



ELECTIVE ENZYMOLOGY & MICROBIAL BIOTECHNOLOGY

Duration: 60 days

Code: HEMB-60

Basics of Enzyme technology and importance of biocatalysts in different metabolic pathways
Isolation of micro-organisms (Bacteria & Fungi) from soil by serial dilution
Study of Colony morphology (Bacteria)
Pure culture preparation (Bacteria & Fungi)
Sterilization techniques
Morphological characterization of fungi
Screening for enzyme production

- Starch hydrolysis
- Casein hydrolysis

Identification of bacteria by Gram Staining
Identification of fungi by Lactophenol cotton blue staining
Biochemical characterization
Antibiotic sensitivity test for bacteria
In vitro production of enzymes
Enzyme assay
Purification of enzymes

- i) Salt precipitation
- ii) Dialysis
- iii) Ion exchange chromatography

Assay for purified enzyme
Quantitative estimation of Enzymes
Kinetic study of enzymes

- Effect of Activator
- Effect of Inhibitor
- Effect of Substrate Concentration
- Effect of temperature
- Effect of pH

Molecular weight determination by SDS-PAGE
Immobilization of Enzyme
Isolation of Genomic DNA from Prokaryotes
Isolation of Plasmid DNA from prokaryotes
Estimation of DNA
Separation of DNA by Gel electrophoresis technique

Project (Optional)