Course Code	Course Name	Credits
26ZY156	CELL BIOLOGY, BIOCHEMISTRY AND ECOLOGY LAB	02

Objective

To provide practical knowledge on cell structure and function, biochemical analysis and ecological principles through laboratory and field studies.

Practicals

1. Study of compound microscope and cell biology laboratory instruments.
2. Observation of plant and animal cells using temporary slides.
3. Study of mitosis in onion root tip cells.
4. Observation of meiosis in suitable material.
5. Identification of cell organelles using charts and models.
6. Study of plasma membrane permeability through osmosis experiments.
7. Preparation of blood smear and staining techniques.
8. Estimation of carbohydrates by Benedict's or Anthrone method.
9. Estimation of proteins by Biuret or Lowry method.
10. Qualitative tests for lipids, amino acids and enzymes.
11. Determination of pH and preparation of buffer solutions.
12. Study of enzyme activity under different temperature and pH conditions.
13. Separation of pigments by paper chromatography.
14. Estimation of dissolved oxygen in water samples.
15. Determination of soil pH and moisture content.
16. Study of aquatic and terrestrial ecosystems through field observation.
17. Quadrat method for estimation of population density.
18. Study of food chain and food web using ecological models.
19. Identification of plankton and ecological indicators from water samples.
20. Field visit and preparation of ecological survey report.

Students are required to perform and record at least eight experiments in the laboratory manual as part of the course requirements.