

Objective - Its aim is to understand the fundamental chemical principles that govern complex biological systems. The program is an interdepartmental major between biology and chemistry that emphasizes the importance of a solid foundation in the cardiac care

- UNIT - 1** Biomolecules and the cell: Major complex biomolecules of cell and cell organelles- Prokaryotic and eukaryotic cell Carbohydrates: Chemical structure, function and Classification: Monosaccharides, Disaccharides, Polysaccharides, Homopolysaccharides, Heteropolysaccharides, Glycoproteins Proteins: Amino acids, Classification, Structure of proteins, Determination of protein, structure, Properties of proteins, Denaturation, Classification of proteins, Anti General Antibody Types
- UNIT – 2** Plasma proteins, Blood clotting: Lipids: Chemical structure, functions and Classification, fatty acids, Triacylglycerols, Phospholipids, glycoproteins, Lipoproteins, Steroids, Amphipathic lipids. Nucleic acids: Purines and pyrimidine, Structure of DNA, Watson & Crick model of DNA, Structure of RNA, Types of RNA, Enzymes: Definition, Nomenclature, Classification, Factors affecting enzyme activity, Active site, Coenzyme, Enzyme Inhibition, Mechanism of enzyme action, Units of enzyme,
- UNIT – 3** Iso-enzymes, Enzyme pattern in diseases: Vitamins & Minerals: Fat soluble vitamins(A,D,E,K), Water soluble vitamins, B-complex vitamins, principal elements(Calcium, Phosphorus, Magnesium, Sodium, Potassium, Chlorine and Sulphur), Trace elements, Calorific value of foods, Basal metabolic rate(BMR),
- UNIT – 4** respiratory quotient(RQ), Specific dynamic action(SDA), Balanced diet, Marasmus, Kwashiorkor, Hormones: Classification, Mechanism of action, Hypothalamic hormones, Pituitary– Anterior, posterior; Thyroid – Adrenal cortex, Adrenal medulla; Gonadal hormones, Menstrual cycle, GI hormones, Acids and bases: Definition, pH, Henderson Hasselback

Recommended books

- Textbook of Medical Biochemistry-6 th Edition by MN Chatterjea & Rana Shinde
- Textbook of Medical Laboratory technology 2nd edition by Godkar and Godkar.