TOTAL PAGES: 2

25BCU102

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BSc DEGREE EXAMINATION MAY 2026
(First Semester)

Branch- **BIOCHEMISTRY**

STRUCTURAL BIOCHEMISTRY

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	Which of the following has a triple covalent bond? a) O_2 b) N_2 c) Cl_2 d) H_2	K1	CO1
	2	What will be the molarity of 49 g of H_2SO_4 dissolved in 1 L of solution? (Molar mass = 98 g/mol) a) 0.25 M b) 0.5 M c) 1 M d) 2 M	K2	CO1
2	3	Which sugar is known as "fruit sugar"? a) Glucose b) Galactose c) Fructose d) Maltose	K1	CO2
	4	The storage polysaccharide in plants is: a) Glycogen b) Starch c) Cellulose d) Chitin	K2	CO2
3	5	Which of the following is a sulfur-containing amino acid? a) Serine b) Methionine c) Proline d) Glycine	K1	CO3
	6	Hemoglobin is an example of which structural level of protein? a) Primary b) Secondary c) Tertiary d) Quaternary	K2	CO3
4	7	Which of the following is a derived lipid? a) Fatty acids b) Triglycerides c) Waxes d) Glycolipids	K1	CO4
	8	Which of the following is a fat-soluble vitamin? a) Vitamin B_1 b) Vitamin C c) Vitamin K d) Vitamin B_6	K2	CO4
5	9	If a DNA molecule contains 20% adenine, what is the percentage of guanine? a) 20% b) 30% c) 40% d) 60%	K1	CO5
	10	Which type of RNA carries amino acids to the ribosome? a) mRNA b) tRNA c) rRNA d) snRNA	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.	Define the following (i) Coordinate covalent bond (ii) Hydrogen Bond	K1	CO1
		(OR)		
	11.b.	Define the following (i) Normality (ii) Molarity		
2	12.a.	Sketch the hemiacetal and hemiketal forms of monosaccharides.	K2	CO2
		(OR)		
	12.b.	Point out the traditional usage of honey in Indian diet.		
3	13.a.	Illustrate the structure of amino acids.	K3	CO3
		(OR)		
	13.b.	Classify the proteins in brief.		
4	14.a.	Narrate the classification of fatty acids.	K4	CO4
		(OR)		
	14.b.	Tabulate the sources and functions of Vitamin B complex.		
5	15.a.	Comment on plasmid DNA and DNA Super coiling.	K5	CO5
		(OR)		
	15.b.	Interpret the structure and functions of tRNA.		

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	Discuss the general steps of nucleophilic mechanism with example.	K1	CO1
2	17	Explain the structure, properties and functions of chondroitin sulfate.	K2	CO2
3	18	Describe the structure and functions of myoglobin.	K3	CO3
4	19	Classify the lipids in detail.	K4	CO4
5	20	Illustrate the features of secondary structure of DNA.	K5	CO5

Z-Z-Z END