

PRACTICALS (HARD CORE COURSES)

BTP 406 BIOCHEMISTRY AND BIOPHYSICS

Course outcome

The student will

- CO 1. Get hands-on training and develop practical skills
- CO 2. Learn to work independently
- CO 3. Be trained in assays and techniques used in Biochemistry and Biophysics
- CO 4. Have application-based learning

GLP, Safety practices

Titration of amino acid Glycine

Qualitative analysis of amino acids, proteins, sugars, lipids

Extraction of casein from milk by isoelectric precipitation

Estimations of proteins by Biuret method

Estimation of sugars by DNS method

Animal Handling techniques for biochemical assays

BTP 407 MOLECULAR GENETICS

Course outcome

The student will

- CO 1. Get hands-on training and practical skills in Molecular genetics
- CO 2. Learn the use of model organisms
- CO 3. Learn to solve genetics-based problems
- CO 4. **Learn banding techniques and karyotyping**

Morphological features of *Drosophila*

Mounting genital plate and sex comb in *Drosophila*

Isolation and staining of salivary gland chromosomes in *Drosophila*

Mutants of *Drosophila*

Micronucleus test in mice

Banding techniques and karyotyping

Demonstration of Barr bodies in buccal cells

Study of human blood groups

Chromatographic separation of eye pigments in *Drosophila*

Problems on quantitative inheritance

Problems on gene frequencies in population

BTP 408 MICROBIOLOGY

Course outcome

The student will:

- CO 1. Get hands-on training and practical skills
- CO 2. Learn use of safety equipment used in microbiology
- CO 3. Develop skills in isolation and culture of microorganisms from different sources
- CO 4. Carry out staining and identification of microorganisms

Microscopic observations of microorganisms

Microbial staining techniques (simple and differential staining, cell wall, endospores, intracellular lipids, acid-fast, flagella, viability)