

Time: 3 Hours**Maximum Marks: 75**

Instructions: The question paper consists of 32 questions divided into three-part A, B and C. Attempt all questions from section-A comprises 20 MCQs, Any two questions out of three from section-B and Any seven questions out of Nine from section-C

Section-A (20 X 1 = 20 Marks)

1	Which neurotransmitter is primarily associated with mood regulation and is often targeted by antidepressant medications? a) Dopamine b) Serotonin c) Acetylcholine d) Glutamate	CO-1	L-2
2	The primary function of the cerebellum is: a) Regulation of body temperature b) Coordination of movement and balance c) Processing sensory information and relaying it to the cerebral cortex d) Regulation of sleep-wake cycles	CO-1	L-1
3	Which of the following cell types is responsible for producing hydrochloric acid (HCl) in the stomach? a) Parietal cells b) Chief cells c) Goblet cells d) Enteroendocrine cells	CO-2	L-2
4	The submucosal layer of the gastrointestinal tract contains which of the following structures? a) Blood vessels and lymphatics b) Smooth muscle cells c) Glands d) All of the above	CO-2	L-2
5	What is the function of hydrochloric acid in the stomach? A. To break down carbohydrates B. To activate pepsinogen into pepsin C. To emulsify fats D. To stimulate the secretion of bile	CO-2	L-2
6	What is the term for the volume of air that can be exhaled after a normal exhale? A. Residual volume B. Expiratory reserve volume C. Tidal volume D. Vital capacity	CO-3	L-2
7	Which respiratory structure prevents food from entering the airways during swallowing? A. Epiglottis B. Trachea C. Bronchi D. Larynx	CO-2	L-1
8	What is the primary function of glucagon?	CO-4	L-1

	A. Cerebellum C. Medulla oblongata	B. Cerebrum D. Pons		
20	Which type of neuron carries signals from the central nervous system to muscles or glands? A. Motor neuron C. Interneuron		CO-2	L-2
	B. Sensory neuron D. Bipolar neuron			

Section B (2 X 10 = 20 Marks)

1	Illustrate anatomical components of the gastrointestinal tract. Discuss the physiology of acid production by stomach.	CO-2	L-2
2	Classify nervous system. Illustrate the synthesis and release of neurotransmitter.	CO1	L-4
3	Describe the process of spermatogenesis. Write a note on physiology of menstruation cycle.	CO-4	L-1

Section C (7 X 5 = 35 Marks)

1	Describe the anatomy of the brain ventricles and their role in cerebrospinal fluid (CSF) circulation Pathway.	CO1	L-2
2	Describe the distinct stages of the female reproductive cycle and explain the regulatory mechanisms involved in it.	CO-4	L-4
3	Classify Nerve fiber along with its properties. Explain neuroglia and its types.	CO-1	L-4
4	Discuss in detail about structure and function of respiratory system with its mechanism of respiration.	CO-3	L-2
5	Discuss the role of Kidney in acid base balance and RAS system of kidney.	CO-3	L-2
6	Conclude a note on the various layers of GIT/Histology of GIT.	CO-2	L-5
7	Elaborate the mechanism of hormone action and illustrate the structure and function of parathyroid gland.	CO-4	L-2
8	Write a summary of the mechanisms involved in respiratory gas transport and the various lung volumes.	CO-3	L-3
9	Write an overview of oogenesis and parturition.	CO-5	L-1