

RECOMBINANT DNA TECHNOLOGY AND PHARMACOINFORMATICS

(Course Duration: 90 Days)

Coursework

An introduction to Recombinant DNA Technology
Isolation of DNA from Banana fruit
Isolation of DNA by CTAB Method (from leaf material)
Isolation of Plant DNA by SDS Method
Isolation of DNA from Animal source / yeast
Purification of DNA
Isolation of Genomic DNA from Prokaryotes
Isolation of Plasmid DNA from Prokaryotes
Restriction Digestion & Ligation
Agarose Gel Electrophoresis
Southern Blotting
Estimation of DNA
SDS PAGE
Western Blotting
Elution of Inserts from gel
Transformation
PCR Basics
Primer screening
Amplification of gene of interest
Introductory Bioinformatics
Protein and protein physical properties
Proteomics
Traditional and Rational Drug discovery
Chemo informatics databases
Application of force fields
Drug screening and targeting
Active site predictors
Binding site analysis
Ligand design

Energy optimization
Robotics and Machine learning
KEGG and its applications
Docking
ADME and log p concept
Major Research Project