# 19BI335 METABOLIC PATHWAY

**UNIT- I**

**OVERVIEW OF METABOLISM:** High energy compounds; Oxidation-reduction reactions; The reactions of glycolysis; Termentation; Control of glycolysis; The pentose phosphate pathway, Glycogen breakdown and synthesis, Control of glycogen metabolism, Gluconeogenesis; Citric acid cycle - enzymes of the citric acid cycle, regulation of the citric acid cycle.

**UNIT-II**

**PROTEIN METABOLISM:** Amino acid deamination; Urea cycle; Breakdown of amino acids; Amino acid biosynthesis; The signal recognition particle targets.

**UNIT-III**

**FATTY ACID METABOLISM:** Lipid digestion - absorption and transport; Fatty acid oxidation; Ketone bodies; Fatty acid biosynthesis; Regulation of fatty acid metabolism.

**UNIT-IV**

**NUCLEIC ACID METABOLISM:** Synthesis of purine ribonucleotides; Synthesis of pyrimidine ribonucleotides; Formation of deoxyribonucleotides; Heme biosynthesis and degradation.

**UNIT-V**

**REGULATION OF MAMMALIAN FUEL METABOLISM:** Integration of fuel metabolism; The intestinal microbiome contributes to metabolism; Insulin promotes fuel use and storage; Glucagon and epinephrine trigger fuel mobilization; Additional hormones influence fuel metabolism (Adiponectin, Leptin, Resistin, Neuropeptide a, Cholecystokinin), AMP-dependent protein kinase acts as a fuel sensor; Diabetes is characterized by hyperglycemia; The metabolic syndrome links obesity and diabetes.