22NDP314N

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

MSc DEGREE EXAMINATION DECEMBER 2025
(Third Semester)

Branch – **FOODS AND NUTRITION**

NUTRITIONAL 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	During fasting, which hormone maintains blood glucose by stimulating glycogenolysis? a) Insulin b) Thyroxine c) Glucagon d) Somatostatin	K1	CO1
	2	Interpret the key diagnostic feature of DKA. a) Hypernatremia b) Hypokalemia c) Respiratory alkalosis d) Metabolic acidosis with ketonuria	K2	CO1
2	3	Choose the specific enzyme for liver damage. a) AST (SGOT) b) ALT (SGPT) c) LDH d) Amylase	K1	CO2
	4	Infer on mineral which utilizes ceruloplasmin in its metabolism. a) Iron b) Copper c) Zinc d) Calcium	K2	CO2
3	5	Recall the key biochemical abnormality in acute renal failure: a) Hyperkalemia and azotemia b) Hypoglycemia c) Hypokalemia d) Hypocalcemia	K1	CO3
	6	Identify the water soluble bilirubin among the following. a) Unconjugated bilirubin b) Conjugated bilirubin c) Biliverdin d) Urobilinogen	K_	CO3
4	7	Which pancreatic enzyme is most specific for acute pancreatitis? a) Amylase b) Trypsin c) Lipase d) Elastase	K1	CO4
	8	A patient with exophthalmos, tachycardia, and weight loss is most likely to have_____ a) Hashimoto thyroiditis b) Hypothyroidism c) Subacute thyroiditis d) Graves' disease	K2	CO4
5	9	Show the test used to evaluate Cushing's syndrome. a) Water deprivation test b) Dexamethasone suppression test c) ACTH stimulation test d) Insulin tolerance test	K1	CO5
	10	Infer on the condition in which child with hypopituitarism. a) Acromegaly b) Gigantism c) Dwarfism d) Hyperpigmentation	K2	CO5

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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.	Examine how Post prandial and Fasting blood glucose is regulated.	K3	CO1
		(OR)		
	11.b.	Sketch the Disorders of lipid metabolism.		
2	12.a.	Express the significance of Hypergammaglobulinaemia in clinical Practice.	K3	CO2
		(OR)		
	12.b.	Classify the types of plasma enzymes and predict the significance of enzyme Inhibition.		
3	13.a.	Analyze on biological functions of Kidney and constituents of urine.	K4	CO3
		(OR)		
	13.b.	Examine the biochemical abnormalities in hyper and hypouricaemia in clinical practice.		
4	14.a.	Outline the significance of Gastric function along with gastric acid and gastrin measurements.	K4	CO4
		(OR)		
	14.b.	Explain the regulation of thyroid hormone secretion.		
5	15.a.	Assess the role of pituitary hormones in female reproductive health and fertility.	K5	CO5
		(OR)		
	15.b.	Summarize the functions of mineralocorticoids and glucocorticoids.		

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	Interpret on Glucose tolerance test with the reasons for abnormal GTT and factors affecting it.	K4	CO1
2	17	Explore the diagnostic significance of ALT, AST and Acid Phosphatase levels in differentiating Systemic diseases.	K4	CO2
3	18	Outline about the various Renal function test in diagnosis of liver abnormalities.	K4	CO3
4	19	Evaluate on disorders of thyroid gland with biochemical changes, etiology and clinical feature in hypothyroidism and hyperthyroidism.	K5	CO4
5	20	Addison's disease can lead to adrenal crisis if untreated. Justify the significance of early recognition, biochemical tests, and hormone replacement therapy in preventing mortality.	K5	CO5

Z-Z-Z END