



### **Key Features:**

- Hands on Experience on various molecular biology techniques
- All the modules are designed to fulfill the requirement of Molecular Biology Lab of any R&D
- Hands on experience on PCR , Real Time PCR , Microarray ,Gene on chip fluidic station etc.
- Job Oriented

### **Module: I Isolation Techniques**

- General Technique of Plasmid DNA Isolation
- Purification of Plasmid DNA by Precipitation with Polyethylene Glycol
- Genomic DNA isolation
- Isolation of Total RNA

### **Module: II Electrophoresis Techniques:**

- Recovery of DNA from Agarose Gels: Electrophoresis onto DEAE-cellulose Membranes
- Recovery of DNA from Agarose and Polyacrylamide Gels: Electroelution into Dialysis Bags
- Alkaline Agarose Gel Electrophoresis
- Neutral Polyacrylamide Gel Electrophoresis
- SDS - PAGE

### **Module: III Blotting Techniques : Western, Southern, northern**

### **Module: IV Recombinant DNA Technology**

- Directional Cloning into Plasmid Vectors
- Blunt-ended Cloning into Plasmid Vectors
- Performing Plasmid Ligation
- Preparation and Transformation of Competent E. coli Using various techniques
- agrobacterium mediated transformation in Plants

### **Module: V PCR Techniques**

- PCR and it's optimisation
- Amplification of genomic DNA and cDNA
- RNA amplification
- Clinical and Forensic applications
- Purification of PCR Products in Preparation for cloning
- Blunt-end Cloning of PCR Products

### **Module: VI DNA Fingerprinting**

- Basics of DNA Fingerprinting
- DNA Fingerprinting through RAPD
- DNA scoring & software analysis

**Module: VII Microarray Technology**

- Introduction of microarray technology
- Technical aspects and role of Gene on chip Affymatrix Fluidic Station
- Technical aspects and role of Agilent Gene Array Scanner
- Hybridization techniques
- Data analysis

**Module: VIII Project Work****Duration: Three Months****Service Charges: Rs 17,000/-**