

# TRAINING IN PHARMACEUTICAL BIOTECHNOLOGY

## Ist Week - Basics of Pharma Biotech Lab & Microbiology

- Day 1: Lab safety and Procedures , Chemical & Reagent Preparation
- Day 2: Simple & Serial Dilution, Moles and Molar Solutions
- Day 3: Growth Curve Analysis of Microbial Culture
- Day 4: Enumeration of Microbes & Colony Counting
- Day 5: Colony Morphology & Survival Analysis



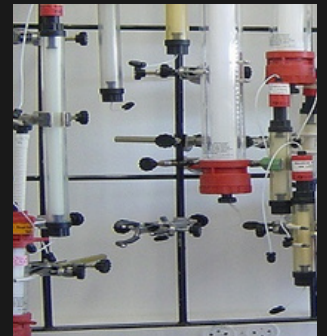
## IIInd Week -Bioinformatics, cDNA Synthesis & PCR Run

- Day 1: Bioinformatics: Primer Designing, Vectors, Selection of Restriction Sites, Virtual PCR, other Bioinformatics tools & Techniques
- Day 2: RNA Extraction, mRNA Purification & First Strand cDNA Synthesis
- Day 3: Optimisation of PCR Reaction – Melting Point , GC Content , Concentrations and Cycles, Sample Preparation For PCR Analysis, PCR sample Run
- Day 4: Analysis of PCR sample
- Day 5: Qualitative RT- PCR sample run & Analysis



## IIIrd Week - Lab Scale Up Stream processing

- Day 1: Microbial Selection & Preparation for Protein Production
- Day 2: Medium Optimization by Plackett and Burman Design
- Day 3: Effect of pH on enzyme activity
- Day 4: Effect of temperature on enzyme activity
- Day 5: Batch Growth Kinetics of Microbe



## IVth Week - Lab Scale Down Stream processing

- Day 1: Extraction of Protein from microbial culture
- Day 2: Ammonium sulfate precipitation & Estimation
- Day 3: Dialysis or Desalting of Protein Sample
- Day 4: Preparation for Protein Purification Strategies
- Day 5: Molecular Weight determination by SDS-PAGE

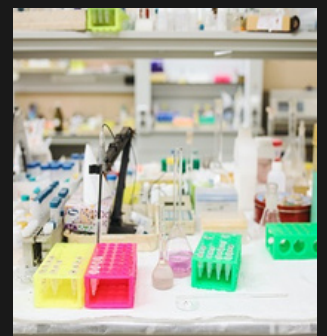


## Vth Week - Project Work

We will share our ideas and decide for small piece of research in limited time frame.

**Cost of Training :** Training Only -INR 10,000 / -  
Training + Project - INR 12,000/-

**Duration :** 80 to 100 Hrs or 4 to 6 Weeks



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