

Paper – III CHN-703(A) Analytical Chemistry

Unit :1

Potentiometry : classification of indicators electrodes, location of equivalence point, null point potentiometry, classes of potentiometric titrations.

Coulometry - Methods of coulometry, applications, coulometric titrations- advantages & disadvantages electrogravimetry

Unit :2

Polarography & Voltammetric method Principle, Instrumentation, Half-wave potential, Ilkovic equation, Derivation of a relation between half-wave potential & diffusion coefficient, Evaluation methods, Applications of polarography - AC polarography square wave polarography , pulse-polarography, Amperometric titrations - Biamperometric titration Titration with rotatory platinum micro electrode. Polarimetry & Refractometry :- Theory & applications.

Chrono potentiometry, Introduction Instrumentation & applications

High frequency conductance measurements, Types of all Instrumentation & applications. Coulometry - Methods of coulometry, applications, coulometric titrations- advantages & disadvantages electrogravimetry

Unit :3

- (i) Radio Chemical Methods.
- (ii) Nephelometry & Turbidimetry

Unit :4

Magneto chemistry :- Magnetic moment, Electronic spectrum & structure, Van vleck equation, Zeeman effect,

Antiferromagnetism & ferromagnetism correlation of magnetic & structural-properties

Surface characterization by spectroscopy & Electromicroscopy:- Introduction, spectroscopic. methods for surface analysis