

Course Code	Course Name	Credits
26ZY652	PHYSIOLOGY, BIOCHEMISTRY AND BIOTECHNOLOGY LAB	02

Objective

To provide practical knowledge on physiological functions, biochemical analysis and basic biotechnological techniques used in biological sciences.

Practicals

1. Study of laboratory instruments used in physiology, biochemistry and biotechnology.
2. Estimation of haemoglobin content in blood.
3. Determination of blood group and Rh factor.
4. Counting of red blood cells (RBC) and white blood cells (WBC).
5. Measurement of blood pressure and pulse rate.
6. Study of action of salivary amylase on starch.
7. Qualitative tests for carbohydrates, proteins and lipids.
8. Estimation of glucose by Benedict's method.
9. Estimation of proteins by Biuret or Lowry method.
10. Determination of pH and preparation of buffer solutions.
11. Study of enzyme activity under varying temperature and pH.
12. Separation of amino acids or pigments by paper chromatography.
13. Isolation of DNA from plant or animal tissues.
14. Demonstration of electrophoresis techniques.
15. Preparation and sterilization of culture media.
16. Microbial culture techniques and aseptic methods.
17. Demonstration of PCR and recombinant DNA technology through charts/models.
18. Study of fermentation process using yeast culture.
19. Demonstration of tissue culture and biotechnology applications.
20. Field visit to biotechnology/clinical laboratory and report preparation.

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