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22NDU416N

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BSc DEGREE EXAMINATION MAY 2025
(Fourth Semester)

Branch – **NUTRITION, FOOD SERVICE MANAGEMENT & DIETETICS**

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 hormones is responsible for increasing gluconeogenesis in the liver during prolonged starvation? a) TSH b) Insulin c) Thyroxine d) Glucagon	K1	CO1
	2	What is the net gain of ATP during the conversion of glucose to pyruvate? a) 2 ATP b) 4 ATP c) 6 ATP d) 1 ATP +1 GTP	K2	CO1
2	3	_____ is an example of derived lipids a) Terpenes b) Steroids c) Carotenoids d) All of the above	K1	CO2
	4	Beta-oxidation of fatty acids occurs in a) Peroxisome b) Peroxisome and Mitochondria c) Mitochondria d) Peroxisome, Mitochindria and ER	K2	CO2
3	5	Which of the following is responsible for specifying the 3D shape of a protein? a) The peptide bond b) The amino acid sequence c) Interaction with other polypeptides d) Interaction with molecular chaperons	K1	CO3
	6	One of the following is not an amino acid a) Glycine b) Hydroxyproline c) Glutamic acid d) Choline	K2	CO3
4	7	Purine base found in RNA is a) Guanine b) Cytosine c) Thymine d) Uracil	K1	CO4
	8	ATP is a a) Vitamin b) nucleoside c) nucleotide d) nucleic acid	K2	CO4

Cont...

5	9	The nature of an enzyme is a) Carbohydrate b) Proteins c) Vitamin d) Lipid	K1	CO5
	10	Which of the following is a protein digesting enzyme com produced in the stomach? a) Maltase b) HCI c) Pepsin d) Enterokinase	K2	CO5

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.	Classify the types of carbohydrate.	K2	CO1
		(OR)		
	11.b.	Explain about the gluconeogenesis.		
2	12.a.	Comment on the essential fatty acids.	K3	CO2
		(OR)		
	12.b.	Identify the types of lipoprotein.		
3	13.a.	Discuss on urea cycle.	K4	CO3
		(OR)		
	13.b.	Contrast the amino acids and classify it.		
4	14.a.	Compare and contrast on the structure of DNA and RNA.	K4	CO4
		(OR)		
	14.b.	Categorize the recombinant DNA technology.		
5	15.a.	Assess the Factors influencing rate of enzyme action.	K5	CO5
		(OR)		
	15.b.	Evaluate the Role of B vitamins in the metabolism of carbohydrates.		

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	Distinguish the HMP shunt pathway.	K4	CO1
2	17	Classify the types of lipoprotein.	K4	CO2
3	18	Justify the classification of amino acids.	K5	CO3
4	19	Explain the properties of DNA and RNA and their functions.	K5	CO4
5	20	Elaborate the types of enzymes and explain them.	K6	CO5

Z-Z-Z END