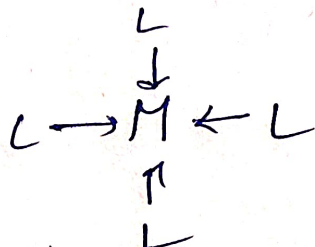


Coordinative Chemistry.

It deals with Compounds formed by a central metal atom/ion bonded to surrounding molecules or ions called ligands



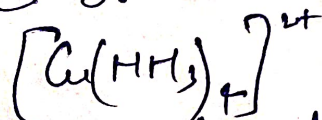
These compounds are k/a Coordination complexes.

Key terms.

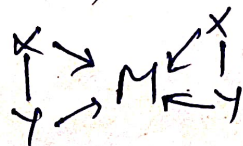
Central metal ion $\rightarrow$ usually a transition metal (e.g. Fe^{4+} , Li^{2+})
Ligand $\rightarrow$ ion or molecule that donates a pair of electrons to the metal (e.g. NH_3 , H_2O , Cl^-)

Coordination number $\rightarrow$ The number of ligands donor atoms attached to the central metal (2, 4, 6)

Coordination sphere $\rightarrow$ The central metal + ligands enclosed in brackets []



Chelation $\rightarrow$ when a ligand forms multiple bonds with the metal ion (e.g. EDTA)



Types of ligands.

Monodentate $\rightarrow$ donate one pair of electrons (Cl^- , NH_3)

Bidentate $\rightarrow$ donate two pairs of electrons (ethylenediamine)

Polydentate $\rightarrow$ donate multiple pairs (EDTA)