

2015-2016

SEMESTER-I

Paper V

MM- 40+10


Credits -3

Hours-36

**MCH-405(b):General Biology**  
(For students without Biology in B.Sc)

<b>Unit-I</b>	<b>Cell Structure and Functions-</b> 1. Structure prokaryotic and eukaryotic cells, intracellular organelles and their functions, comparison of plant and animal cells. Overview and their functions, comparison of plant and animal cells. 2. Overview of metabolic processes-catabolism and anabolism. ATP-the biological energy currency.
<b>Unit-II</b>	<b>Carbohydrates</b> 1. Conformation of monosaccharide's, structure and functions of important derivatives of mono-saccharides like glycosides, deoxy-sugars, 2. Disaccharides and polysaccharides. Structural polysaccharides cellulose and chitin. Storage polysaccharides-starch and glycogen.
<b>Unit-III</b>	<b>Lipid</b> 1. Fatty acids, essential fatty; acids, structure and function of triacylglycerols, glycerophospholipids, sphingolipids, cholesterol, bile acids, prostaglandins. 2. Lipoproteins-composition and function, role in atherosclerosis. Properties of lipid aggregates-micelles, bilayers, liposomes and their possible biological functions.
<b>Unit-IV</b>	<b>Amino-acids, Peptides and Proteins</b> 1. Chemical and enzymatic hydrolysis of proteins to peptides, amino acids sequencing 2. Secondary structure of proteins, force responsible for holding of secondary structure, alfa-helix, -beta-sheets, super secondary structure, triple helix
<b>Unit-V</b>	<b>Nucleic Acids</b> 1. Purine and pyrimidine bases of nucleic acids, base pairing via H bonding, Structure of ribonucleic acids (RNA) and deoxyribonucleic acid (DNA), double helix model of DNA and forces responsible for holding it. 2. Chemical and enzymatic Hydrolysis of nucleic acids. The chemical basis for heredity, and overview of replication of DNA, transcription, translation and genetic code. Chemical synthesis of mono and trinucleoside.

Books Suggested

  
प्राचार्य  
माता जीजाबाई शास. महाविद्यालय  
मोती टोला, इंदौर