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