

**PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)**

**BSc DEGREE EXAMINATION DECEMBER 2023
(First Semester)**

Branch- **BIOTECHNOLOGY**

CHEMISTRY OF BIOMOLECULES

Time: Three Hours

Maximum: 75 Marks

SECTION-A (10 Marks)

Answer **ALL** questions

ALL questions carry **EQUAL** marks

(10 × 1 = 10)

Module No.	Question No.	Question	K Level	CO
1	1	Choose the bond by which the molecules are bound together in a crystal. a. Van der Waal's attraction b. Electrostatic attraction c. Dipole – dipole attraction d. Hydrogen bond	K1	CO1
	2	Relate buffers are the mixtures of a. Strong acid and strong base b. Strong acid and weak base c. Weak acid and their conjugate base d. Weak base and their conjugate base	K2	CO1
2	3	Which of the following biomolecules simply refer to as Staff of Life? a. Lipids b. Proteins c. Vitamins d. Carbohydrates	K1	CO2
	4	Show the smallest carbohydrates – triose? a. Ribose b. Glucose c. Glyceraldehyde d. Dihydroxyacetone	K2	CO2
3	5	Select the solubility of lipids in water is a. Soluble b. Partially soluble c. Insoluble d. Partially insoluble	K1	CO3
	6	Name the sterol which acts as the precursor of Vitamin D2 is a. Colcalciferol b. Lanosterol c. Cholestrol d. Ergosterol	K2	CO3
4	7	Which is the simplest amino acid is a. Glycine b. Alanine c. Asparagine d. Tyrosine	K1	CO4
	8	What is the bond present between amino acids are called as a. Ionic bond b. Acidic bond c. Peptide bond d. Hydrogen bond	K2	CO4
5	9	Select the vitamin which helps in blood clotting? a. Vitamin A b. Vitamin C c. Vitamin D d. Vitamin K	K1	CO5
	10	Match the most abundant hormone produced by the anterior pituitary is a. LH b. TSH c. ACTH d. GH	K2	CO5

Cont...

SECTION - B (35 Marks)

Answer ALL questions

ALL questions carry EQUAL Marks (5 × 7 = 35)

Module No.	Question No.	Question	K Level	CO
1	11.a.	Recall the physical and chemical properties of water.	K1	CO1
	(OR)			
	11.b.	What is pH and narrate its importance?		
2	12.a.	What is polysaccharides, differentiate homo and hetero polysaccharides.	K1	CO2
	(OR)			
	12.b.	Define monosaccharide and brief their classification.		
3	13.a.	Explain the structure and functions of glycolipids.	K2	CO3
	(OR)			
	13.b.	Illustrate the types and their functions of RNA molecule.		
4	14.a.	Construct the functions of glycoproteins.	K3	CO4
	(OR)			
	14.b.	Make use of Quaternary structure of protein with an example.		
5	15.a.	Contrast the biological functions of water soluble vitamins.	K4	CO5
	(OR)			
	15.b.	Examine the function of insulin.		

SECTION -C (30 Marks)

Answer ANY THREE questions

ALL questions carry EQUAL Marks (3 × 10 = 30)

Module No.	Question No.	Question	K Level	CO
1	16	Simplify the laws of thermodynamics.	K4	CO1
2	17	Contrast the structure and properties of disaccharides.	K4	CO2
3	18	Discover the structure of DNA along with its importance.	K4	CO3
4	19	Infer about amino acid and their classification.	K4	CO4
5	20	Distinguish the function of phytochemicals.	K4	CO5

Z-Z-Z

END