**MID –I SYLLABUS**

**IIB.Sc.BIOTECHNOLOGY**

**SEMESTER III**

**BTT- 301:** **BIOPHYSICAL** T**ECHNIQUES**

**UNIT** **–** **I**

**Spectrophotometry:** Spectrum of light, absorption of electromagnetic radiations, Beer's law - derivation and deviations, extinction coefficient. Instrumentation of UV and visible spectrophotometry, Double beam spectrometer; dual-wavelength spectrometer, Applications of UV and visible spectrophotometry**. Spectrofluorometry: principle, instrumentation and applications. Absorption & emission flame photometry: principle, instrumentation and application.**

**UNIT** **II**

**Chromatography:** Partition principle, partition coefficient, nature of partition forces, brief account of paper chromatography.Thin layer chromatography and column chromatography.Gel filtration: Concept of distribution coefficient, types of gels and glass beads, applications.Ion-exchange chromatography: Principle, types of resins, choice of buffers, applications including amino acid analyzer.Affinity chromatography: Principle, selection of ligand, brief idea of ligand attachment, specific and non-specific elution, applications.HPLC

**UNIT III**

**Electrophoresis**: Migration of ions in electric field, Factors affecting electrophoretic mobility. Paper electrophoresis, Gel electrophoresis: - Types of gels, Solubilizers, Procedure, Column & slab gels Detection, Recovery & Estimation of macromolecules.

**Note:** Correction in I Unit Previously given syllabus contain **Coloriemetry** syllabus instead of that we have **Spectrofluorimetry**