

UNIT – I

Preparation of drug samples for analysis: Pharmaceutical samples, fundamental theories controlling preparation techniques, specific sample preparation techniques.

UNIT – II

A detailed study of the principles, instrumentations and applications in drug analysis of: GC-MS, LC-MS with reference to drug metabolism, toxicologic and forensic studies, diagnosis of disease state, quantification of drugs in biological samples, Super critical fluid chromatography and size exclusion chromatography

UNIT – III

Thermal analysis: Thermogravimetry, Differential thermal analysis, differential scanning calorimetry, Purity determination using DSC, Interpretation of curves. Thermooptometry, Thermomechanical analysis (TMA), dynamic mechanism analysis (DMA), evolved gas analysis (EGA) and reaction kinetics thermal analysis.

UNIT – IV

Brief study of the theory, instrumentation and application of the following analytical techniques: atomic force microscopy, plasma atomic emission spectroscopy, photon correlation spectroscopy, atomic absorption spectroscopy..

REFERENCES:

1. Pharmaceutical Analysis by Ohannason
2. Chemical Analysis by Settle
3. Pharmaceutical Analysis Modern Methods by Munson
4. Chemical Analysis – Modern Instrumentation methods and techniques by Wiley.
5. Instrumental methods of analysis by Willard Dean & Merrit.
6. Hand book of Instrumental techniques for analytical chemistry edited by Frank settle pub. by Prentice Hall Inc.
7. A text book of Pharmaceutical analysis by K.A.Conners (John Wiley)