

PBT7J002 MEDICAL AND PHARMACEUTICAL BIOTECHNOLOGY

Module-I Drug Development in Pharmaceutical Process

Production of pharmaceuticals by genetically engineered cells (hormones, interferon), Microbial transformation for production of important pharmaceuticals (steroids and semi-synthetic antibiotics), Techniques for development of new generation antibiotics, Protein engineering, drug design, drug targeting

Module-II Disease Diagnosis and Therapy

ELISA and hybridoma technology, Use of enzymes in clinical diagnosis, Use of biosensors for rapid clinical analysis, Diagnostic kit development for microanalysis, Genetic diseases and DNA based diagnoses, DNA vaccine, Gene Therapy, Toxicogenomics

Module III Proteomics in Drug Development

Role of Proteomics in Drug Development, Diagnosis of disease by Proteomics, Separation and identification techniques for protein analysis, Development of antibody based protein array for diagnosis

Text Books

1. Balasubramanian, Bryce, Dharmalingam, Green and Jayaraman(ed), Concepts in Biotechnology, University Press, 1996
2. Epenetos A.A.(ed), Monoclonal antibodies: applications in clinical oncology, Chapman and Hall Medical, London
3. Text book of industrial pharmacy by S R Hiremath, Orient Black Swan publication