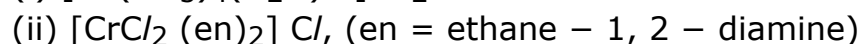
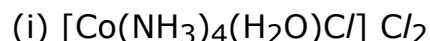




## Coordination Compounds

### Q.No.1:

Name the following coordination compounds according to IUPAC system of nomenclature:



**CBSE Board Paper 2010**

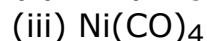
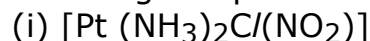
### Q.No.2:

Give an example of ionization isomerism.

**CBSE Board Paper 2010**

### Q.No.3:

Write the name, the structure and the magnetic behaviour of each one of the following complexes:



(At.nos. Co = 27, Ni = 28, Pt = 78)

**CBSE Board Paper 2012**

**Q.No.4:** Write the IUPAC name of the complex  $[\text{Cr}(\text{NH}_3)_4\text{Cl}_2]^+$ . What type of isomerism does it exhibit?

**CBSE Board Paper 2014**

**Q.No.5:** (i) Draw the geometrical isomers of complex  $[\text{Pt}(\text{NH}_3)_2\text{Cl}_2]$ .

(ii) On the basis of crystal field theory, write the electronic configuration for  $d^4$  ion if  $\Delta_0 < P$ .

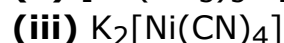
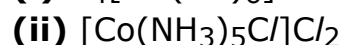
(iii) Write the hybridization and magnetic behaviour of the complex  $[\text{Ni}(\text{CO})_4]$ .

(At.no. of Ni = 28)

**CBSE Board Paper 2015**

**Q.No.6:**

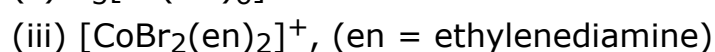
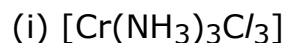
Write the name, stereochemistry and magnetic behaviour of the following:  
(At. nos. Mn = 25, Co = 27, Ni = 28)



**CBSE Board Paper 2011**

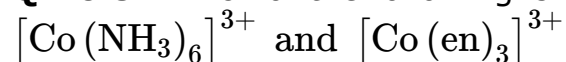
**Q.No.7:**

Write the IUPAC names of the following coordination compounds:



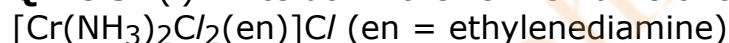
**CBSE Board Paper 2013**

**Q.No.8:** Which of the following is a more stable complex and why ?



**CBSE Board Paper 2014**

**Q.No.9:** (i) Write down the IUPAC name of the following complex:



(ii) Write the formula for the following complex:

Pentaamminenitrito-o-Cobalt (III).

**CBSE Board Paper 2015**

**Q.No.10:** When a co-ordination compound  $CrCl_3 \cdot 6H_2O$  is mixed with  $AgNO_3$ , 2 moles of  $AgCl$  are precipitated per mole of the compound. Write

(i) Structural formula of the complex.

(ii) IUPAC name of the complex.

**CBSE Board Paper 2016**

**Q.No.11:** (a) For the complex  $[Fe(CN)_6]^{3-}$ , write the hybridization type, magnetic character and spin nature of the complex. (At. number : Fe = 26).

(b) Draw one of the geometrical isomers of the complex  $[Pt(en)_2Cl_2]^{2+}$  which is optically active.

**CBSE Board Paper 2016**

**Q.No.12:** (i) What type of isomerism is shown by the complex  $[Co(en)_3]Cl_3$ ?

(ii) Write the hybridisation and magnetic character of  $[\text{Co}(\text{C}_2\text{O}_4)_3]^{3-}$ .

(At. no. of Co = 27)

(iii) Write IUPAC name of the following Complex  $[\text{Cr}(\text{NH}_3)_3\text{Cl}_3]$ .

**CBSE Board Paper 2017**

**Q.No.13:** Write the coordination number and oxidation state of Platinum in the complex  $[\text{Pt}(\text{en})_2\text{Cl}_2]$ .

**CBSE Board Paper 2018**

**Q.No.14:** (a) Write the formula of the following coordination compound:

Iron(III) hexacyanoferrate(II)

(b) What type of isomerism is exhibited by the complex  $[\text{Co}(\text{NH}_3)_5\text{Cl}] \text{SO}_4$ ?

(c) Write the hybridisation and number of unpaired electrons in the complex  $[\text{CoF}_6]^{3-}$ . (Atomic No. of Co = 27)

**CBSE Board Paper 2018**

**Q.No.15:** Write IUPAC name of the complex  $[\text{Pt}(\text{en})_2\text{Cl}_2]$ . Draw structures of geometrical isomers for this complex.

**OR**

Using IUPAC norms write the formulae for the following:

(i) Hexaamminecobalt(III) sulphate

(ii) Potassium trioxalatochromate(III)

**CBSE Board Paper 2019**

**Q.No.16:** Write the hybridization and magnetic character of following complexes:

(i)  $[\text{Fe}(\text{H}_2\text{O})_6]^{2+}$

(ii)  $[\text{Fe}(\text{CO})_5]$

(Atomic no. of Fe = 26)

**CBSE Board Paper 2019**

**Q.No.17:** Which of the following will give a white precipitate upon reacting with  $\text{AgNO}_3$ ?

(a)  $\text{K}_2[\text{Pt}(\text{en})_2\text{Cl}_2]$

(b)  $[\text{Co}(\text{NH}_3)_3\text{Cl}_3]$

(c)  $[\text{Cr}(\text{H}_2\text{O})_6]\text{Cl}_3$

(d)  $[\text{Fe}(\text{H}_2\text{O})_3 \text{Cl}_3]$

**CBSE Board Paper 2020**