

BIOCHEMISTRY ELECTIVE PAPER
SEMESTER –V

TECHNIQUES IN BIOTECHNOLOGY

(Applicable from 2013)

UNIT 1: Recombinant DNA and Genetic Analysis

Isolation, Purification and Estimation of Nucleic acids (Agarose gel electrophoresis)
Manipulation of Nucleic acids-Basic tools and techniques (Vectors and Enzymes)
Basic steps of Gene cloning

UNIT 2: Molecular Analysis of DNA

Blotting techniques-Southern blotting
Restriction mapping
DNA sequencing- Sanger sequencing, Maxam & Gilbert sequencing

UNIT 3: Polymerase chain reaction and its applications

Basic concepts and stages of the PCR
Variations of PCR
Applications of PCR
PCR vs. Gene cloning

UNIT 4: Immunochemical techniques and its applications

Immunoprecipitation, SRID, DRID
Immunoassays - ELISA, RIA
Immunoelectrophoresis- Rocket Immunoelectrophoresis
Hybridoma technique