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BPHARM
(SEM II) THEORY EXAMINATION 2024-25
HUMAN ANATOMY AND PHYSIOLOGY II

TIME: 3 HRS

M.MARKS: 75

Note: 1. Attempt all Sections. If require any missing data; then choose suitably.

SECTION A

1. Attempt all questions in brief.

10 x 2 = 20

a.	What is the primary function of electrophysiology in the human body?
b.	What is the main difference between afferent and efferent nerve tracts in terms of the direction of signal transmission?
c.	What is the role of Creatinine Phosphate in the body?
d.	What is the purpose of artificial respiration?
e.	How does the Renin-Angiotensin System (RAS) affect kidney function?
f.	What is a second messenger, and what role does it play in hormone signaling?
g.	How does myasthenia gravis relate to the thymus?
h.	How does the parasympathetic nervous system influence acid production in the stomach?
i.	What is the difference between lung volume and lung capacity?
j.	What is the main function of the pituitary gland?

SECTION B

2. Attempt any two parts of the following:

2 x 10 = 20

a.	What is the significance of the stomach's mucosal lining and its protective mechanisms?
b.	Explain how the different lobes of the cerebral cortex contribute to various cognitive and sensory processes.
c.	Describe the structural organization of the lungs, including the branching pattern of the airways and the functional units where gas exchange occurs.

SECTION C

3. Attempt any five parts of the following:

7 x 5 = 35

a.	What role does myelination play in the conduction speed of nerve fibers?
b.	How does the arachnoid mater contribute to the protection of the central nervous system?
c.	How does the structure of the lungs, including alveoli, maximize gas exchange?
d.	What is the primary role of ATP in cellular processes, and how does its unique structure contribute to this function?
e.	Describe the gross anatomy of the urinary tract, listing the major organs and their functions.
f.	How does the thyroid gland contribute to the body's overall metabolism and energy regulation?
g.	Explain the role of messenger RNA (mRNA) in protein synthesis. How is the information encoded in mRNA used to determine the amino acid sequence of a protein?