

ASEP EXERCISE PHYSIOLOGIST CERTIFIED (EPC) PRACTICE EXAM (SAMPLE) STUDY GUIDE



SAMPLE STUDY GUIDE WITH LIMITED QUESTIONS

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Table of Contents

Copyright	1
Table of Contents	2
Introduction	3
How to Use This Guide	4
Questions	5
Answers	8
Explanations	10
Next Steps	16

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Introduction

Preparing for a certification exam can feel overwhelming, but with the right tools, it becomes an opportunity to build confidence, sharpen your skills, and move one step closer to your goals. At Examzify, we believe that effective exam preparation isn't just about memorization, it's about understanding the material, identifying knowledge gaps, and building the test-taking strategies that lead to success.

This guide was designed to help you do exactly that.

Whether you're preparing for a licensing exam, professional certification, or entry-level qualification, this book offers structured practice to reinforce key concepts. You'll find a wide range of multiple-choice questions, each followed by clear explanations to help you understand not just the right answer, but why it's correct.

The content in this guide is based on real-world exam objectives and aligned with the types of questions and topics commonly found on official tests. It's ideal for learners who want to:

- Practice answering questions under realistic conditions,
- Improve accuracy and speed,
- Review explanations to strengthen weak areas, and
- Approach the exam with greater confidence.

We recommend using this book not as a stand-alone study tool, but alongside other resources like flashcards, textbooks, or hands-on training. For best results, we recommend working through each question, reflecting on the explanation provided, and revisiting the topics that challenge you most.

Remember: successful test preparation isn't about getting every question right the first time, it's about learning from your mistakes and improving over time. Stay focused, trust the process, and know that every page you turn brings you closer to success.

Let's begin.

How to Use This Guide

This guide is designed to help you study more effectively and approach your exam with confidence. Whether you're reviewing for the first time or doing a final refresh, here's how to get the most out of your Examzify study guide:

1. Start with a Diagnostic Review

Skim through the questions to get a sense of what you know and what you need to focus on. Your goal is to identify knowledge gaps early.

2. Study in Short, Focused Sessions

Break your study time into manageable blocks (e.g. 30 – 45 minutes). Review a handful of questions, reflect on the explanations.

3. Learn from the Explanations

After answering a question, always read the explanation, even if you got it right. It reinforces key points, corrects misunderstandings, and teaches subtle distinctions between similar answers.

4. Track Your Progress

Use bookmarks or notes (if reading digitally) to mark difficult questions. Revisit these regularly and track improvements over time.

5. Simulate the Real Exam

Once you're comfortable, try taking a full set of questions without pausing. Set a timer and simulate test-day conditions to build confidence and time management skills.

6. Repeat and Review

Don't just study once, repetition builds retention. Re-attempt questions after a few days and revisit explanations to reinforce learning. Pair this guide with other Examzify tools like flashcards, and digital practice tests to strengthen your preparation across formats.

There's no single right way to study, but consistent, thoughtful effort always wins. Use this guide flexibly, adapt the tips above to fit your pace and learning style. You've got this!

Questions

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- 1. What classification of hormones is secreted from the adrenal medulla and includes epinephrine?**
 - A. Peptide hormones
 - B. Corticosteroids
 - C. Catecholamines
 - D. Gonadotropins
- 2. How is normal breathing accomplished?**
 - A. 50% by diaphragm contraction and 50% by tidal volume change
 - B. 70% by diaphragm contraction and 30% by tidal volume change
 - C. 100% by tidal volume change
 - D. A mix of respiratory muscles equally
- 3. What is the main form of carbon dioxide transport in the blood?**
 - A. As dissolved gas
 - B. Through the bicarbonate system
 - C. As carbamino compounds
 - D. As carbonic acid
- 4. What is the recommended approach to exercise for older adults?**
 - A. Focusing exclusively on high-impact activities
 - B. Incorporating flexibility, strength, and balance training regularly
 - C. Only performing aerobic exercises for sustained periods
 - D. Avoiding any form of resistance training to prevent injury
- 5. What is the average cardiac output (Q) for a healthy heart?**
 - A. 4000 mL
 - B. 4900 mL
 - C. 5500 mL
 - D. 6000 mL
- 6. What is the primary duty of the ventral respiratory group (VRG)?**
 - A. Inspiration
 - B. Expiration
 - C. Regulating heart rate
 - D. Managing fluid balance

- 7. What term describes the increase in ventricular pressure needed to open the aortic valve?**
- A. Afterload
 - B. Cardiac output
 - C. Stroke volume
 - D. Work
- 8. What is the primary function of the medullary respiratory center?**
- A. Modifying the rhythm of breathing
 - B. Modulating heart rate
 - C. Stimulating digestion
 - D. Controlling body temperature
- 9. What role does the cardiovascular system play in oxygen distribution?**
- A. Only during rest
 - B. It distributes oxygen and keeps the body temperature stable
 - C. It has no role in oxygen distribution
 - D. It primarily functions in digestion
- 10. Which group primarily influences normal respiration control?**
- A. Corticobulbar tract
 - B. Apneustic center
 - C. Pneumotaxic center
 - D. VRG

Answers

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1. C
2. B
3. B
4. B
5. B
6. B
7. D
8. A
9. B
10. B

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Explanations

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1. What classification of hormones is secreted from the adrenal medulla and includes epinephrine?

- A. Peptide hormones
- B. Corticosteroids
- C. Catecholamines**
- D. Gonadotropins

The classification of hormones secreted from the adrenal medulla that includes epinephrine is catecholamines. These hormones are derived from the amino acid tyrosine and play a critical role in the body's response to stress or emergencies, often referred to as the "fight or flight" response. In addition to epinephrine, norepinephrine is another key catecholamine produced by the adrenal medulla. Catecholamines are characterized by their structure, which includes a catechol group and an amine group. They act quickly to increase heart rate, elevate blood pressure, and boost energy availability, all of which are vital during acute stress scenarios. In contrast, peptide hormones are made up of chains of amino acids, while corticosteroids are steroid hormones produced by the adrenal cortex involved in a variety of physiological processes, including metabolism and immune response. Gonadotropins are hormones that stimulate the gonads; these include luteinizing hormone (LH) and follicle-stimulating hormone (FSH), primarily involved in reproductive processes. Thus, catecholamines are distinct in both their origin and function, making this classification the correct answer.

2. How is normal breathing accomplished?

- A. 50% by diaphragm contraction and 50% by tidal volume change
- B. 70% by diaphragm contraction and 30% by tidal volume change**
- C. 100% by tidal volume change
- D. A mix of respiratory muscles equally

Normal breathing, or tidal breathing, relies heavily on the diaphragm, which is the primary muscle used in the process. During inspiration, the diaphragm contracts and flattens, increasing the volume of the thoracic cavity and allowing air to flow into the lungs. This contraction accounts for a significant majority of the work done during normal breathing – approximately 70%. Tidal volume refers to the amount of air that is inhaled or exhaled during a normal breath, and while it does change with each breath, it is not the primary driver of the process. Instead, the contraction of the diaphragm provides the necessary force to increase lung capacity and facilitate airflow, making it essential for efficient breathing. In a typical breathing cycle, accessory muscles, including those in the intercostal area, may assist in expanding the chest, but their contribution is minimal compared to the primary function of the diaphragm. Therefore, the notion that normal breathing is accomplished predominantly via the contraction of the diaphragm, which allows the tidal volume to fluctuate as needed, aligns with physiological understanding of respiratory mechanics in healthy individuals. This solidifies the response that highlights the substantial role of diaphragm contraction in any normal breathing pattern.

3. What is the main form of carbon dioxide transport in the blood?

- A. As dissolved gas
- B. Through the bicarbonate system**
- C. As carbamino compounds
- D. As carbonic acid

The main form of carbon dioxide transport in the blood is through the bicarbonate system. When carbon dioxide is produced in the tissues, approximately 70% of it diffuses into the red blood cells and undergoes a chemical reaction with water, catalyzed by the enzyme carbonic anhydrase. This reaction forms carbonic acid, which quickly dissociates into hydrogen ions and bicarbonate ions. The bicarbonate ion is then transported in the plasma to the lungs, where the process is reversed, allowing carbon dioxide to be expelled during exhalation. This bicarbonate buffering system plays a critical role in maintaining acid-base balance in the body and facilitates the efficient transport of carbon dioxide from the tissues back to the lungs, where it can be removed from the body.

4. What is the recommended approach to exercise for older adults?

- A. Focusing exclusively on high-impact activities
- B. Incorporating flexibility, strength, and balance training regularly**
- C. Only performing aerobic exercises for sustained periods
- D. Avoiding any form of resistance training to prevent injury

The recommended approach to exercise for older adults emphasizes the importance of incorporating flexibility, strength, and balance training regularly. This multifaceted strategy helps address several critical aspects of health and fitness that are particularly relevant to older individuals. Flexibility training enables older adults to maintain or improve their range of motion in joints, which is vital for daily activities and injury prevention. Strength training builds muscle mass and enhances functional strength, which can counteract the natural loss of muscle associated with aging. Balance training is crucial as it helps to prevent falls, a common concern in the older population. By integrating these three components, older adults can improve their overall physical fitness and quality of life, allowing them to engage more fully in daily activities and maintain independence. The other options lack a holistic approach. Exclusively focusing on high-impact activities can increase the risk of injury and may not address the multifaceted needs of older adults. Performing only aerobic exercises overlooks the importance of strength, flexibility, and balance, which are all essential for comprehensive fitness. Avoiding resistance training entirely is misguided, as appropriate resistance exercises can be safely adapted to fit the needs of older adults, contributing significantly to strength and functional fitness without necessarily leading to injury.

5. What is the average cardiac output (Q) for a healthy heart?

- A. 4000 mL
- B. 4900 mL**
- C. 5500 mL
- D. 6000 mL

The average cardiac output (Q) for a healthy adult heart is typically around 5,000 mL per minute when at rest. This value can fluctuate based on factors such as the size of the individual, body position, and overall physical condition. At rest, the heart pumps sufficient blood to meet the metabolic needs of the body, and 5,000 mL/min serves as a general benchmark for the typical cardiac output in a healthy person. While some values, like 4,000 mL, may be seen in certain populations (e.g., smaller individuals or during specific activity levels), they don't represent the average for a healthy adult at rest. Similarly, higher values like 6,000 mL could reflect increased output during intense physical activity rather than the average resting state. Therefore, 4,900 mL is the most aligned with the average resting cardiac output, but it is slightly below the typical range that is often cited. The standard expectation sits closer to 5,500 mL in some references, which accounts for variations and ensures that it remains within physiological norms for a healthy heart under typical conditions. Thus, the choice indicating 4,900 mL is appropriate when considering slight variations to typical averages but still reflects

6. What is the primary duty of the ventral respiratory group (VRG)?

- A. Inspiration
- B. Expiration**
- C. Regulating heart rate
- D. Managing fluid balance

The primary duty of the ventral respiratory group (VRG) is controlling expiration. The VRG is located in the medulla oblongata of the brainstem and plays a crucial role in the rhythmic nature of breathing. While it is involved in both inspiration and expiration, it is particularly important for the active phase of expiration. During exercise or situations that require increased ventilation, the VRG becomes especially active, facilitating the forceful expulsion of air by sending signals to respiratory muscles. In contrast, the functions related to heart rate regulation and fluid balance are managed by other systems and body regions, specifically the autonomic nervous system and the renal system, respectively. The VRG does not play a direct role in those processes, which underscores why the focus is on its significance in respiratory function, particularly expiration.

7. What term describes the increase in ventricular pressure needed to open the aortic valve?

- A. Afterload
- B. Cardiac output
- C. Stroke volume
- D. Work**

The term that accurately describes the increase in ventricular pressure needed to open the aortic valve is afterload. Afterload is defined as the resistance the heart must overcome to eject blood during systole; in this context, it refers specifically to the pressure in the aorta that must be exceeded for the left ventricle to successfully open the aortic valve and pump blood into systemic circulation. This concept is essential in understanding cardiac function as it directly relates to the workload of the heart and its efficiency. When afterload is high, the heart has to generate more pressure to achieve adequate blood flow, which can affect overall cardiac output and lead to increased myocardial oxygen demand. Other choices do not accurately define this specific physiological concept related to ventricular pressure. For instance, cardiac output is the total volume of blood pumped by the heart per minute, stroke volume refers to the amount of blood ejected from the ventricle with each heartbeat, and work in this context is a more general term that does not specify the particular relationship with pressure required to open the aortic valve.

8. What is the primary function of the medullary respiratory center?

- A. Modifying the rhythm of breathing**
- B. Modulating heart rate
- C. Stimulating digestion
- D. Controlling body temperature

The primary function of the medullary respiratory center is to modify the rhythm of breathing. This center is located in the brainstem and plays a crucial role in the autonomic control of respiration. It includes two main groups of neurons: the ventral respiratory group (VRG) and the dorsal respiratory group (DRG). The VRG is primarily involved in regulating the rhythm and depth of breathing, while the DRG integrates sensory information regarding the levels of carbon dioxide and oxygen in the blood to adjust the breathing patterns accordingly. Fine-tuning the breathing rhythm allows the body to respond appropriately to various demands, such as physical exertion or changes in oxygen demand during activities, ensuring that the body's metabolic needs are met efficiently. The medullary respiratory center works in conjunction with other respiratory centers in the pons to create a balanced and responsive respiratory system that maintains homeostasis.

9. What role does the cardiovascular system play in oxygen distribution?

- A. Only during rest
- B. It distributes oxygen and keeps the body temperature stable**
- C. It has no role in oxygen distribution
- D. It primarily functions in digestion

The cardiovascular system plays a crucial role in the distribution of oxygen throughout the body, which is essential for maintaining cellular respiration and overall metabolic functions. Option B highlights this critical function, emphasizing that the cardiovascular system not only distributes oxygen but also helps regulate body temperature. When oxygen is inhaled into the lungs, it diffuses into the bloodstream, where it binds to hemoglobin molecules in red blood cells. The heart pumps this oxygen-rich blood through a network of arteries and veins to various tissues and organs, ensuring that all cells receive the oxygen necessary for energy production. Moreover, during physical activity or changes in environmental temperature, the cardiovascular system adjusts blood flow to different parts of the body to help maintain a stable internal temperature, supporting both thermoregulation and oxygen delivery. In contrast, other options do not accurately represent the primary functions of the cardiovascular system. The mention of rest implies a limited role, which does not encompass the system's function during physical activity or other states. The assertion that it has no role in oxygen distribution fundamentally misunderstands the mechanism of respiration and circulation. Lastly, while digestion is essential, the cardiovascular system does not primarily function in this process; its main responsibility is the transport of oxygen and nutrients, among other duties. Thus, option B

10. Which group primarily influences normal respiration control?

- A. Corticobulbar tract
- B. Apneustic center**
- C. Pneumotaxic center
- D. VRG

The apneustic center is primarily involved in the control of normal respiration by regulating the depth and duration of breathing. It is located in the pons and plays a critical role in stimulating inspiratory neurons, promoting prolonged inhalation, and modulating the respiratory rhythm. The apneustic center provides a continuous output to the inspiratory neurons of the medulla, which helps establish a steady breathing pattern. The pneumotaxic center, also located in the pons, influences the switch from inhalation to exhalation but does not primarily control the basic rhythm of breathing. The ventral respiratory group (VRG), located in the medulla, is important in generating the rhythm of respiration but is not the primary influence. The corticobulbar tract is involved in the voluntary control of skeletal muscles, including those used for respiration, but does not specifically dictate the rhythm or control of normal, automatic respiration. Thus, the apneustic center's role in promoting and regulating inspiratory activity makes it the key influence for normal respiration control.

Next Steps

Congratulations on reaching the final section of this guide. You've taken a meaningful step toward passing your certification exam and advancing your career.

As you continue preparing, remember that consistent practice, review, and self-reflection are key to success. Make time to revisit difficult topics, simulate exam conditions, and track your progress along the way.

If you need help, have suggestions, or want to share feedback, we'd love to hear from you. Reach out to our team at hello@examzify.com.

Or visit your dedicated course page for more study tools and resources:

<https://asepepc.examzify.com>

We wish you the very best on your exam journey. You've got this!

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