

**1237**  
**ZOOLOGY**  
**PAPER II : CELL BIOLOGY**

**Duration : 3 hours**

**M.M. 50**

**UNIT -I**

- 1 Cell theory and its modern interpretation
- 2 Structure, function and general characteristics various types of cells
- 3 Prokaryotic and eukaryotic cells.

**UNIT -II**

- 4 Various models and hypothesis in understanding the structure of plasma membrane (Overton, Danielli and Davison, Robertsons and Fluid mosaic model)
- 5 Functions of plasma membrane and membrane transport
- 6 Cell cytoskeleton-Microtubule, Microfilament and Intermediate Filament.
- 7 Structure and function Cilia, flagella, Centriole and basal bodies.
- 8 Brief idea of cell cycle (General description of mitosis and meiosis).

**UNIT -III**

- 9 Structure and function of nucleus and nucleolus.
- 10 Nucleic acids: Watson and Crick model of DNA, chemical nature of DNA and replication of DNA.
- 11 Chemical nature and structure of various types of RNAs and basic concept of transcription

**UNIT -IV**

- 12 Structure and function of Ribosome
- 13 Structure and function of Endoplasmic Reticulum (Rough and Smooth)
- 14 Basic concept of Protein Synthesis.

## **UNIT -V**

- 15 Structure and function of Golgi. Concept of GERL system.
- 16 Structure and function of Mitochondria and Peroxisomes.
- 17 Structure, function and polymorphism of Lysosomes.