PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BSc DEGREE EXAMINATION MAY 2025
(Third Semester)

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

HUMAN PHYSIOLOGY

Time: Three Hours Maximum: 75 Marks

SECTION-A (10 Marks)

Answer **ALL** questions

ALL questions carry **EQUAL** marks (10 × 1 = 10)

Question No.	Question	K Level	CO
1	What is the primary function of red blood cells (RBCs)? a) Immune defense b) Blood clotting c) Oxygen transport d) Nutrient absorption	K1	CO1
2	Which protein is most abundant in plasma? a) Hemoglobin b) Fibrinogen c) Albumin d) Myoglobin	K2	CO1
3	The right atrium receives deoxygenated blood from which of the following? a) Pulmonary veins b) Aorta c) Superior and inferior vena cava d) Pulmonary artery	K1	CO2
4	During inhalation, which muscle contracts to allow the lungs to expand? a) Diaphragm b) Intercostal muscles c) Abdominal muscles d) Both a and b	K2	CO2
5	What is the primary role of saliva in the digestive process? a) Absorb nutrients b) Break down starches c) Neutralize acids d) Produce enzymes for protein digestion	K1	CO3
6	The structure that carries urine from the kidneys to the bladder is the a) Urethra b) Nephron c) Ureter d) Glomerulus	K2	CO3
7	The cerebrum is primarily responsible for which of the following? a) Reflex actions b) Higher cognitive functions c) Balance and coordination d) Heartbeat regulation	K1	CO4
8	Which part of the eye is responsible for focusing light onto the retina? a) Cornea b) Lens c) Iris d) Pupil	K2	CO4
9	What hormone is produced by the thyroid gland? a) Insulin b) Cortisol c) Thyroxine d) Adrenaline	K1	CO5
10	The adrenal glands are located on top of which organs? a) Kidneys b) Lungs c) Liver d) Pancreas	K2	CO5

SECTION - B (35 Marks)

Answer **ALL** questions

ALL questions carry **EQUAL** Marks (5 × 7 = 35)

Question No.	Question	K Level	CO
11.a.	Explain how the structure of epithelial tissue relates to its function in protection and absorption.	K3	CO1
	(OR)		
11.b.	Differentiate between innate and acquired immunity based on their mechanisms.		

Cont...

12.a.	Examine the role of the atrioventricular (AV) node in the heart's contraction.	K4	CO2
	(OR)		
12.b.	Evaluate how the mechanisms of gaseous exchange in the alveoli are affected by conditions like hypoxia and anoxia.		
13.a.	Explain how the structure of the small intestine enhances its function in nutrient absorption.	K3	CO3
	(OR)		
13.b.	Apply your understanding of kidney function to explain how dehydration affects urine concentration.		
14.a.	Analyze how the structure of a neuron supports its function in transmitting nerve impulses.	K4	CO4
	(OR)		
14.b.	Evaluate the role of the semicircular canals in maintaining equilibrium during movement.		
15.a.	Analyze the role of the pituitary gland in regulating other endocrine glands in the body.	K5	CO5
	(OR)		
15.b.	Critically examine the role of the corpus luteum in the menstrual cycle and early pregnancy.		

SECTION -C (30 Marks)

Answer **ANY THREE** questions

ALL questions carry **EQUAL** Marks (3 × 10 = 30)

Question No.	Question	K Level	CO
16	Analyze the process of red blood cell (RBC) formation (erythropoiesis).	K4	CO1
17	Analyze the anatomy of the heart's chambers and valves ensures the flow of blood during the cardiac cycle.	K4	CO2
18	Evaluate the role of the nephron in maintaining acid-base balance in the body.	K5	CO3
19	Compare and contrast the roles of the cerebrum and the cerebellum in the nervous system.	K4	CO4
20	Critically examine the role of the parathyroid glands in calcium homeostasis.	K5	CO5

Z-Z-Z END