COURSE CODE: 13B11BI112   MAX. MARKS: 25
COURSE NAME: Cell and Molecular Biology
COURSE CREDITS: 4   MAX. TIME: **1.5 Hrs**

Note: All questions are compulsory. Carrying of mobile phone during examinations will be treated as case of unfair means.

1. Draw the structure of peptide bond between glycine amino acids? (1)

2. Draw the structure of lactose sugar showing glycosidic bond and numbering of the carbons? (1)

3. Describe the difference between cell wall of gram negative and gram positive bacteria? (2)

4. What are the different models proposed for cell membrane structure and discuss the most accepted cell membrane structure? (2)

5. What is phospholipids, give examples of phospholipids highlighting the functional group in each? What are the functional attributes to the phospholipids? (3)

6. Enzymes are biocatalyst, write the characteristics of enzymes and models proposes for their activity? (3)

7. Draw the double helix structure of DNA model and highlights the numbers associated with structure? (3)

8. Discuss the role DNA polymerase in replication, their properties and fidelity rate? Also give account in the difference between prokaryotic and eukaryotic DNA polymerase? (3)

9. Write on the different models proposed for DNA replication (3)

10. What are the cellular content of the *E. coli* (give data in percentage) and genome size and number of genes present in *E. coli*? What are the difference between active and passive transport (4)