TOTAL PAGES: 2 22BCU102N/22BCU102/18BCV02/18BCU02

PSG COLLEGE OF ARTS & SCIENCE

(AUTONOMOUS)

BSc DEGREE EXAMINATION MAY 2024

(First Semester)

Branch - BIOCHEMISTRY

STRUCTURAL BIOCHEMISTRY

Time: Three Hours

Maximum: 75 Marks

SECTION-A (10 Marks)

Answer ALL questions

ALL questions carry EQUAL marks $(10 \times 1 = 10)$

		ALL questions carry EQUAL marks	$10 \times 1 =$	= 10)
Module No.	Question No.	Question	K Level	СО
	1	The sigma bond is formed by head on over Lap of a) n orbital b) s orbital c) sp orbitals d) p orbital	K1	CO1
1	2	Dissolving a gram of substance in a final volume of 100ml solution? a)0.5% b) 5% c) 3% d) 1%	K2	CO1
2	3	peptide bond is a) covalent bond joining simple sugars together to form a polypeptide b) a hydrogen bond joining nucleotides together to form a nucleic acid c) a covalent bond joining nucleotides together to form a nucleic acid d) a covalent bond joining amino acids together to form a polypeptides	K1	CO2
2	4	The linkage seen in glycogen is a) α 1-> 4 b) α 1-> 6 c) α 1-> 4 and α 1-> 6 d) α 1-> 3	K2	CO2
3	5	which of the following is not true a)D forms amino acid NH2 group is present towards right hand side b) L forms aminogroup is present towards left hand side c)chiral carbon atom is present in all aminoacids d)aminoacid are optically active	K1	CO3
	6	which of the following components amino acids are generally synthesized? a) Fatty acids b)\alpha-ketoglutaric acid c)Mineral Salts d)Volatile acids	K2	CO3
4	7	Fat soluble vitamins are	K1	CO4
	8	Bananas are rich in	K2	CO4
5	9	Name the Uridine present in RNA a) nucleoside b) purine c) pyrimidine d) nucleotides	K1	CO5
	10	Nucleoside contains a) base-sugar b) base-sugar-phosphate c) base-phosphate d) sugar-phosphate	K2	CO5

SECTION - B (35 Marks)

Answer ALL questions

ALL questions carry EQUAL Marks

 $(5 \times 7 = 35)$

Module No.	Question No.	Question	K Level	СО
1	11.a.	Why bonds are important in biomolecules. Describe various bonds.		
		(OR)	K1	CO1
	11.b.	Explain different types of bond with example . How will you prepare 1%Nacl		
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Page 2

22BCU102N/22BCU102/18BCV02/18BCU02

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2	12.a.	List down the properties of Disaccharides.		
		(OR)	K2	C02
	12.b.	What are the functions of Glycogen?		
	13.a.	Classify proteins	K2	
3		(OR)		CO3
	13.b.	Bring out the significance Proteins.		
	14.a.	What are the Iodine number, Saponification number? What are their uses?	K1	CO4
4		(OR)		
	14.b.	Enumerate the nutritional aspects of Ca, P, Fe, Mg, Na, k		
	15.a.	Write short Notes on Circular DNA	K4	CO5
5		(OR)		
	15.b.	Write notes on "different types of RNA"		

SECTION -C (30 Marks) Answer ANY THREE questions

ALL questions carry EQUAL Marks

 $(3 \times 10 = 30)$

Module No.	Question No.	Question	K Level	со
1	16	Electrophilic nucleophilic reactions	K4	CO1
2	17	What are cellulose and chitin? Draw the structure.	K2	CO2
3	18	Haemoglobin is important for health and well being. Justify.	K2	CO3
4	19	Write a brief notes on Vitamins and it's types.	K2	CO4
5	20	Bring out the properties of nucleotides, and differentiate DNA and RNA.	K2	CO5