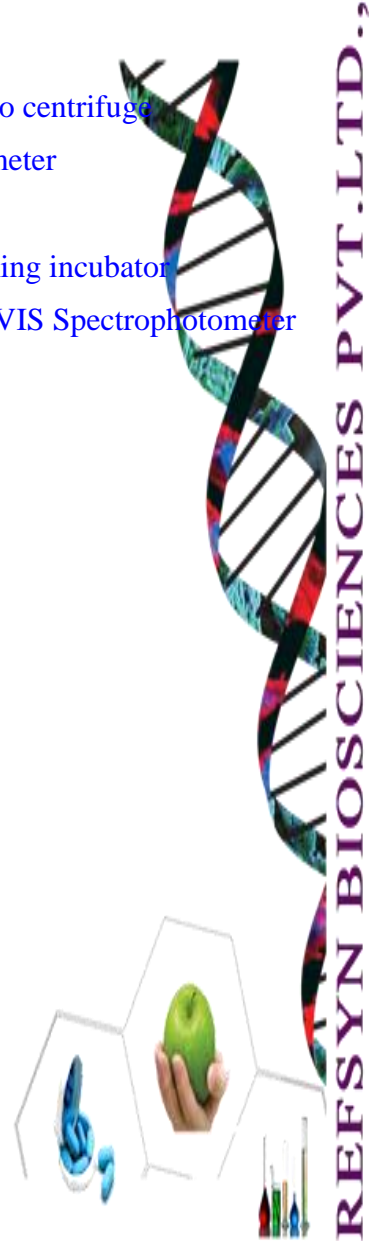


BASICS IN MOLECULAR BIOLOGY TECHNIQUES (20 DAYS)

- ❖ Introduction of molecular biology lab, Tools & equipments.
- ❖ Aseptic techniques & sterilization techniques
- ❖ Basic calculations and Standard solution preparation
- ❖ Basic principle & operational procedure of following Instruments:

➤ Analytical balance	➤ Electrophoresis	➤ Micro centrifuge
➤ Autoclave	➤ Gel Documentation	➤ pH meter
➤ Blotting apparatus	➤ Incubator	➤ PCR
➤ Colorimeter	➤ Laminar air flow	➤ Shaking incubator
➤ Dry bath	➤ Micropipette	➤ UV-VIS Spectrophotometer
- ❖ **DNA TECHNIQUES:**
 - Extraction from Plant & Bacteria
 - DNA Denaturation (T_m)
 - Quantification (UV Spectrophotometer & DPA method)
 - Agarose Gel Electrophoresis
 - Southern Blotting
 - Restriction digestion, Mapping & Ligation
- ❖ **RNA TECHNIQUES**
 - Extraction Plant & Bacteria
 - RNA denaturation(T_m)
 - Quantification (UV Spectrophotometer & Orcinol method)
 - Agarose Gel Electrophoresis
 - Northern Blotting
- ❖ **PCR TECHNIQUES**
 - Introduction of PCR & Programming
 - Preparation of reaction mixture & Amplification
 - Electrophoresis of PCR products & Documentation





❖ BACTERIAL TRANSFORMATION

- Competent cell preparation & Transformation
 - Expression & Screening
 - Isolation of proteins
 - SDS-PAGE of Transformed colonies
 - Auxotrophic mutant selection-Replica plate techniques
- ❖ Gel documentation and MW determination (DNA, RNA & Protein).



FOR INNOVATIVE NEED