Progressive Education Society's

Modern College of Arts, Science & Commerce Ganeshkhind, Pune – 16,

NEP 2020 (Autonomous)

End Semester Examination: April 2024

***Total No. of Questions**: 4* ***Total No. of Pages**: 2*

First Year (B. Sc. Biotechnology)
BIO1211: Biochemistry
(Semester II)

Program: B.Sc. Biotechnology (04) **Credits:** 2
Program Specific: Biotechnology **Time:** 2 Hours
Course Type: Core **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]**

1. Enlist any four biomolecules important for life.
2. Define hemiacetal.
3. What is zwitterion?
4. State the central dogma of life.
5. Give any two examples of water soluble vitamins.

SECTION: B

Q2) Answer any <u>FIVE</u> of the following (5/7). **[2 X 5 = 10]**

1. Explain chiral carbon with respect to the amino acid.
2. Define osmosis. Explain its types.
3. Compare eukaryotic and prokaryotic cell.
4. State Chargaff's rule.
5. Give any four functions of Vitamins.
6. What are epimers. Explain with a structural example.
7. Define valency and state the valence bond theory.

SECTION: C

Q3) Answer any <u>TWO</u> of the following (2/4). **[5 X 2 = 10]**

1. 'Internal cohesion of water molecules is due to the hydrogen bonds'. Justify.
2. Write an account on classification of lipids with suitable example.
3. Explain different techniques used to separate proteins.
4. Describe Watson and Crick model of DNA.

SECTION: D

Q4) Answer any <u>ONE</u> of the following (1/2). **[5 X 1 = 5]**

1. With suitable examples classify Polysaccharides.
2. Draw the structure of the following
    i. Maltose
    ii. Glycine
    iii. Cytosine

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