

OBT753 INTRODUCTION OF CELL BIOLOGY

DETAILED SYLLABUS

AIM

- To provide knowledge on cell structure and its function.

UNIT I CELL STRUCTURE

Cell organization, structure of organelles, extra cellular matrix and cell junctions.

UNIT II CELL ORGANELLE AND FUNCTION

Nuclues, Mitochondria, Lysosomes, Endoplasmic reticulum, Golgi apparatus, vesicles, centrosomes, cell membranes, ribosomes, cytosol, chloroplasts, flagella, cell wall.

UNIT III DIVISION

Cell cycle – mitosis, meiosis, cell cycle regulation and apoptosis.

UNIT IV MACROMOLECULES

DNA, RNA and Proteins – basic units, architectural hierarchy and organisation, functions.

UNIT V ENZYMES

Enzymes – Structure, Mechanism of action, Factors that affect enzyme activity, Common enzymes used in industrial setup of plant and animal origin.

TEXT BOOKS

1. Lodish, Harvey et al., “Molecular Cell Biology”, 5 th Edition, W.H.Freeman, 2005.
2. Cooper, G.M. and R.E. Hansman “The Cell: A Molecular Approach”, 4 th Edition, ASM Press, 2007.
3. Alberts, Bruce et al., “Molecular Biology of the Cell”, 4 th Edition, Garland Science (Taylors Francis), 2002.

REFERENCES

1. McDonald, F et al., “Molecular Biology of Cancer” 2nd Edition, Taylor & Francis, 2004.
2. King, Roger J.B. “Cancer Biology” Addison Wesley Longman, 1996.