SAVITRIBAI PHULE PUNE UNIVERSITY
Progressive Education Society's
Modern College of Arts, Science and Commerce, Ganeshkhind, Pune-411016
B.Sc. Blended Program
(A degree of Savitribai Phule Pune University equivalent to the degree of University of Melbourne)

End Semester Examination : October 2024

Program: B.Sc. Blended **Semester:V** **SET: A**

Program (Specific): B.Sc.Blended(Chemistry) **Course Type: Core Course Theory**
Class: T.Y.B.Sc.Blended **Max.Marks: 25**
Course Code: CHM505 **Time: 1½ hrs**
Name of the Course: Biochemistry (Elective 1)
Paper: V

Note:
1) All questions are compulsory.
2) Figures to the right corner indicate full marks.
3) Use of scientific calculators is allowed.
4) Draw diagrams wherever necessary.
5) Use only Black or blue ink/ball/gel pens for writing.

Q1] Select the correct option (Any 5). **[5 x 1 = 5 M]**

i) Vitamin —-------- is required for the synthesis of blood clotting proteins.

a. A b. B c. D d. K

ii) —-------- is made up from two glucose molecules.
a.Maltose b. Galactose c. Ribose d. Sucrose

iii) Among the following amino acids, —--- does not have a chiral center.
a.Valine b. Glycine c. Methionine d. Tyrosine

iv) Miller-Urey experiment states that the —----------can be formed abiotically from gases.
a. biomolecules b. metals c. polymers d. quinoxalines

v) The enzyme-substrate interaction takes place at the —-- of the enzyme.

a.active site b. peptide bond c. secondary structure d. core

vi) Among the following pair, —---------- gives the same phenylosazone.

a. D-Glucose and D-Allose b. D-Glucose and D-Ribose
c. D-Glucose and D-Mannose d. D-Glucose and D-Talose

Q2] Answer the following (Any 5). **[5 x 2 =10 M]**

i) Differentiate between configuration and conformation of biomolecules.

ii) Name the factors affecting enzyme activity.

iii) Discuss the structures of reducing sugars.

iv) What is the function of vitamin B 12?

v) How pI of amino acid is calculated?.

vi) What is enzyme inhibition? State different modes of enzyme inhibition.

Q3] Answer the following (Any 2). **[2 x 5 =10 M]**

i) Draw various optical isomers of D-Glucose.

ii) Discuss lock and key and induced fit model for enzyme substrate interaction.

iii) Discuss the classification of vitamins.

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