**Programme Specific Outcome**

**B.Sc. ( Biochemistry)**

Students will be able to learn following topics:-

PSO1: chemistry of carbohydrates, lipids, fatty acids, proteins, aminoacids, nucleic acids, porphyrins, hormones, cell, blood and it's components, nomenclature, regulation, action, diagnostic enzymes-SGOT, SGPT, LDH, acid and alkaline phosphatase enzymes.

PSO2: Bioenergetics, Laws of thermodynamics

PSO3: Chromatography, Electrophoresis, Spectroscopic and Radio isotopic techniques, application, chemistry of DNA, RNA molecules functions replication, transcription, translation, genetic code, electron transport chain, oxidative phosphorylation, glycolysis, Creb's cycle, Pentose phosphate pathway, Urea cycle, Beta oxidation of fatty acids. Synthesis and utilization of Ketone bodies, Purines and Pyrimidines. Some culture techniques of Viruses, Types of immunity antigen & antibody reactions.

**Course Outcome**

**B.Sc. (First Year)**

**First Paper**

Students will be able to learn following points:-

CO1: Classification, structure, reactions of carbohydrate

CO2: Lipids, Fatty acids, Proteins i.e., primary, secondary (alpha helix and beta pleated sheets), tertiary and quaternary structures and their functions.

CO3: composition, denaturation, annealing of DNA &RNA

CO4: Central dogma of molecular biology.

CO5: Classification and functioning of Porphyrins and Hormones, Insulin, Epinephrin, Glucocorticoid &Androgens.

**B.Sc. (First Year)**

**Second Paper**

Students will be able to learn following points:-

CO1: Bio-energetics

CO2: Thermodynamics of bio-molecules.

CO3: Techniques sedimentation and centrifugation, Chromatography, Electrophoresis

CO4: Spectroscopic and Immunological studies

CO5: Radio isotopic Techniques, types of radioisotopes and measurement of radioactvity auto radioactivity.

**Course Outcome**

**B.Sc. Third Semester**

Students will be able to learn following points:-

CO1: structure and functioning of cell, different types Prokaryotic, Eukaryotic,

CO2: Difference between animal and plant cell

CO3: Structure and functions of cell organelles

CO4: Blood components, their functions, blood groups, acid -base balance and disorders(acidosis and alkalosis)

CO 5: Respiratory system, kidney structure and organization.

**Course Outcome**

**B.Sc. Fourth Semester**

Students will be able to learn following points:-

CO1: Enzymes, their definition, nomenclature& classification,

CO2: Types of inhibition, enzyme regulation and mechanism of enzyme action.

CO3: DNA replication, mechanism of transcription,

CO4: Translation and genetic code, mutation

CO5: Recombinant DNA technology and its applications.

**Course Outcome**

**B.Sc. Fifth Semester**

Students will be able to learn following points:-

CO1: Electron transport chain, oxidative phosphorylation, Inhibitors and examples of oxidative phosphorylation

CO2: Glycolysis, Creb's cycle

CO3: Pentose phosphate pathway, and glycogen storage diseases.

CO4: Urea cycle and inborn errors of amino acid metabolism, beta oxidation of fatty acids and synthesis and utilization of ketone bodies

CO5: Synthesis and degradation of Purines and Pyrimidines.

**Course Outcome**

**B. Sc. Sixth Semester**

Students will be able to learn following points:-

CO1: Classification, replication, structure and pure culture techniques of Viruses.

CO2: Types of immunity, antigen -antibody reaction

CO3: Agglutination and precipitation reactions.

CO4: Diagnostic enzymes, SGOT, SGPT, LDH, Acid and Alkaline Phosphatase enzymes,

CO5: Nutritional aspects of carbohydrates, fats, proteins, vitamins and minerals.