

ELECTIVE COURSE I – CELL STRUCTURE AND FUNCTIONS

Unit I

Structure and function of cells and its organelles – organization and function of cytoskeleton and nuclei – chromatin structure.

Unit II

Molecular aspects of cell division and cell cycle, cell fusion, nuclear, cytoplasmic interaction, Sporulation – specific events in Bacilli.

Unit III

Cellular regulation : Development and differentiation in eukaryotic systems plastid development, mitochondrial genesis.

Unit IV

Extracellular signaling : autocrine, paracrine, endocrine receptors – intracellular signaling. Role of protein kinases, cyclic AMP G-Proteins.

Unit V

Structure and function of biological membranes – Artificial membranes – use of liposomes in drug targetting – Mitogens and Oncogens – Regulation.

Reference:

1. Cell and Molecular Biology – Concepts and experiments (1996) G.Karp, John Wiley gnc., New York.
2. Cell Biology Vol. I to Vol. III (1994). V.E. Celis; AP.
3. Molecular and Cell Biology (1990) D.Baltimore, Scientific American.