

**Title: Cell Biology [2-1-0-6]**

**Content :**

Prokaryotic and eukaryotic cell organization: Different types of cells and their organization, differences

Cell organelles: Organization and functions of eukaryotic cell organelles

Vesicular trafficking: Protein transport, protein sorting, vesicular transport, phagocytosis, pinocytosis

Cytoskeleton: Organization and functions of microtubules, actins and intermediate filaments. Molecular motors, endocytosis, exocytosis

Structure of chromosome and chromatin regulation: Organization of chromosomes, chromatin concept, chromatin regulation

Visualizing cells: Different types of microscopes, fluorophores and techniques to visualize cells

Cell cycle: Steps of mitosis and meiosis and their regulation

Cancer: Biology of cancer

**Texts / References:**

1. Alberts et al., Molecular Biology of the Cell. (6th ed). Garland Science
2. Lodish et al., Molecular Cell Biology (7th ed). Freeman publisher
3. Cooper. G. Cell, A molecular approach (8<sup>th</sup> Ed). OUP USA