

SARDAR PATEL UNIVERSITY
Programme: B.Sc (Bio Chemistry)
Semester: V
Syllabus with effect from: June 2013

Paper Code: US05CBCH04	Total Credit: 3
Title Of Paper: Cellbiology	

Unit	Description in detail	Weightage (%)
I	Introduction to Cell, Plasma Membrane & Cell Wall Structural organization of prokaryotic and eukaryotic cells. Evolution of Eukaryotic cells from Prokaryotes Structure and differences between plant and animal cells General features, biochemical composition and functions of cell membrane Models for the functioning of the cell membrane Cell junctions Structure, biochemical composition, formation and functions of cell wall	25%
II	Cytoskeleton Structure, biochemical composition and functions of the following: Microtubules, microfilaments and intermediate filaments Centrioles and Basal bodies Cilia and Flagella	25%
III	Ultrastructure & Functions of Eukaryotic Cell Organelles Nucleus, mitochondria and lysosomes Plastid (chloroplast), peroxisomes and vacuoles Golgi complex, ribosomes and endoplasmic reticulum	25%
IV	Cell Division & Stem Cells: Cell cycle : Mitosis and meiosis Significance of mitosis and meiosis Differences between mitosis and meiosis Apoptosis (programmed cell death) Stem cells and their importance	25%

Basic Text & Reference Books:

- Cell and Molecular Biology by E.D.P. De Robertis and E.M.P. De Robertis. 8th Edition, (Reprinted - 2007) B.I. Publications Pvt. Ltd. (Indian Edition).ISBN: 0-7817-3493-2.
- Cell and Molecular Biology: Concepts and Experiments by Gerald Karp.4th Edition, 2005. Wiley International Edition, John Wiley & Sons, Inc.ISBN:0-471-65665-8.
- Cell Biology by C.B. Powar. (Reprinted-2004) Himalaya Publishing House, Mumbai.
- Cell Biology, Genetics, Molecular Biology, Evolution and Ecology by P.S. Verma and V.K. Agarwal (Reprinted -2007) Pub. S. Chand & Company Ltd. Ram Nagar, New Delhi-110055.
- Cytology by P.S. Verma and V.K. Agarwal (Reprinted -2006) Pub: S. Chand & Company Ltd. Ram Nagar, New Delhi-110055.ISBN: 81-219-0814-0.
- Molecular Biology of the Cell by Albert etal.4th Edition, 2002, Garland Science, Taylor & Francis Group. ISBN: 0-8153-3218-1
- The Cell – A Molecular Approach by Geoffrey M. Cooper and Robert E. Hassman. 3rd Edition, 2004, ASM Press, Sinauer Associates, Inc.ISBN:0-87893-214-3.

