

OBJECTIVES: To enable the students to-

- Learn to identify critical biomolecules and assay them in physiological fluids
- Estimate minerals in serum and fruit juices
- Quantify Hemoglobin the important variable for anemia
- Get acquainted with estimation of variables in urine
- Explore the Immunoassays

Course Outcomes- The students will be able to

CO1: Understand how the biomolecules are utilized in the body

CO2: Estimate citric acid content in fruits

CO3: Analyze the biological fluids for diseased states

CO4: Establish similarities between antigens

CO5: Estimate the variables like glucose and cholesterol in blood

List of Experiments:

1. Estimation of calcium by titrimetry
2. Estimation of iron by Wong's method.
3. Estimation of vitamin C by 2, 6 -dichlorophenol indophenol method.
4. Determination of iodine value of an oil.
5. Estimation of hemoglobin in blood.
6. Visualization of antigen antibody reactions (Ouchterlony technique).
7. Urine analysis for albumin, sugars and ketone bodies.
8. Estimation of urinary creatinine.
9. Estimation of blood Glucose.
10. Estimation of serum total cholesterol.

Recommended books:

1. Essentials of Food and Nutrition, Vol. I & II, M.S. Swaminathan.
2. Text Book of Biochemistry with clinical correlations. Thomas M. Devlin (John Wiley).
3. Harper's Review of Biochemistry, Murray et al (Longman).
4. Biochemical aspects of human disease – R.S. Elkeles and A.S. Tavit. (Blackwell Scientific Publications).
5. Clinical chemistry in diagnosis and treatment–Joan F.Zilva and P.R.Pannall (Lloyd-Luke Medical Books, 1988).
6. Varley's Practical clinical Biochemistry – Ed. Alan W. Gowenlock (Heinemann Medical Books, London, 1988).
7. Clinical diagnosis and management by Lab methods (John Bernard Henry, W.B. Saunders Company, 1984).
8. Clinical Biochemistry – S.Ramakrishnan and Rajiswami.
9. Chemical Biochemistry (Metabolic and clinical aspects) by W.J.Marshall & S.K.Bangert.
10. Text book of clinical Biochemistry by Tietz et al.