



Progressive Education Society's
Modern College of Arts, Science & Commerce Ganeshkhind, Pune – 16
(Autonomous)
End Semester Examination: OCT/NOV 24
Faculty: Science and Technology

Program: (BScGen03) Semester: V
Program (Specific): General B. Sc.
Class: T.Y. B.Sc.
Name of the Course: Chemistry of Biomolecules
Course Code: 24-CH-508
Paper:

SET: A
Course Type: DSEC/DSC
Max. Marks: 35
Time: 2Hr

Instructions to the candidate:

- 1) *There are 4 sections in the question paper. Write each section on separate page.*
- 2) *All Sections are compulsory.*
- 3) *Figures to the right indicate full marks.*
- 4) *Draw a well labelled diagram wherever necessary.*

SECTION: A

Q1) Explain the following.

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- i) Explain Prokaryotic cells.
- ii) Define Biomolecule.
- iii) Explain how D-glucose reacts with dil. HNO_3 .
- iv) What is non-reducing sugars?
- v) What is absolute configuration?

Q2) Answer Any FOUR of the following.

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- i) Draw structures of Glycerophospholipids.
- ii) What is sphingolipids (SP)?
- iii) What are proteins?
- iv) Draw structure of Proline.
- v) What is an 'active site'?
- vi) What is endocrine gland?

SECTION: B

Q3) Answer Any FOUR of the following.

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- i) Give any three cell organelles and their function in detail.
- ii) Explain in brief about peptide bonds and give example.
- iii) What are Enantiomers and Diastereomers?
- iv) Explain in brief about glycosidic bonds with suitable example.
- v) Discuss Mutarotation.
- vi) Write short note on Hormones of Adrenal Cortex.

SECTION: C

Q4) Answer Any FOUR of the following.

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- i) Write short note on Cushing's syndrome.
- ii) Give the names of biological detergents and their uses.
- iii) What are the functions of enzyme inhibitors?
- iv) Explain reducing properties of monosaccharide.
- v) What are the causes of rancidity?
- vi) Give broad classification of lipids.

SECTION: D

Q5) Attempt any TWO of the following

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- i) What are Lipoproteins? Write their types. Explain the functions of lipoproteins.
- ii) Differentiate between Unicellular and Multicellular Organisms.
- iii) What are carbohydrates? Explain the reaction of D-Glucose with
 - a) Excess of phenyl hydrazine
 - b) H_2/Ni
- iv) What are fatty acids? Discuss the properties of fatty acids.