isomerism (B) Ionisation isomerism
(C) Co-ordination isomerism (D) NO isomerism

Q 12 ⇒ How many moles of AgCl would be obtained, when 1000ml of 0.1M $CoCl_3(NH_3)_5$ is treated with excess of $AgNO_3$?

(A) 0.01 (B) 0.02
(C) 0.03 (D) None of these

Q. 13 ⇒ Which of the following is not chelating agent?

(A) Hydrazine (B) oxalato
(C) glycinato (D) ethylenediamine

Q 14 ⇒ Which of the following species is not expected to be a ligand

(A) NO^+ (B) NH_4^+

(C) $NH_2-NH_3^+$ (D) NO_2^+

Q 15 ⇒ The complex ion which has no d electrons in the central metal atom is

(A) $[Co(NH_3)_6]^{3+}$ (B) $[Fe(CN)_6]^{3-}$

(C) $[Cr(H_2O)_6]^{3+}$ (D) $[MnO_4]^-$

Q 16 ⇒ $[Ni(CO)_4]$ and $[Ni(NH_3)_4]^{2+}$ do not differ in

(A) Magnetic Nature (B) oxidation Number of Ni

(C) Geometry (D) EAN

Q 17 ⇒ Amongst the following ions which one has the highest Paramagnetism ?

(A) $[Cr(H_2O)_6]^{3+}$ (B) $[Fe(H_2O)_6]^{2+}$

(C) $[Zn(H_2O)_6]^{2+}$ (D) $[Cu(H_2O)_6]^{2+}$

Q 18. How many isomers are possible for the complex ion $[Cr\,Cl_2(OH)_2NH_3]^{2-}$

(A) 2 (B) 3 (C) 4 (D) 5

Q 19 ⇒ The species having tetrahedral shape is

(A) $[Pd(Cl)_4]^{2-}$ (B) $[Ni(CN)_4]^{2-}$

(C) $[Pd(CN)_4]^{2-}$ (D) $[Ni\,Cl_4]^{2-}$

Q 20 ⇒ Which of the following complex shows ionisation isomerism

(A) $[Cr(NH_3)_6]Cl_3$ (B) $[Cr(en)_2]Cl_2$

(C) $[Cr(en)_3]Cl_3$ (D) $[Co\,Br(NH_3)_5]SO_4$