

2014

M.Sc.

1st Semester Examination

BIOCHEMISTRY

PAPER—BIC-101

Full Marks : 40

Time : 2 Hours

The figures in the right-hand margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

Answer all questions.

Group—A

1. Answer any five from the following questions : 5×2

- (a) Write the difference between glycoproteins and mucoproteins.
- (b) What are heteroglycans? Give two examples.
- (c) What are emulsions?

(Turn Over)

4. (a) What is Arachidonic acid ?
(b) Mention its role in the living system.
(c) What is Non-Coding strand ? 1+2+2
5. (a) "Existence of living and non-living components is impossible without bounding" — Justify the statement.
(b) Name the biomolecules where the following bonds are present :
(i) C-N ; (ii) C-S ; (iii) C-O ; (d) C-P. 3+2

Group—C

Answer any *two* from the following questions : 2×10

6. (a) Mention the structural details of α -helix.
(b) Discuss the structural peculiarities of collagen fibers.
(c) Which role the globular proteins play in biological system ? 3+4+3
7. Write down the chemical structures of purine and pyrimidine. How are they chemically stabilized into a double helix DNA molecule ? 5+5

8. (a) Differentiate among t-RNA, m-RNA and r-RNA.
What is Si RNA ?
- (b) What is informosome ?
- (c) What type of chemical bondings are present in DNA
triple helix ? (3+2)+2+3
9. (a) Draw the structures of Chondroitin sulphate and
Hyaluronic acid. Discuss their biological role.
- (b) Which one of the two gases : O₂ and CO₂ readily
affects the pH of blood ?
- (c) "Change of pH affects the structure of Haemoglobin".
Explain the statement.
- (d) State the importance of TLC in the separation of
protein. 5+1+2+2
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