# Elective paper BT 104 Cell Biology

## Section I

Unit 1

1.1. Cellular evolution: prokaryotic and eukaryotic cell
1.2. Ultra structure of cellular components of prokaryotic cell. Ultra structure of cellular components of eukaryotic cell. -
1.3. Ultra structure of cellular components of eukaryotic cell -cell wall, plasma membrane, endoplasmic reticulum, Golgi complex
1.4. Ultra structure of cellular components of eukaryotic cell - mitochondria, chloroplast, lysosome, microtubules, peroxisomes and vacuoles

Unit 2

2.1. Over view of protein trafficking in cell.
2.2. Role of golgi complex and other cell organelles in protein trafficking and sorting.
2.3. Endocytic pathway.
2.4. Exocytic pathway.

Section II

Unit 3

3.1. Mitosis, Meosis and bacterial cell division. Eukaryotic cell cycle
3.2. Regulation of cell cycle
3.3. Concept of signal transduction.
3.4. Various signal transduction pathways.

Unit 4

4.1. Cell –cell interaction and communication
4.2. Characteristics of cancerous cell and malignant growth and oncogenes.
4.3. .Cell cycle regulation and cancer
4.4. Apoptosis.

## References


1. **Lehninger,** *Principles of Biochemistry*
2. **Molecular Biology of the Cell -** Albert
3. **Voet and Voet**, *Bichemistery*
4. **Nicholes,** *Fundamentals of Enzymology*