

Course Code	Course Name	Credits
26ZY651	CELL BIOLOGY, GENETICS, EVOLUTION AND EMBRYOLOGY LAB	02

Objective

To provide practical knowledge on cellular organization, genetic principles, embryonic development and evolutionary evidences through laboratory 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 and observation of salivary gland chromosomes/Drosophila chromosomes.
8. Verification of Mendelian inheritance using genetic problems.
9. Study of monohybrid and dihybrid inheritance patterns.
10. Pedigree analysis and sex-linked inheritance studies.
11. Observation of chromosomal aberrations through charts and models.
12. Study of mutant forms in Drosophila.
13. Observation of cleavage, blastula and gastrula stages in embryos.
14. Study of chick embryo development through temporary mounts/charts.
15. Identification of embryonic membranes in vertebrates.
16. Comparative study of vertebrate embryonic development.
17. Study of homologous, analogous and vestigial organs.
18. Observation of fossils and connecting links through charts/models.
19. Construction and interpretation of phylogenetic trees.
20. Study of evidences of evolution from comparative anatomy and embryology.

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