

**FIRST SEMESTER M.Sc. DEGREE EXAMINATION, JANUARY 2008**

General Biotechnology

**GBT 102—BIO MOLECULES****Time : Three Hours****Maximum : 80 Marks****Section A***Answer any **two** questions.*

1. Explain the classification and functions of lipids.
2. Explain classification and functions of **aminoacids**.
3. Explain the principle and applications of different separation techniques.

**(2 x 10 = 20 marks)****Section B***Answer any **ten** questions.*

4. How do you determine the primary structure of proteins ?
5. Explain the structure and functions of any *two* polysaccharides.
6. List out the common fatty acids and their functions.
7. Explain the structure and organization of a peptide bond.
8. Write the structure of (a) Lactose, (b) **Histidine**.
9. List out the functions of secondary metabolites.
10. Explain space filling and ball and stick models of representing **biomolecules**.
11. Write the structure of side chain of any *five* amino acids.
12. With suitable examples mention the various covalent and non-covalent bonds occurring in the interactions of **biomolecules**.
13. Discuss the principle and applications of gel-filtration chromatography.
14. Discuss the principle and applications of dialysis.
15. Write the structure and mention the significance of **spingolipids**.

**(10 x 5 = 50 marks)****Turn over**

**Section C**

*Answer all questions.*

16. What are sugar alcohols ?
17. What are isoprenoids ?
18. What is the significance of pentoses ?
19. State the *two* laws of thermodynamics.
20. What do you understand by quaternary structure of protein ?

**(5 x 2 = 10 marks)**