B. Sc II CHEM (H)

(1)

PAPER - III B (INORGANIC CHEM.)

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GROUP - A.

4. Nomenclature of Co-Ordination Compound.

(1) In Case of both simple and complex salt, cation Proceeds anion i.e cation is named First then anion.

(2) Complex ion is written in Square bracket

Order of naming of the complexes are as

Ligands + Central metal + O.S + ions/other

i.e ligands are named First follow in Order

anionic ligand → neutral → cationic

Name of ligands

(a) If more than one ligands are Present of Same kind Prefix di, tri, tetra etc for two three & tetra el respectively

(b) In case of more than one ligand of different kinds it is named in alphabetical order.

(b) If anionic ligands ending in "ide" are named by replacing "ide" with 'o'

e.g Halide — Halo

Sulphide — Sulpho

Nitride — Nitro

Oxide — Oxo

But IUPAC draft (2004) has recomended that anionic ligands ie halide should be end with "ido" i.e chloride becomes "chloride"

(c) If anionic ligands ending in 'ite' or 'ate' are named by replacing last 'e' with 'o'

Carbonate (CO_3^{2-}) — carbonato

Oxalate ($C_2O_4^{2-}$) — Oxalato

Sulphate (SO_4^{2-}) — Sulphonato

Nitrate (NO_3^-) — Nitrato

Nitrite ($O-N=O$) — Nitrito

(c) Neutral ligands are named as their usual name except a few which carry special name

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eg: H_2O → aqua

NH_3 → Ammine

CO → carbonyl

NO → Nitrosyl

$(CH_2)_2^{NH_2}_{NH_2}$ – en (Ethylene diamine)

C_5H_5N — Py (Pridine

(c) Positive ligands are named by adding ium at the last

NO^+ → Nitrosylium

$NH_2-\overset{+}{N}H_3$ → Hydrazinium

NO_2^+ → Nitronium.

$\overset{+}{N}H_4$ → Ammonium

Notes: Ligands are named in alphabetical order before the name of metal.