



# ADVANCE INDUSTRIAL ENZYMOLOGY & MICROBIAL BIOTECHNOLOGY

**Duration: 45 days**

**Code: HEMB-45**

**Basics of Enzyme technology and importance of biocatalysts in different metabolic pathways**

**Isolation of micro-organisms from soil by serial dilution**

**Study of Colony morphology**

**Pure culture preparation**

**Sterilization techniques**

**Screening for enzyme production**

**Identification of bacteria by Gram Staining**

**Biochemical characterization**

**In vitro production of enzymes**

**Enzyme assay**

**Purification of enzymes**

**i) Salt precipitation**

**ii) Dialysis**

**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**

**Immobilization of Enzyme**

**Isolation of Genomic DNA from Prokaryotes**

**Isolation of Plasmid DNA from prokaryotes**

**Separation of DNA by Gel electrophoresis technique**

**Project (Optional)**