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22NDP102N

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

MSc DEGREE EXAMINATION MAY 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	To total body water in ml/kg body weight in average normal young adult male is about a) 200 b) 400 c) 600 d) 1000	K1	CO1
	2	The energy balance in nutrition refers to the a) Equilibrium between energy intake and energy expenditure b) Equilibrium of rate of reduction c) Equation of rate of oxidation d) Amount of starch intake	K2	CO5
2	3	Which of the following glucose transporters are important in fructose transport in intestine? a) GLUT5 b) GLUT3 c) GLUT4 d) GLUT7	K1	CO5
	4	Which of these functional groups are find in a carbohydrate? a) Carbonyl-C=O b) Sulfhydryl-SH c) Hydroxyl-OH d) Ether-C-O-C	K2	CO1
3	5	Which of the following enzyme is not used in the synthesis of triacylglycerol? a) Glycerol-3-phosphate acyltransferase b) Acylglycerophosphate acyltransferase c) Phosphatidic acid phosphohydrolase d) Glycogen phosphorylase	K1	CO1
	6	Name the energy source the drain during starvation. a) Fat b) Ketone bodies c) Protein d) Lipids	K2	CO5
4	7	Which of the following aminoacids is not converted to succinyl-CoA a) Methionine b) Valine c) Isoleucine d) Histidine	K1	CO1
	8	Amino acids are joined by a) Peptide bond b) Hydrogen bond c) Ionic bond d) Glycosidic bond	K2	CO5
5	9	What are the factors affecting basal metabolic rate? a) Sex b) Climate c) Habit d) All of the above	K1	CO1
	10	Arise from 98.6^0 to 99.6^0 F, results in a ---% rise in basal metabolic rate a) 8 b) 7.5 c) 7 d) 8.2	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.	Draw the structure of digestive tract and write note on digestive process.	K2	CO1
		(OR)		
	11.b.	Discuss the role of high energy phosphate in energy storage.		
2	12.a.	Discuss the role of insulin.	K4	CO2
		(OR)		
	12.b.	Summarize the glycogenolysis.		
3	13.a.	Summarize the synthesis of cholesterol.	K3	CO2
		(OR)		
	13.b.	Discuss the brown fat thermogenesis.		
4	14.a.	Explain the alpha-helical structure of protein with example.	K5	CO4
		(OR)		
	14.b.	What is the role of brain and muscle amino acid metabolism?		
5	15.a.	Does increased carbohydrate availability affect fat metabolism in human skeletal muscle?	K2	CO5
		(OR)		
	15.b.	What is the relationship between energy intake and energy expenditure.		

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	Elaborate on electrolyte balance and acid base balance.	K4	CO2
2	17	Explain the role of fiber in disease prevention and management.	K5	CO4
3	18	Explain the role of the liver and adipose tissue in lipid metabolism.	K2	CO5
4	19	Define protein synthesis. Explain the role of mRNA and tRNA in protein synthesis.	K4	CO2
5	20	Describe the interrelationship between lipid and protein metabolism.	K2	CO5

Z-Z-Z END