

B.Pharm I Year II Semester (R23) Supplementary Examinations March 2026

HUMAN ANATOMY & PHYSIOLOGY - II

(B.Pharmacy)

Time: 3 hours

Max. Marks: 70

PART – A

(Compulsory Question)

- 1 Answer the following: (10 X 02 = 20 Marks)
- | | |
|---|----|
| (a) Name three excitatory and inhibitory neurotransmitters. | 2M |
| (b) Write the differences between myelinated and unmyelinated nerve fibers. | 2M |
| (c) What is the role of creatine phosphate in muscle contraction? | 2M |
| (d) What are the major functions of the liver? | 2M |
| (e) Write a note on micturition reflex. | 2M |
| (f) Differentiate between inspiratory and expiratory reserve volumes. | 2M |
| (g) Describe the location and structure of the thymus. | 2M |
| (h) Explain the role of adrenal medulla hormones in stress response and disorders associated. | 2M |
| (i) Explain the role of mRNA in protein synthesis. | 2M |
| (j) What is the role of oxytocin during childbirth? | 2M |

PART – B

(Answer all the questions: 05 X 10 = 50 Marks)

- | | |
|---|----|
| 2 (a) Explain the structural and functional organization of the nervous system. | 5M |
| (b) Describe the phases of an action potential with a labeled diagram. | 5M |
| OR | |
| 3 (a) What are meninges? Describe their structure and function. | 5M |
| (b) Describe the anatomical organization of gray and white matter in the spinal cord. | 5M |
| 4 (a) Discuss the anatomical structure of the stomach and its different regions. | 5M |
| (b) Explain the structure and significance of ATP in cellular metabolism. | 5M |
| OR | |
| 5 (a) Describe the process of carbohydrate digestion and absorption. | 5M |
| (b) Discuss the methods used to measure BMR. | 5M |
| 6 (a) Explain the process of inspiration and expiration. | 5M |
| (b) Describe the microscopic structure and functions of the nephron. | 5M |
| OR | |
| 7 (a) Explain the role of bicarbonate reabsorption in acid-base regulation. | 5M |
| (b) Describe the gross anatomy of the urinary system, including kidneys, ureters, bladder, and urethra. | 5M |
| 8 (a) Explain the mechanism of action of peptide hormones via second messengers. | 5M |
| (b) Describe the structure and functions of the pituitary gland. | 5M |
| OR | |
| 9 (a) Describe the structure and functions of the pineal gland and role of melatonin in circadian rhythm. | 5M |
| (b) Write a note on the role of parathyroid hormone (PTH) in calcium regulation. | 5M |
| 10 (a) Explain the hormonal regulation of the female reproductive cycle. | 5M |
| (b) Describe the role of testosterone in male reproductive function and secondary sexual characteristics. | 5M |
| OR | |
| 11 (a) Describe the anatomy of the female reproductive system with suitable diagram and functions of each part. | 5M |
| (b) Explain the structure of DNA and its role in storing genetic information. | 5M |

B.Pharm I Year II Semester (R23) Regular & Supplementary Examinations September/October 2025

HUMAN ANATOMY & PHYSIOLOGY - II

(B.Pharmacy)

Time: 3 hours

Max. Marks: 70

PART – A

(Compulsory Question)

- 1 Answer the following: (10 X 02 = 20 Marks)
- | | |
|--|----|
| (a) Differentiate between electrical and chemical synapses. | 2M |
| (b) Write the functions of the dura mater. | 2M |
| (c) What is the role of the enteric nervous system in GI motility? | 2M |
| (d) Write a note on Pepsin and its Role in Protein Digestion. | 2M |
| (e) What is artificial respiration and when is it needed? | 2M |
| (f) What is the role of the urinary bladder in urine storage? | 2M |
| (g) Explain how dysfunction of the pineal gland affects sleep-wake cycles and reproductive function. | 2M |
| (h) Differentiate between the anterior and posterior pituitary in terms of hormone secretion. | 2M |
| (i) Explain the role of testosterone in male reproduction. | 2M |
| (j) Describe the role of the zona pellucida in fertilization. | 2M |

PART – B

(Answer all the questions: 05 X 10 = 50 Marks)

- | | |
|--|----|
| 2 (a) Describe the structure of a synapse and explain synaptic transmission. | 5M |
| (b) Explain the structure and functions of the cerebrum. | 5M |
| OR | |
| 3 (a) What is a reflex arc? Explain its components with an example. | 5M |
| (b) What are neuroglial cells? Discuss their types and functions. | 5M |
| 4 (a) Discuss the how gastric acid secretion regulated by the parasympathetic nervous system? | 5M |
| (b) Describe the different types of salivary glands and their functions. | 5M |
| OR | |
| 5 (a) Explain how proteins are digested and absorbed in the gastrointestinal tract. | 5M |
| (b) Discuss the anatomy and functions of the small intestine. | 5M |
| 6 (a) Explain the neural regulation of respiration, including the role of the medulla and pons. | 5M |
| (b) Explain the process of urine formation. | 5M |
| OR | |
| 7 (a) Describe the mechanisms of carbon dioxide transport in the blood. | 5M |
| (b) Write a note on role of RAS in the kidney. | 5M |
| 8 (a) Explain the synthesis and functions of thyroid hormones (T3 & T4). | 5M |
| (b) Describe the structure and functions of pancreas. | 5M |
| OR | |
| 9 (a) Describe the structure of the adrenal gland and functions of adrenal cortex hormones. | 5M |
| (b) Discuss the role of thymus in immunity and development of T-lymphocytes. | 5M |
| 10 (a) Explain the phases of the menstrual cycle. | 5M |
| (b) Explain the hormonal and physiological mechanisms involved in parturition (childbirth). | 5M |
| OR | |
| 11 (a) Explain the role of mRNA, tRNA and ribosomes in protein synthesis. | 5M |
| (b) Discuss the functions of estrogen and progesterone in the regulation of the female reproductive cycle. | 5M |

B.Pharm I Year II Semester (R23) Supplementary Examinations April/May 2025

HUMAN ANATOMY AND PHYSIOLOGY - II

(B.Pharmacy)

Time: 3 hours

Max. Marks: 70

PART – A

(Compulsory Question)

- 1 Answer the following: (10 X 02 = 20 Marks)
- | | |
|---|----|
| (a) Write the function of neuroglia. | 2M |
| (b) Describe the structure of spinal cord. | 2M |
| (c) Draw the neat labelled diagram of stomach. | 2M |
| (d) Define BMR, mention the factors affecting it. | 2M |
| (e) Define vital capacity and its value. | 2M |
| (f) List the disorders of kidney. | 2M |
| (g) Write a note on posterior pituitary hormones. | 2M |
| (h) Explain the disorders related to thyroid gland. | 2M |
| (i) Define gene. List two genetic disorders. | 2M |
| (j) Write the functions of female sex hormones. | 2M |

PART – B

(Answer all the questions: 05 X 10 = 50 Marks)

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|---|----|
| 2 (a) Write a note on components of reflex arc. | 5M |
| (b) Describe the structure and functions of brain. | 5M |
| OR | |
| 3 (a) Write about structure and functions of neuron. | 5M |
| (b) Explain in detail the process of neurotransmission. | 5M |
| 4 (a) Write a note on Formation and role of creatinine Phosphate. | 5M |
| (b) Write in detail about Anatomy of GI Tract. | 5M |
| OR | |
| 5 (a) Write a note on generation of action potential. | 5M |
| (b) Briefly describe about the digestion in the intestine. | 5M |
| 6 (a) What are the various evaluation techniques used to know the kidney functions? | 5M |
| (b) Define vital capacity and write about various volumes and capacities. | 5M |
| OR | |
| 7 (a) Write a note on a role of RAS in kidneys. | 5M |
| (b) Discuss about the physiology of urine formation. | 5M |
| 8 (a) Write a note on actions and production of thyroid hormones. | 5M |
| (b) Discuss about the adrenal gland. | 5M |
| OR | |
| 9 (a) What are the hormones secreted by pituitary gland and their functions? | 5M |
| (b) Write a note on mechanism of hormone action. | 5M |
| 10 (a) Discuss in detail about spermatogenesis and male sex hormones. | 5M |
| (b) Discuss about the events occurring during menstrual cycle phase in females. | 5M |
| OR | |
| 11 (a) Briefly discuss about Anatomy of female reproductive system. | 5M |
| (b) Briefly discuss about genetic pattern of inheritance. | 5M |

B.Pharm I Year II Semester (R23) Regular Examinations September 2024

HUMAN ANATOMY AND PHYSIOLOGY - II

(B.Pharmacy)

Time: 3 hours

Max. Marks: 70

PART – A

(Compulsory Question)

- 1 Answer the following: (10 X 02 = 20 Marks)
- | | |
|---|----|
| (a) Write the function of cerebrospinal fluid. | 2M |
| (b) Draw the neat labelled diagram of neuron. | 2M |
| (c) What is the role of enzymes in digestion? | 2M |
| (d) Write two functions of ATP. | 2M |
| (e) Enlist the function of Urinary system. | 2M |
| (f) What is Artificial respiration? | 2M |
| (g) Write a note on mechanism of hormones. | 2M |
| (h) Write the function of pineal gland. | 2M |
| (i) Write a note on sex hormones. | 2M |
| (j) Enlist the functions of male reproductive system. | 2M |

PART – B

(Answer all the questions: 05 X 10 = 50 Marks)

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|--|----|
| 2 (a) Describe the structure and function of brain stem. | 5M |
| (b) Define Neurotransmitter. Write a note on biogenic amines. | 5M |
| OR | |
| 3 (a) Write a note on reflex activity. | 5M |
| (b) Describe the anatomy of cerebrum. | 5M |
| 4 (a) What are the various phases involved in digestion? | 5M |
| (b) What are the three ways that ATP can be generated? | 5M |
| OR | |
| 5 (a) Discuss the digestion process in small intestine. | 5M |
| (b) Write a short note on Formation and role of creatinine Phosphate. | 5M |
| 6 (a) Explain RAS pathway in regulation of kidney function. | 5M |
| (b) What are the various regulation centres of respiration? | 5M |
| OR | |
| 7 (a) Write the steps involved in Micturition process. | 5M |
| (b) What is the Glomerular Filtration Rate (GFR)? How kidney helps in regulating blood pressure? | 5M |
| 8 (a) Write a note on actions and production of thyroid hormones. | 5M |
| (b) Discuss about the Adrenal gland. | 5M |
| OR | |
| 9 (a) Discuss the process of Thyroid hormone secretions and their functions (T3, T4 and Calcitonin). | 5M |
| (b) Discuss about the structure and functions of Pituitary hormones. | 5M |
| 10 (a) Briefly discuss about Anatomy of male reproductive system. | 5M |
| (b) Write a note on parturition. | 5M |
| OR | |
| 11 (a) Write in detail about the steps involved in Menstrual cycle. | 5M |
| (b) Write a note on Oogenesis. | 5M |
