

BIOTECHNOLOGY TECHNIQUES

One Month Online Laboratory Practiees

Any Biology, Chemistry,
Biotechnology, Microbiology,
Biochemistry,
student/Faculty can join

Job Prospects: Industry/Research

TECHNIQUES TO BE COVERED

1. **INTRODUCTION BIOTECHNOLOGY & LABORATORY**

- i. Documentation: The Lab Notebook & Lab Report
- ii. Biotechnology Laboratory Security & Safety
- iii. Lab Equipment & Reagent Orientation
- iv. Math Skills for the Laboratory

2. **CURRENT GOOD MANUFACTURING PRACTICES (cGMP)**

3. **BASIC TOOLS IN THE BIOTECHNOLOGY LABORATORY**

- i. Using a Micropipette
- ii. Calibrating Lab Instruments

4. **Preparation of solutions.**

5. **MOLECULAR BIOLOGY TECHNIQUES**

- i. DNA isolation from Plant Source
- ii. DNA isolation from animal source
- iii. DNA isolation from Bacterial source.

iv. Agarose gel electrophoresis.

v. PCR Technique

6. **MICROBIOLOGY TECHNIQUES**

- i. Isolation of Microbes: Pour plate technique, spread plate technique
- ii. Purification of Microorganisms by Different streaking techniques.
- iii. Preservation of purified cultures
- iv. Grams Staining for Bacteria
- v. Lacto phenol Cotton blue staining for fungi
- vi. Study of bacterial growth curve
- vii. Antibiotic sensitivity test.

7. **ENZYMOLGY**

- i. Isolation of microbes from suspected sources for production of particular enzyme
- ii. Screening of cultures for enzyme production
- iii. Production /Fermentation for enzyme production
- iv. Preparation of crude enzyme
- v. Protein estimation by Lowry's method
- vi. Salt precipitation
- vii. Dialysis

8. **PLANT TISSUE CULTURE**

- i. Introduction of plant tissue culture
- ii. Initiation of explants

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