



Code	Subject Title	Cr. Hrs	Semester
CHEM-319	Analytical Chemistry	4	VI
Year	Discipline		
3	Chemistry-I, II		

SYLLABUS OUTLINE:**Ion Exchange Chromatography:**

Cation Exchange resin, Anion Exchange resin, Cross-linkage, Effect of pH-separation of Amino Acids, Separation of metal ions on Anions Exchange Columns, Applications of ion Exchange Chromatography.

Solvent Extraction:

Basic principle of solvent extraction, The Distribution Coefficient, The Distribution Ratio, The Percent Extracted Solvent Extraction of Metals, Analytical Separations, Multiple Batch Extractions, Countercurrent Distribution, Solid-Phase Extraction, Solvent Extraction by Flow Injection Analysis.

Electrophoresis:

Capillary Zone Electrophoresis, Application of traditional Electrophoresis Gel Chromatography.

Flame Emission:

Basic principle of atomic spectroscopy; Use of atomic spectra for detection and determination of elements; flame as a source of atomization and excitation; Instrumentation involved in FES; applications and limitations.

Atomic Absorption Spectroscopy:

Basic Principle of AAS; Flameless AA spectroscopy including graphite furnace and hydride generation.

RECOMMENDED BOOKS:

1. Vogels, text book of Quantitative chemical analysis by J. Mendham, R. C. Denney, J. D. Barnes, M. J. Thomas, Pearson Education Ltd.
2. Advances in electrophoresis by Andrea Chrmambach, Wiley-VCH.
3. Ion-Exchange Chromatography by Helfferich, McGraw Hill Book Co., Inc. N.Y. London.
4. Solvent Extraction by Gorge H. & Morrison Hener, John Wiley and sons, London, N.Y.
5. Chromatographic Methods of Analysis by Stock & Rice, Elsevier Co. Amsterdam.
6. Flow injection analysis by Ruzicke Hassen, Wiley Interscience.