D 12528

FIRST SEMESTER M.Sc. DEGREE EXAMINATION, JANUARY 2006

General Biotechnology

GBE 102—BIOMOLECULES

Time : Three Hours

Maximum : 80 Marks

Section A

Answer any **two** *questions.*

1. Give a detailed account of steps in protein purification.

2. Explain the functions of lipids.

3. Describe chromatographic techniques.

(2 x 10 = 20 marks)

Section B

Answer any **ten** *questions.*

4. Derive Henderson-Hasselbalch equation.

5. Describe laws of thermodynamics.

6. What is Lambert-Beer law ?

7. What are non-standard aminoacids and explain their function ?

8. Explain Ramachandran effect.

9. What is the significance of protein denaturation and folding ?

10. What is Hill plot?

11. Explain Bohr effect.

12. Write structure of :

    (a) **Lysine.**   (b) Phenylalanine.

    (c) Trehalose.   (d) Palmitic **acid.**

    (e) Linoleic **acid.**

13. What is centrifugation ? Explain its significance.

14. Explain Bronsted-Lowry concept of acids and bases.

15. Explain Mass spectroscopy.

(10 x 5 = 50 marks)

Section C

Answer **all** *questions.*

16. What is Zwitterion ?   17. Explain Ligands.

18. What is isoelectric point ?   19. What are purines ?

20. What are cerebrosides ?

(5 x 2 = 10 marks)