(BM-203) - Cellular and Molecular Biology

Course Outline:

Theory:

1. Basic properties of cells
2. Prokaryotic and eukaryotic cells
3. Viruses
4. Biological molecules: carbohydrates, lipids, proteins, and nucleic acids, Techniques used in cell and molecular biology
5. Enzymes
6. Metabolism
7. Mitochondrion structure and function
8. Chloroplast structure and function
9. Plasma membrane composition, structure, and function
10. The movement of substances across cell membranes
11. The endomembrane system
12. The extracellular matrix
13. The structure and function of the nucleus
14. Genes and chromosomes
15. DNA replication
16. Transcription, Translation
17. Cytoskeleton and cell motility
18. Cellular reproduction
19. Cell signalling

Suggested Teaching Methodology:

- Lecturing
- Written Assignments Report Writing ## **Suggested Assessment:**

Theory (100%)

- Sessional (20%)
- Quiz (12%)
- Assignment (8%)
- Midterm (30%)
- Final Term (50%)

Reference Text Book:

1. H. Lodish et al. 2012. Molecular Cell Biology, 7th Ed. W.H Freeman and Company, and Turning
2. Molecular Biology of the Cell (MBC) 5th Edition, 2008 Alberts, Johnson, Lewis, Raff, Roberts, Walter.