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22NDP102N

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

MSc DEGREE EXAMINATION DECEMBER 2025
(First Semester)

Branch – **FOODS AND NUTRITION**

ADVANCED NUTRITION - I

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	Find out the cause for Respiratory acidosis a) Increased CO_2 retention b) Excessive bicarbonate loss c) Hyperventilation d)Metabolic alkalosis compensation	K1	CO1
	2	Identify the main buffer system of extra cellular fluid is: a) Hemoglobin buffer b) Phosphate buffer c) Bicarbonate buffer d) Protein buffer	K2	CO1
2	3	Which organs mainly connects in the Cori cycle: a) Liver and kidneys b) Liver and muscles c) Brain and muscles d) Heart and lungs	K1	CO2
	4	Give the major product in the pentose phosphate pathway (HMP shunt) is a) ATP b) NADPH c) $FADH_2$ d) Pyruvate	K2	CO2
3	5	Which lipoprotein carries cholesterol from tissues to liver (reverse cholesterol transport)? a) Chylomicrons b) VLDL c) LDL d) HDL	K1	CO2
	6	Which part of the cell mainly involves in Fatty acid synthesis? a) Mitochondria b) Cytoplasm c) Lysosome d) Peroxisome	K2	CO3
4	7	What is the rate-limiting enzyme of the urea cycle? a) Arginase b) Ornithine trans carbamylase c) Carbamoyl phosphate synthetase I d) Arginino succ inate lyase	K1	CO3
	8	Find out the enzyme which is activated Trypsin from trypsinogen a) Pepsin b) Enterokinase c) HCl d) amylase	K2	CO3
5	9	Which of the following contributes the largest portion to total daily energy expenditure? a) Physical activity b) Basal metabolism c) Thermic effect of food d) thermogenesis	K1	CO2
	10	Identify the nutrient which produces the highest thermic effect of food is a) Carbohydrates b) Fats c) Proteins d) Fibre	K2	CO2

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.	Illustrate about the Receptors and Intracellular Signaling in cell.	K2	CO1
		(OR)		
	11.b.	Infer about the Neural Regulation in digestion.		
2	12.a.	Summarize the Role of Insulin in blood glucose.	K2	CO3
		(OR)		
	12.b.	Outline the TCA cycle.		
3	13.a.	Discover the role of Lipoproteins in lipid metabolism.	K4	CO3
		(OR)		
	13.b.	Dissect the Formation of the Ketone Bodies.		
4	14.a.	Assume about the digestion and absorption of proteins.	K4	CO2
		(OR)		
	14.b.	Analyze about the role of Glutamine in the body.		
5	15.a.	Relate the endocrine function in Fasting state during exercise.	K2	CO5
		(OR)		
	15.b.	Rephrase the Thermic effect of food.		

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	Construct the regulation of acid base balance.	K3	CO1
2	17	Categorize the Physiological and Metabolic Effects of Fiber in the body.	K4	CO3
3	18	Recommend the Synthesis and catabolism of Cholesterol.	K5	CO2
4	19	Determine the biosynthesis of proteins.	K5	CO3
5	20	Distinguish about the Interrelationship of carbohydrates, Lipids and Proteins Metabolism.	K4	CO5

Z-Z-Z END