SARDAR PATEL UNIVERSITY
Programme & Subject: B.Sc (Bio Chemistry)
Semester: VI
Syllabus with Effect from: November-2013

Paper Code: US06CBCH03	**Total Credit: 3**
Title Of Paper: Metabolism - II	

Unit	Description in detail	Weightage (%)
I	**Oxidative Phosphorylation** Electron transport chain and oxidative phosphorylation: mechanism of oxidative phosphorylation & theories (hypothesis) for ATP synthesis, uncouplers of oxidative phosphorylation, regulation of electron transport chain. Inhibitors for oxidative phosphorylation. Free radicals & antioxidant.	**25%**
II	**Protein Metabolism** Protein catabolism: protein turn over, amino acid pools, deamination, transamination, decarboxylation, urea cycle, detoxification of ammonia. Biosynthesis of non-essential amino acid & their regulation. Metabolic disorder Protein – Phenyl ketouria, Albinism, Maple syrup disease, Homocystine urea	**25%**
III	**Nucleic Acid Metabolism** Biosynthesis of purine & pyrimidine nucleotide & its degradation, Salvage pathway for purine & pyrimidine base. Porphyrine metabolism- biosynthesis and degradation of heme, production of bile pigments. Metabolic disorders of- Nucleic acid Gout.	**25%**
IV	**Integration of Metabolism.** Metabolism as an integrated process: relation between carbohydrates, fat & nucleic acid metabolism. Control role of TCA cycle. Connection of TCA cycle and Urea cycle. Adaptation in Metabolism in starvation, diabetes mellitus. Metabolic syndrome.(obesity, insulin resistance, inflammation)	**25%**

Basic Text & Reference Books:

- Principal of biochemistry - Lehninger.
- Biochemistry - Satyanarayn.
- Review of physiological biochemistry - Harold Harper.
- Biochemistry - Lipin Cott's.
- Text book of medical biochemistry - M.N.Chattergia and Rana shinde.
- Biochemistry - Lubert Strayer.
- Biochemistry - Voet and Voet
- Biochemistry - Zubey.