

BP808ET. CELL AND MOLECULAR BIOLOGY (Theory)

45 Hours

Course content:

Unit-I

10 Hours

Cell and Molecular Biology: Definitions theory and basics and Applications. Cell and Molecular Biology: History and Summation.
Properties of cells and cell membrane.
Prokaryotic versus Eukaryotic.
Cellular Reproduction.
Chemical Foundations – an Introduction and Reactions (Types).

Unit-II

10 Hours

DNA and the Flow of Molecular Information. DNA Functioning.
DNA and RNA. Types of RNA. Transcription and Translation.

Unit-III

10 Hours

Proteins: Defined and Amino Acids. Protein Structure.
Regularities in Protein Pathways.
Cellular Processes.
Positive Control and significance of Protein Synthesis.

Unit-IV

08 Hours

Science of Genetics.
Transgenics and genomic analysis. Cell cycle analysis.
Mitosis and Meiosis.
Cellular Activities and checkpoints.

Unit-V

07 Hours

Cell Signals: Introduction. Receptors for Cell Signals.
Signaling Pathways: Overview.
Misregulation of Signaling Pathways.
Protein-Kinases: Functioning.