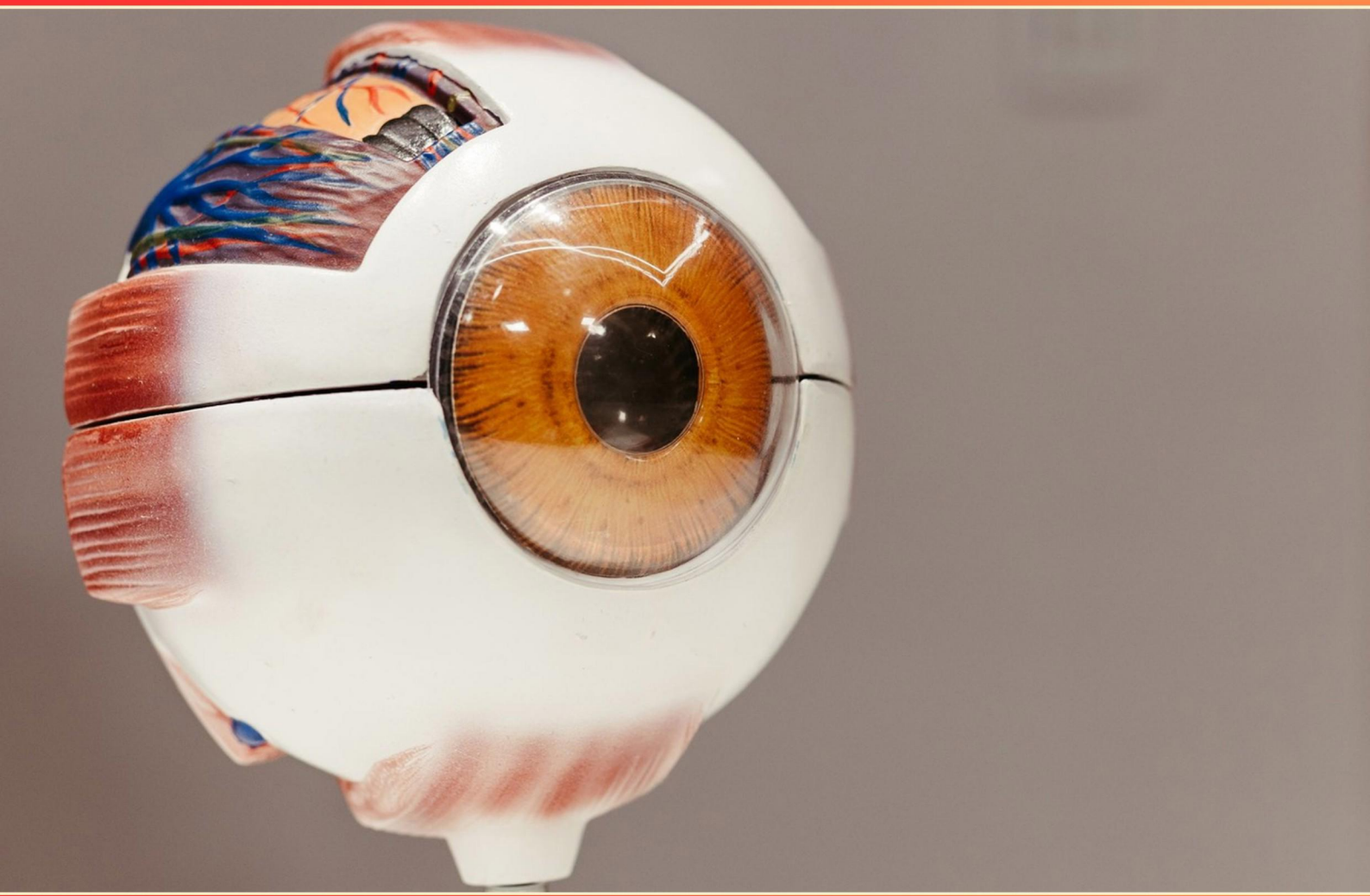
ARIZONA STATE UNIVERSITY (ASU) BIO202 HUMAN ANATOMY AND PHYSIOLOGY II EXAM 2 PRACTICE EXAM (SAMPLE)

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 15

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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.

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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!

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Questions

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1. What measurement in mmHg represents standard atmospheric pressure?

A. 500 mmHg

B. 760 mmHg

C. 980 mmHg

D. 540 mmHg

2. What is the typical PCO2 level in blood arriving at the alveoli in comparison to the alveolar air?

A. 60 in blood vs. 30 in alveolar air

B. 46 in blood vs. 40 in alveolar air

C. 40 in blood vs. 50 in alveolar air

D. 30 in blood vs. 70 in alveolar air

3. Hypoxia in the lungs can lead to which of the following blood conditions?

A. Normocytic anemia

B. Polycythemia

C. Thrombocytopenia

D. Leukemia

4. What correction method would you use for respiratory alkalosis?

A. Increase oxygen intake

B. Hyperventilation

C. Hypoventilation

D. Deep breathing exercises

5. Which of the following can lead to an increase in resistance during breathing?

A. Bronchodilation of airways

B. Increased bronchiolar diameter

C. Decrease in bronchiolar diameter

D. Increased airflow rate

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6. What two types of substances can cause pneumonia?

A. Only bacteria and fungi

B. Bacteria and viruses

C. Bacteria, viruses, fungi, and protozoa

D. Fungi and protozoa only

7. What is the general prognosis for lung cancer patients?

A. Good (60% survival rate)

B. Moderate (30% survival rate)

C. Poor (7% survival rate after 5 years)

D. Varied depending on type

8. What happens to pressure as the volume of a gas decreases, given a constant amount of gas?

A. It increases

B. It decreases

C. It stabilizes

D. It fluctuates

9. What does the term "orthopnea" indicate?

A. Difficulty breathing while exercising

B. Shortness of breath while lying down

C. Labored breathing during exertion

D. Shortness of breath that occurs suddenly

10. What is the term for a temporary cessation of breathing?

A. Eupnea

B. Hyperventilation

C. Apnea

D. Tachypnea

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Answers

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

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Explanations

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1. What measurement in mmHg represents standard atmospheric pressure?

A. 500 mmHg

B. 760 mmHg

C. 980 mmHg

D. 540 mmHg

Standard atmospheric pressure is defined as the pressure exerted by the weight of the atmosphere at sea level. This standard measurement is universally recognized as 760 mmHg, which corresponds to the pressure that supports a column of mercury 760 millimeters high in a barometer. This value is significant in various scientific fields, especially in physiology and meteorology, as it serves as a baseline for measuring other pressures, such as blood pressure or pressure in the lungs. Understanding standard atmospheric pressure is crucial for interpreting physiological processes, as many body functions depend on the balance and regulation of pressure. The other readings do not represent the established norm for atmospheric pressure, highlighting why 760 mmHg is the correct and accepted standard in both scientific and clinical settings.

2. What is the typical PCO2 level in blood arriving at the alveoli in comparison to the alveolar air?

A. 60 in blood vs. 30 in alveolar air

B. 46 in blood vs. 40 in alveolar air

C. 40 in blood vs. 50 in alveolar air

D. 30 in blood vs. 70 in alveolar air

In the context of gas exchange in the lungs, the typical PCO2 levels in blood returning to the alveoli reflect the physiological processes involved in respiration. Blood that reaches the alveoli has a higher partial pressure of carbon dioxide (PCO2) than the air within the alveoli. This is primarily due to the metabolic activity of tissues that produce carbon dioxide as a byproduct, resulting in a PCO2 of approximately 46 mmHg in the venous blood. On the other hand, the PCO2 of the alveolar air is usually around 40 mmHg. This difference in carbon dioxide levels facilitates the diffusion of CO2 from blood into the alveolar air, where it can be expelled from the body during exhalation. This exchange is critical for maintaining acid-base balance and ensuring the efficient removal of carbon dioxide from the bloodstream. Thus, the correct comparison of PCO2 levels is 46 mmHg in the blood compared to 40 mmHg in the alveolar air, highlighting the normal process of diffusion that occurs as carbon dioxide is eliminated from the body.

3. Hypoxia in the lungs can lead to which of the following blood conditions?

A. Normocytic anemia

B. Polycythemia

C. Thrombocytopenia

D. Leukemia

Hypoxia in the lungs indicates a deficiency in oxygen levels reaching the bloodstream. When the body is exposed to hypoxic conditions, it responds by increasing the production of red blood cells in an attempt to enhance oxygen transport to tissues. This physiological response is known as polycythemia, which leads to an elevated concentration of red blood cells in the blood. Polycythemia can occur as a compensation mechanism to improve the oxygen-carrying capacity of the blood. In chronic hypoxic environments, such as living at high altitudes or certain lung diseases, the body stimulates erythropoiesis (the production of red blood cells) due to increased levels of erythropoietin, a hormone produced by the kidneys in response to low oxygen levels. Thus, in cases of sustained lung hypoxia, the correct condition that can result is indeed polycythemia, as the body strives to compensate for reduced oxygen availability by producing more red blood cells.

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4. What correction method would you use for respiratory alkalosis?

A. Increase oxygen intake

B. Hyperventilation

C. Hypoventilation

D. Deep breathing exercises

Respiratory alkalosis occurs when there is an excess of base or a decrease in carbon dioxide in the blood, typically due to hyperventilation or a decrease in respiratory rate. To correct respiratory alkalosis, the goal is to increase the carbon dioxide in the blood, which can be achieved through hypoventilation. By decreasing the rate or depth of breathing, the body allows more carbon dioxide to accumulate, helping to restore the acid-base balance. In contrast, increasing oxygen intake, hyperventilation, and deep breathing exercises would further exacerbate the condition by promoting more carbon dioxide loss. Thus, hypoventilation is the appropriate method to counteract the alkalotic condition effectively.

5. Which of the following can lead to an increase in resistance during breathing?

A. Bronchodilation of airways

B. Increased bronchiolar diameter

C. Decrease in bronchiolar diameter

D. Increased airflow rate

An increase in resistance during breathing is primarily associated with a decrease in the diameter of the bronchioles. When the bronchiolar diameter is reduced, the airways become narrower, which significantly impedes airflow. This can occur due to various factors, such as bronchoconstriction, inflammation, or the presence of mucus. When the diameter is lessened, the resistance to airflow increases, making it more difficult for air to pass through. In contrast, bronchodilation, which refers to the widening of the airways, would lower resistance and facilitate easier airflow. Similarly, an increased bronchiolar diameter also decreases resistance, allowing for better airflow. Furthermore, an increase in airflow rate typically relates to greater ease of breathing and would not contribute to resistance; rather, it might be regarded as an indicator of lower resistance under normal physiological conditions. Thus, the correct response highlights the physiological relationship between airway diameter and resistance in the respiratory system.

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6. What two types of substances can cause pneumonia?

A. Only bacteria and fungi

B. Bacteria and viruses

C. Bacteria, viruses, fungi, and protozoa

D. Fungi and protozoa only

Pneumonia can be caused by a diverse range of infectious agents, and the correct response highlights the two primary categories of infectious organisms responsible for this condition: bacteria and viruses. Additionally, fungi and protozoa are also recognized as potential pathogens that can lead to pneumonia under specific circumstances. Bacteria are the most common cause of pneumonia, with Streptococcus pneumoniae being one of the leading bacterial pathogens. Viruses, such as the influenza virus and respiratory syncytial virus (RSV), are also significant contributors, particularly in children and immunocompromised individuals. Fungi can cause pneumonia, especially in individuals with weakened immune systems or those exposed to certain environmental conditions. For instance, infections caused by fungi such as Histoplasma capsulatum or Coccidioides immitis can lead to pneumonia. Protozoa, though less common, can also be associated with pneumonia in immunocompromised patients, such as those with HIV/AIDS. Thus, recognizing that pneumonia can result from these various pathogens underscores the importance of comprehensive understanding when diagnosing and treating respiratory infections, making the inclusion of all four types — bacteria, viruses, fungi, and protozoa — essential in accurately describing the causes of pneumonia.

7. What is the general prognosis for lung cancer patients?

A. Good (60% survival rate)

B. Moderate (30% survival rate)

C. Poor (7% survival rate after 5 years)

D. Varied depending on type

The prognosis for lung cancer patients is often described as poor, particularly in terms of long-term survival rates. This is largely due to the aggressive nature of the disease and the fact that it is frequently diagnosed in later stages. Typically, the five-year survival rate for lung cancer hovers around 7% for advanced stages, reflecting the significant challenges in treatment and the high mortality associated with this condition. Certain lung cancer types, such as non-small cell lung cancer (NSCLC) and small cell lung cancer (SCLC), may have different survival rates, but overall, lung cancer tends to show a trend toward poorer outcomes compared to many other cancers. This highlights the importance of early detection and intervention, as those diagnosed at earlier stages tend to have better prognoses. Options that suggest a good or moderate survival rate do not accurately capture the realities faced by lung cancer patients, particularly when not considering stage at diagnosis. While the prognosis can vary depending on the specific type of lung cancer and treatment received, the overarching trend is one of concern due to low survival rates. Hence, focusing on the statistic of 7% after five years effectively summarizes the grim outlook many lung cancer patients face.

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8. What happens to pressure as the volume of a gas decreases, given a constant amount of gas?

A. It increases

B. It decreases

C. It stabilizes

D. It fluctuates

When the volume of a gas decreases while keeping the amount of gas constant, the pressure increases. This relationship is described by Boyle's Law, which states that for a given mass of gas at a constant temperature, the pressure of the gas is inversely proportional to its volume. Therefore, as the volume decreases, the gas molecules are forced closer together, resulting in more frequent collisions with the walls of the container. This increase in collisions leads to an increase in pressure. For example, if you compress a gas in a piston, the space for the gas molecules is reduced, causing them to collide more often with the piston walls, which raises the pressure inside the container. This principle is fundamental in understanding gas behavior in various physiological contexts, such as in the function of the lungs during breathing.

9. What does the term "orthopnea" indicate?

A. Difficulty breathing while exercising

B. Shortness of breath while lying down

C. Labored breathing during exertion

D. Shortness of breath that occurs suddenly

The term "orthopnea" specifically refers to shortness of breath that occurs when a person is lying down and is relieved when they sit or stand up. This condition is generally associated with various heart and respiratory conditions, where lying flat increases venous return to the heart, potentially leading to pulmonary congestion and difficulty breathing. It is especially common in cases of heart failure or certain lung diseases. Understanding orthopnea is important as it indicates the severity of a patient's condition and helps healthcare providers determine appropriate treatment strategies. Recognizing the physical position that alleviates breathing difficulties can provide insights into underlying health issues, guiding further evaluation and management.

10. What is the term for a temporary cessation of breathing?

A. Eupnea

B. Hyperventilation

C. Apnea

D. Tachypnea

Apnea refers to a temporary cessation of breathing, which can occur during sleep, as in sleep apnea, or in various medical conditions. This condition is significant because it can lead to decreased oxygen levels in the blood, and if prolonged, may result in serious health issues, including unconsciousness or even death. Understanding apnea is crucial in fields such as respiratory therapy and sleep medicine, where monitoring and managing breathing patterns is essential for patient care. In contrast, eupnea describes normal, healthy breathing; hyperventilation indicates an increased rate and/or depth of breathing, often leading to decreased carbon dioxide levels in the blood; and tachypnea refers to abnormally rapid breathing. Each of these terms serves to describe different respiratory states, highlighting the uniqueness of apnea as a stoppage rather than a change in the rate or depth of breath.

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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://asu-bio202exam2.examzify.com

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

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