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FIRST YEAR (B. Sc BIOTECHNOLOGY)
24BIO11101: BIOLOGICAL CHEMISTRY
(Semester I)

Program: B.Sc. (04)
Program Specific: B.Sc. Biotechnology
Course Type: Major
Paper: -

Credits: 2
Time: 2 Hours
Max. Marks: 30
SET: A

Instructions to the candidate:

- 1) All questions are compulsory.
- 2) Figures to the right indicate full marks.
- 3) Draw a well labelled diagram wherever necessary.

SECTION: A

Q1) Answer the following.

[1 X 5 = 5]

- a) Define chiral carbon.
- b) State the Henderson-Hasselbach equation.
- c) Define epimers.
- d) What is isoelectric pH?
- e) What is a holoenzyme?

SECTION: B

Q2) Answer any FIVE of the following (5/7).

[2 X 5 = 10]

1. Explain amino acid as a zwitter ion.
2. Formation of glycosidic bond is a condensation reaction. Justify
3. Draw the structure of tRNA.
4. Explain the carbonate bicarbonate buffer system.
5. State any two factors stabilizing the structure of alpha helix.
6. Comment on the specificity of enzymes.
7. State Chargaff's rule.

SECTION: C

Q3) Answer any TWO of the following (2/4).

[5 X 2 = 10]

1. Describe the structure of hemoglobin in terms of protein structure.
2. Discuss the salient features of Watson and Crick model of DNA.
3. Give a detailed classification of lipids.
4. Define enzyme activity. What is the effect of temperature and substrate concentration on enzyme activity?

SECTION: D

Q4) Answer any ONE of the following (1/2).

[5 X 1 = 5]

1. Discuss Classification of polysaccharides with respect to following:
 - a) Structure
 - b) Function
2. Draw the structure of the following
 - i. Glycine
 - ii. Maltose
 - iii. Deoxyribose

MCAS