

**D 72918**

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**Name.....**

**Reg. No.....**

**FIRST SEMESTER M.Sc. DEGREE EXAMINATION, DECEMBER 2014**

**(CUCSS)**

General Biotechnology

**GBT1 C2—BIOMOLECULES**

Time : Three Hours

Maximum : 36 Weightage

**Section A**

Answer **all** questions.

Each question carries 1 weightage.

1. What are **anomers** ? Give examples.
2. Define Entropy.
3. List out the hormones involved blood glucose homeostasis.
4. What are the functions of cholesterol in our body ?
5. Define  $\psi$  and  $\omega$  angles of a protein.
6. Why pH is strictly maintained in biological system ?
7. Name some of the weak interactions in biological system.
8. What are **Zwitter** ions ?
9. Distinguish between a nucleoside and a nucleotide.
10. What is Scurvy ?

**(10 x 1 = 10 weightage)**

**Section B**

Answer any **seven** questions.

Each question carries 2 weightage.

11. Explain the application of **MALDI-TOF**.
12. What are heterocyclic compounds ? Mention their importance in biology.
13. Classify carbohydrates citing suitable examples.
14. Describe the applications of gel permeation chromatography and affinity chromatography.
15. Classify **aminoacids** based on polarity and mention their physiological functions.
16. Explain the functions and structures of different classes of RNA.
17. List out the functions of proteins in our body..
18. Explain the working principle and application of **spectrophotometry**.
19. Give an idea about the hormones of pituitary gland.
20. What are the different factors that affect **electrophoretic** separation of **biomolecules** ?

**(7 x 2 = 14 weightage)**

**Turn over**

## Section C

*Answer any two questions.*

*Each question carries 6 weightage.*

21. How do buffers act ? What are the different buffer systems in our body ?
22. Explain the principle and applications of X-ray crystallography.
23. Give an idea about the structure and functions of fat soluble vitamins.

(2 x 6 = 12 weight:-