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22NDU205N

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BSc DEGREE EXAMINATION DECEMBER 2025
(Second Semester)

Branch - **NUTRITION, FOOD SERVICE MANAGEMENT AND DIETETICS**

PRINCIPLES OF NUTRITION

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	Optimum nutrition refers to: a) Absence of visible deficiency symptoms b) Balanced intake meeting body's needs without excess or deficit c) Intake of high-calorie foods d) Increased protein intake for growth	K1	CO1
	2	Nutritional status of an individual is assessed by: a) Biochemical, clinical, anthropometric, dietary methods b) BMI alone c) Food production statistics d) Hemoglobin estimation only	K2	CO1
2	3	Specific dynamic action of food is: a) Extra heat produced during metabolism b) Energy stored as glycogen c) Rate of fat oxidation d) Heat loss during digestion	K2	CO2
	4	Indirect calorimetry measures energy expenditure by: a) Measuring oxygen consumption and CO_2 output b) Measuring heat directly c) Recording pulse rate d) Estimating water intake	K2	CO2
3	5	Carbohydrates prevent ketosis mainly by: a) Acting as a source of glucose b) Increasing protein synthesis c) Enhancing fat absorption d) Storing excess water	K1	CO3
	6	Dietary fibre helps in cholesterol reduction by: a) Increasing bile acid excretion b) Providing extra calories c) Stimulating gastric acid secretion d) Enhancing iron absorption	K2	CO3
4	7	Vitamin D deficiency in children results in: a) Pellagra b) Rickets c) Xerophthalmia d) Scurvy	K1	CO4
	8	Excess Vitamin A intake causes: a) Osteoporosis b) Hypervitaminosis with liver damage c) Night blindness d) Rickets	K2	CO4
5	9	The calcium-phosphorus ratio is essential for: a) Bone and tooth mineralization b) Preventing dehydration c) Regulating thyroid function d) Acid-base balance	K1	CO5
	10	Goitre is caused by deficiency of: a) Iodine b) Iron c) Fluoride d) Magnesium	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.	Define health and nutrition. Discuss the concept of malnutrition with examples.	K2	CO1
		(OR)		
	11.b.	Explain nutritional care and features of good/optimum nutrition.		
2	12.a.	Write short notes on direct and indirect calorimetry.	K3	CO1
		(OR)		
	12.b.	Explain basal metabolic rate (BMR), its measurement and influencing factors.		
3	13.a.	Describe physiological functions of carbohydrates and their role in dental caries.	K 3	CO1
		(OR)		
	13.b.	Define dietary fibre. Explain its types, sources and role in health.		
4	14.a.	Explain functions of proteins and factors affecting protein utilization.	K 3	CO2
		(OR)		
	14.b.	Discuss essential fatty acids, their functions and deficiency symptoms.		
5	15.a.	Write about sources, functions and deficiency symptoms of Vitamin A.	K 3	CO2
		(OR)		
	15.b.	Discuss functions, sources and deficiency effects of calcium in human nutrition.		

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	Define calorie and joule. Explain determination of energy value of foods using bomb calorimeter and energy requirement of the body.	K 4	CO1
2	17	Discuss digestion, absorption and utilization of dietary lipids.	K 4	CO3
3	18	Explain classification, sources, functions, deficiency and toxicity of fat-soluble vitamins.	K 3	CO4
4	19	Write an essay on distribution, functions, digestion, absorption and utilization of calcium. Relate calcium deficiency to osteoporosis and osteomalacia	K 4	CO5
5	20	Explain functions, food sources, deficiency and toxicity of trace elements – iron, iodine, zinc and fluoride.	K 4	CO5

Z-Z-Z END