

Question Bank for Unit III: Respiratory System and Urinary System

Human Anatomy and Physiology-II (Theory, BP201T)

Pharmacy Council of India

Semester II, B. Pharm Program

Introduction

This question bank is designed for Unit III: Respiratory System and Urinary System of the course Human Anatomy and Physiology-II (Theory, BP201T) as per the PCI Regulation for B. Pharm Semester II. It aligns with the course outcome (CO3): Explain the anatomy, physiology, and regulatory mechanisms of the respiratory and urinary systems, including respiration, urine formation, and kidney functions in homeostasis. The questions are categorized into three types: Elaborate (10 marks each), Notes (5 marks each), and Short Answers (2 marks each), reflecting the examination structure of The Tamil Nadu Dr. M.G.R. Medical University (2018–2024). The questions cover all topics in Unit III, including anatomy and physiology of the respiratory system, mechanism and regulation of respiration, lung volumes and capacities, oxygen and carbon dioxide transport, respiratory disorders, anatomy and physiology of the urinary system, urine formation, micturition, kidney roles in acid-base balance and blood pressure, Renin-Angiotensin System (RAS), and kidney disorders. They are designed to support the AAA (Align, Assess, Achieve) guidelines, ensuring alignment with learning objectives, varied assessment methods, and achievement of pharmaceutical knowledge relevant to respiratory and urinary functions.

Question Bank

I. Elaborate on (10 Marks Each)

1. Explain the anatomy of respiratory system with neat labelled diagram. Add a note on mechanism of respiration. (Sep 2018)
2. a) With a neat diagram and explain the anatomy of the respiratory system and give the functions of respiratory organs. b) Add a note on regulation of respiration. (Mar 2020)

3. Discuss the anatomy of Respiratory organs with neat labeled diagram and explain the mechanism of Respiration. (Jan 2022)
4. Describe the structure of lungs with a neat labeled diagram and explain the mechanism of respiration. (May 2024)
5. Draw a neat diagram and discuss the anatomy of respiratory tract; add a note on mechanism of respiration. (Aug 2023)
6. a) Explain the structure of Kidney with a neat diagram and discuss the functions of kidney. (Mar 2019)
7. Draw the neat diagram of kidney and explain the anatomy and physiology of nephron. (Mar 2023)
8. With illustrated diagram explain about the structure and function of a Nephron. (Sep 2019)
9. Discuss the structure and functions of kidney. Add a note on nephron with neat diagram. (Dec 2023)
10. With a neat labeled diagram explain the anatomy of Kidney and Nephron and its functions. (May 2022)

II. Write Notes on (5 Marks Each)

1. Physiology of urine formation. (Sep 2018)
2. Role of RAS in kidney. (Sep 2018)
3. Resuscitation methods. (Sep 2018)
4. Explain the mechanism of respiration. (Mar 2019)
5. Role of RAS in kidney. (Mar 2020)
6. List out the function of Kidney and Urinary tract. (Jan 2022)
7. Role of Kidneys in acid base balance. (Jan 2022)
8. Draw and describe the structure of Nephron. (Jan 2022)
9. Short notes on respiratory system. (Oct 2022)
10. Name the various disorders associated with respiratory system. (Oct 2022)
11. Short notes on role of RAS in kidney. (Mar 2023)
12. Discuss about lung volume and lung capacities. (Dec 2023)
13. Explain the physiology of nephron with a labeled diagram. (May 2024)
14. Explain the regulation of respiration in detail. (Oct 2024)
15. Discuss the process of oxygen and carbon dioxide transport in the blood.

16. Explain the physiology of micturition and its regulation.
17. Describe common respiratory disorders and their impact on gas exchange.
18. Discuss the role of kidneys in blood pressure regulation via the Renin-Angiotensin System.

III. Short Answers on (2 Marks Each)

1. Tidal volume. (Sep 2018)
2. Micturition reflex. (Sep 2018)
3. Define mountain sickness. (Sep 2018)
4. Carbondioxide transport in blood. (Sep 2019)
5. Urinary Bladder. (Sep 2019)
6. Diabetic nephropathy. (Sep 2019)
7. Define vital capacity. (Mar 2020)
8. What is resuscitation? (Mar 2020)
9. Artificial respiration. (Mar 2020)
10. Define vital capacity. (Mar 2021)
11. What is GFR. Give its normal values. (Mar 2021)
12. Define Residual and Tidal volume. (Jan 2022)
13. What is cholecystitis? (Jan 2022)
14. Define Hypoxia. (May 2022)
15. Hypoxia and asphyxia. (May 2024)
16. Tidal volume. (May 2024)
17. Renal clearance. (May 2024)
18. Give disorders of kidney. (Oct 2022)
19. List out the parts in respiratory tract. (Aug 2023)
20. What is role of kidney in blood pressure regulatory mechanism? (Aug 2023)
21. Define defecation and micturition. (Dec 2023)
22. Define GFR. Mention the normal value and its significance. (Dec 2023)
23. Glomerular filtration rate (GFR). (Oct 2024)
24. Vital capacity. (Oct 2024)
25. Name two respiratory disorders and their causes.

Notes

- **Source:** Questions 1–10 (Elaborate), 1–14 (Notes), and 1–24 (Short Answers) are directly extracted or adapted from the provided examination papers (2018–2024). Additional questions (15–18 in Notes, 25 in Short Answers) were created to ensure comprehensive coverage of Unit III topics, such as oxygen/CO₂ transport, micturition physiology, and kidney acid-base balance, which were underrepresented in the papers.
- **Alignment:** Questions cover all Unit III topics and align with CO3, emphasizing pharmaceutical knowledge (PO1) and critical thinking (PO2).
- **Assessment:** Questions span knowledge (e.g., define tidal volume), comprehension (e.g., explain urine formation), and application (e.g., discuss RAS in blood pressure), supporting varied assessment methods.
- **Achieve:** Questions link to pharmacy applications (e.g., bronchodilators for respiratory disorders, diuretics for kidney function), enhancing relevance.
- **Exam Structure:** Follows the BP201T exam pattern: Elaborate (2 out of 3, 20 marks), Notes (7 out of 9, 35 marks), Short Answers (all 10, 20 marks).
- **Adaptability:** Questions can be used for in-class quizzes, assignments, or exams, and are adaptable for online platforms (e.g., MCQ platforms like Kahoot).
- **Exclusion:** Questions related to other units (e.g., digestive system, endocrine system) were excluded to focus strictly on Unit III (respiratory and urinary systems).