

BIOCHEMISTRY – Nursing

Syllabus

Fundamentals of general chemistry (solutions, acid-base reactions, buffers, energetics, redox reactions)

Fundamentals of organic chemistry (hydrocarbons, derivatives of hydrocarbons, heterocycles)

Structure of proteins, their biological significance (protein composition, aminoacids, peptide bond, complex proteins)

Biocatalysis (vitamins, enzymes, enzymatic kinetics)

Biological membranes and energy formation (membrane composition and function, respiratory chain and ATP-formation, citric acid cycle)

Metabolism of saccharides (types of saccharides, metabolism of sugars, glycolysis, pentose phosphate pathway, glycogen formation)

Metabolism of lipids (fatty acids, their synthesis and degradation, steroids, synthesis of cholesterol)

Amino acid metabolism (essential and non-essential aminoacids, urea cycle, synthesis and degradation of amino acids)

Nucleic acid, their metabolism and protheosynthesis (DNA, RNA, synthesis and degradation of purines and pyrimidines)

Hormonal regulation (hormones, their types, formation and actions)

Biochemistry of blood and ABR (functions of blood, hem synthesis and degradation, acid-base balance)

Water and minerals (metabolism of water, minerals and trace elements)

Fundamentals of nutrition (sugars, lipids and proteins in nutritions)

Pathobiochemistry of nutrient metabolism (sugar, lipid, aminoacid metabolism, disturbances)