

PSG COLLEGE OF ARTS & SCIENCE  
(AUTONOMOUS)  
MSc DEGREE EXAMINATION DECEMBER 2023  
(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	Who invented the unit of energy? A) Thomas Edison      B) James Watt C) James Joule         D) Michael Faraday	K1	CO1
	2	What is a common consequence of potassium deficiency? A) Osteoporosis         B) Anemia C) Hypertension         D) Type 2 diabetes	K2	CO2
2	3	Where does the majority of carbohydrate absorption occur in the digestive system? A) Stomach                B) Small intestine C) Large intestine        D) Liver	K1	CO1
	4	What does ATI stand for and state its primary role? A) Amino Transferase Index - Measuring protein synthesis B) Advanced Toxin Interaction - Assessing toxin absorption in the gut C) Antioxidant Transporter Inhibition - Regulating antioxidant levels D) Acute Thiamine Intake - Monitoring vitamin B1 absorption	K2	CO2
3	5	Which of the following is a function of cholesterol in the body? A) Energy storage B) Muscle contraction C) Cell membrane structure D) Blood clotting	K1	CO1
	6	During fatty acid oxidation, what is the primary source of energy production? A) Glycogen                B) Amino acids C) Glucose                 D) Triglycerides	K2	CO2
4	7	Which cellular structure is responsible for the synthesis of proteins in eukaryotic cells? A) Golgi apparatus      B) Ribosome C) Mitochondria         D) Lysosome	K1	CO1
	8	Which enzyme is responsible for the initial breakdown of proteins in the stomach? A) Lipase                    B) Amylase C) Pepsin                    D) Trypsin	K2	CO2

Cont...

5	9	During the fed state, which hormone is primarily responsible for promoting glucose uptake by cells and reducing blood glucose levels? A) Insulin                      B) Glucagon C) Epinephrine                D) Cortisol	K1	CO1
	10	Which of the following is a key metabolic process that occurs during the fast cycle (fasting state)? A) Glycogen synthesis B) Glycogen breakdown C) Lipid storage D) Protein synthesis	K2	CO2

**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.	Explain coupled reaction with examples.	K2	CO1
		(OR)		
	11.b.	Show the role of electrolyte balance in human.		
2	12.a.	Classify the types of dietary fiber.	K2	CO2
		(OR)		
	12.b.	Summarize the difference between simple and complex carbohydrates.		
3	13.a.	Interpret the role of adipose tissue in lipid metabolism.	K2	CO3
		(OR)		
	13.b.	Outline on lipids digestion and absorption in the body.		
4	14.a.	Synthesis of Tissue Proteins takes place in the body- Explain it	K2	CO4
		(OR)		
	14.b.	Summarize the functions of proteins.		
5	15.a.	Explain Basal Metabolic Rate?	K2	CO5
		(OR)		
	15.b.	Demonstrate the Physical Activity 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	Determine the process of digestion with neat diagram.	K5	CO2
2	17	Elaborate on pentose phosphate pathway.	K6	CO3
3	18	Discuss the steps involved in the synthesis of cholesterol.	K5	CO2
4	19	Create the structures of protein.	K4	CO3
5	20	Develop the interrelationship of carbohydrates, lipids and proteins metabolism.	K6	CO5

Z-Z-Z

END