

## Paper : I CHN-601-(I) Inorganic Chemistry

### Unit – 1

- © E.S.R. Spectra of transition metal complexes

Theory of E.S.R. (Basic principles). The presentation of E.S.R. Spectrum.

Hyperfine splitting. Spin Hamiltonian, applications.

- © N. Q. R. Spectroscopy :-

Theory of N.Q.R., Origin of transition, experimental techniques. Townes and Dailey's formula, Structural information from N.Q.R. illustrated by suitable examples.

### Unit :- 2

- © Applications of

(a) Valence – electron & photo-electron Spectroscopy

(b) X-ray photoelectron spectroscopy.

### Unit :- 3

Principle & application of magneto chemistry : Basic (Diamagnetic, Para magnetic, ferromagnetic, anti ferromagnetic), Magnetic properties of free ions.

### Unit :- 4

- © Organo metallic compounds (OMC) :

- General Introduction & principles. Factors governing the properties of OMC, General trends in chemical properties, Nature of metal-carbon. Bond, preparative methods, reactions & applications.

- Organo Aluminum & Beryllium compounds, organo boranes.