

FIRST SEMESTER M.Sc. DEGREE EXAMINATION, DECEMBER 2016**(CUCSS)**

General Biotechnology

GB 1C 2 – BIOMOLECULES

Time : Three Hours

Maximum : 36 Weightage

Section A*Answer **all** questions.**Each question carries weightage 1.*

1. What are cyclic nucleotides? Draw the structure of any *one* cyclic nucleotide.
2. List out the major buffer systems in our body.
3. What are tropic hormones? Give *two* examples.
4. What are the major functions of plant pigments?
5. Write down the principle behind any one **quantitation** method for proteins.
6. What are **epimers**? Give examples.
7. What is the function of SDS in SDS-PAGE?
8. Write a note on the salient features of a peptide bond.
9. Write a note on the significance of **Chargaff** 's rule.
10. What is the importance of **isoelectric point**?

(10 x 1 = 10 weightage)

Section B*Answer any **seven** questions.**Each question carries weightage 2.*

11. Write a note on DNA polymorphism.
12. Give an idea about any *one* method used for N-terminal and C-terminal analysis of protein.
13. Write a short note on ion-exchange chromatography.
14. Give an idea about the structure and functions of **homopolysaccharides**.
15. Explain the mechanism of action of protein hormones.
16. What do you know about RNA structure?
17. What is the role of chlorophyll and accessory pigments in the generation of energy?

Turn over

18. Classify amino acids based on their polarity.
19. Explain Wald's Visual Cycle and its importance.
20. Give an idea about the major functions of eicosanoids.

(7 x 2 = 14 weightage)

Section C

Answer any two questions.

Each question carries weightage 6.

21. Give a brief idea about the structural organization in proteins. What are the techniques that are commonly used for structural analysis of proteins?
22. Biological systems obey laws of thermodynamics. Justify the statement with suitable examples.
23. Write note on
 - (a) DNA structure.
 - (b) DNA supercoiling.

(2 x 6 = 12 weightage)