

# Paper DLTC 02: Clinical Biochemistry I

## THEORY

### Module 1:

- The scope of biochemistry:
- Chemical organization of the cell.
- Organic and inorganic components of the cell.
- Marker enzymes of the cell.
- Hydrogen ion concentration and buffers: pH
- Blood buffers, regulation of blood pH.
- Acid base metabolism.

Zoology

### Module 2:

- Carbohydrate chemistry.
- Protein chemistry.
- Lipid chemistry.

### Module 3:

- Enzymes:- Definition, classification, factors affecting enzyme action.
- Enzyme inhibition,

- Isoenzymes,
- Regulation of enzyme activity.
- Vitamins.
- Minerals.

## PRACTICALS:

1. Estimation of pH. Use of pH meter.
2. Qualitative and quantitative Carbohydrate chemistry.
3. Qualitative and quantitative Protein chemistry.
4. Qualitative and quantitative Lipid chemistry.
5. Estimation of haemoglobin by cyanmeth haemoglobin
6. Estimation of chloride in serum
7. Estimation of serum calcium
8. Estimation of serum inorganic phosphorus.
9. Separation of amino acid and its identification by paper chromatography- Demonstration
10. Separation of serum protein by electrophoresis- Demonstration
11. Separation of lipid by Thin layer chromatography - Demonstration
12. Estimation of serum  $\text{Na}^+/\text{K}^+$  ions by Flame photometer- Demonstration.

ZOOL