

Paper – II CHN-702(A) Analytical Chemistry

Unit :1

Photoacoustic spectroscopy: Theory, instrumentation & applications.

Phoelectron spectroscopy (Fluorescence): Principle, techniques, instrumentation & applications (fluorometers & spectro fluorometers)

Unit :2

Neutron & electron Diffraction plasma emission.

Unit :3

Electron spin Resonance (ESR) : technique Hyperfine splitting, Relaxation process and line width in ESR, transition, g-value- its determination & factors affecting it, zero field splitting, Kramer's degeneracy.

Mossbauer spectroscopy :- emission & absorption of γ -rays, Mossbauer spectrometer. & information from the spectra.

Unit :4

Mass spectrometry :- Introduction, principle, Ionization of Molecule, fragmentation, Interpretation of mass spectra, Ion Sources, Mass spectrometers applications ICR (Ion Cyclotron Resonance) & FT-ICR spectroscopy.

Laser :- Production & characteristic of lasers (solid ,dye & gaseous Lasers),use of lasers as sources in various spectroscopic methods.