

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BSc DEGREE EXAMINATION DECEMBER 2023
(Second Semester)

Branch – MICROBIOLOGY

FUNDAMENTALS OF BIOCHEMISTRY

Time: Three Hours

Maximum: 50 Marks

SECTION-A (5 Marks)

Answer ALL questions

ALL questions carry EQUAL marks (5 x 1 = 5)

- 1 Macromolecule described as large molecules built up from small repeating units called as which of the following?
(i) Biopolymer (ii) Dimers
(iii) Monomers (iv) Metamers
- 2 Which of the following is an example of monosaccharide?
(i) Galactose (ii) Sucrose
(iii) Lactose (iv) Maltose
- 3 Find the INCORRECT statement about the biological functions of lipids _____.
(i) Storage form of metabolic fuel
(ii) Have a protective function in bacteria, plant, and insects
(iii) The structural component of membranes
(iv) Exhibit increased catalytic activity
- 4 Which of the following bases is not present in DNA?
(i) Adenine (ii) Guanine (iii) Thymine (iv) Uracil
- 5 What is the nature of an enzyme?
(i) Vitamin (ii) Lipid (iii) Carbohydrate (iv) Protein

SECTION - B (15 Marks)

Answer ALL Questions

ALL Questions Carry EQUAL Marks (5 x 3 = 15)

- 6 a Elaborate the biological macromolecules.
OR
b Summarize the osmosis process.
- 7 a Explain the polysaccharides.
OR
b Explain the glycoproteins.
- 8 a Elaborate the classification of fatty acids.
OR
b Summarize the biological functions of fat soluble vitamins.
- 9 a Summarize the biological functions of proteins.
OR
b Explain the various RNA's and its functions.
- 10 a Outline the classification of enzymes.
OR
b Elaborate the non-competitive inhibition.

SECTION -C (30 Marks)

Answer **ALL** questions

ALL questions carry **EQUAL** Marks

(5 x 6 = 30)

- 11 a Explain the chemical elements in biomolecules.
OR
b Outline the buffer system of biological fluid.
- 12 a Elaborate the classification of carbohydrates.
OR
b Elaborate the structure of glucose.
- 13 a Explain the classification of lipids.
OR
b Discuss the sources and biological functions of water soluble vitamins.
- 14 a Outline the secondary and tertiary structure of protein.
OR
b Elaborate the structure of DNA.
- 15 a Derive the MM equation.
OR
b Summarize the liver marker enzymes.

Z-Z-Z

END