

Microbial motility tests
Sterilization techniques
Microbial culture media and their preparation
Isolation techniques
Maintenance of microorganisms (stock culture and subculture)
Microbial characterization based on biochemical tests
Quantitative and quantitative assessment of microflora in soil, water, air and food
Milk microbiology
Studies on bacteria, fungi and actinomycetes
Studies on symbiotic association of microorganisms

PRACTICALS (SOFT CORE COURSES)

BTP 409 ENZYMOLOGY

Course outcome

The student will

- CO 1. get hands-on training in enzymology practicals
- CO 2. learn kinetics using suitable examples
- CO 3. learn about applications of enzymes in industry
- CO 4. learn advantages of immobilization of enzymes

Extraction, isolation and purification of soluble and membrane bound enzymes

Enzyme assays

Study of enzyme kinetics (effect of substrate concentration, pH, temperature and metal ions)

Determination of K_m and V_{max}

Mechanism of enzyme inhibition

Mechanism of action of lysozyme, chymotrypsin polymerases

Immobilization of enzymes and their applications

OR

BTP 410 CELL BIOLOGY

Course outcome

The student will

- CO 1. acquire practical skills in cell biology
- CO 2. learn preparation of slides
- CO 3. acquire skills in quantitative assays of biomolecules
- CO 4. learn separation of subcellular organelles using centrifugation

Microscopy, micrometry, microtomy

Study of mitosis and meiosis in plants and animals

Preparation of mitotic chromosomes and karyotyping

Staining techniques: Staining blood cells, total count and differential count

Histology and differential staining (cellular organelles and components)

Brushborder membrane

Studies on nerve impulses

Isolation of RNA and DNA

Estimation of RNA and DNA