

SARDAR PATEL UNIVERSITY
Programme: BSC (BIOTECHNOLOGY)
Semester: V
Syllabus with effect from: June 2012

Paper Code: US05CBIT06	Total Credit: 3
Title Of Paper: Cell biology	

Unit	Description in detail	Weighting (%)
1	Fluid mosaic model of membrane. Functions of plasma membrane. Chemical composition of membrane - Types & functions of lipids, proteins and carbohydrate. Membrane fluidity.	
2	Cytoskeleton - Overview, Types (Microtubules, intermediate filaments and microfilaments) Functions and significance. Molecular motors	
3	Cell signaling - basic characteristics of cell signaling & significance, second messenger, Role of G protein coupled receptors (GPCR) & Receptor tyrosine kinases (RTK) in signaling pathway	
4	Apoptosis: Overview and significance. Regulation and control of apoptosis. Caspases, Activation of Apoptotic pathways by internal and external stimuli. Cancer - Introduction, Types, Mechanism, Concept of Protooncogenes and oncogenes.	

Basic Text & Reference Books:

- Human physiology by Chaterjee and Chaterjee
- Human physiology by Tortora
- Biochemistry by Zubay, Biochemistry by Stryer
- Text book of biochemistry - Vasudevan & Shreekumari
- Biochemistry - Lehninger

