

SCAS 407

Andhra University

Department of Inorganic and Analytical Chemistry

M.Sc Final Chemistry

Syllabus for IV th Semester

Specialisation : *Analytical Chemistry*

Paper-1: Separation Methods – II

(Effective from 2008-09 Admitted batch)

Unit – I_Chromatography - 5

- (a) *Paper chromatography*: principle, papers as a chromatographic medium, modified papers, solvent systems, mechanism of paper chromatography, experimental technique, different development methods-ascending, descending, horizontal, circular spreading, multiple development, two dimensional development, reverse phase paper chromatographic technique-visualization and evaluation of chromatograms, applications.
- (b) *Thin layer chromatography*: principle, chromatographic media-coating materials, applications, activation of adsorbent, sample development, solvent systems, development of chromatoplate, types of development, visualization methods, documentation, applications in the separation, HPTLC-principle, technique, applications.

Unit – II Chromatography - 6

- (a) *Ion Exchange*: principles of ion-exchange systems, synthetic ion-exchange resins, properties of anion and cation exchange resins, ion-exchange mechanism, ion-exchange equilibria, selectivity, ion-exchange capacity, applications of ion-exchangers in different fields.
- (b) *Ion exchange chromatography*: Principle, Equipment, Application Specifically Separations of Lanthanides, Actinides, amino acids.
- (c) *Ion chromatography*: principles of separation, instrumentation, detectors, separation of cations and anions, applications in the analysis of water and air pollutants.

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VIS/ANALYTICAL/2008-09 (INDIA)