

# Sri Bhagawan Mahaveer Jain First Grade College

Geetha Road, Robertsonpet, Kolar Gold Fields.

## CHEMISTRY OF BIOMOLECULES

**After studying this paper, biochemistry graduate students will be able to:**

- Understand biochemistry at the atomic level, draw molecules and reactions involved with biomolecules.
- know the various weak acids and bases, biological buffers present in our body
- Learn the molecular structures of 20 amino acids, differentiating essential and non-essential amino acids, biologically important modified amino acids and their functions
- Recognize the structural levels of organization of proteins, 3D structure of proteins, its functions, denaturation (hemoglobin, myoglobin etc.).
- Understand the difference between monosaccharides, disaccharides and polysaccharides. Storage and structural polysaccharides.
- Have a clear picture of biomembranes, behavior of amphiphatic lipids in water, formation of micelles, bilayers, vesicles, membrane composition and fluid mosaic model
- Describe/recognize lipid and porphyrin structures, lipoproteins and functions of prostaglandins.
- Describe how lipids, cholesterol, prostaglandins etc. are synthesized, emphasizing the genetic defects of lipid metabolism.
- Understand the relationship between the properties of macromolecules and cellular activities, cell metabolism and chemical composition.
- amino acids and their functions.