

ARIZONA STATE UNIVERSITY (ASU) BIO202 HUMAN ANATOMY AND PHYSIOLOGY II EXAM 1 PRACTICE EXAM (SAMPLE)

STUDY GUIDE



SAMPLE STUDY GUIDE WITH LIMITED QUESTIONS

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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. Which layer of the heart wall contracts and is composed primarily of cardiac muscle tissue?**
 - A. Endocardium
 - B. Myocardium
 - C. Epicardium
 - D. Pericardium
- 2. Which of the following is a function of the circulatory system?**
 - A. Digestion of food
 - B. Production of hormones
 - C. Transport of oxygen and carbon dioxide
 - D. Regulation of body temperature
- 3. What is the role of glucagon in the body?**
 - A. Inhibits insulin secretion
 - B. Stimulates breakdown of fats and proteins
 - C. Stimulates insulin production
 - D. Decreases blood sugar levels
- 4. What is an abnormally low number of leukocytes called?**
 - A. Leukocytosis
 - B. Leukopenia
 - C. Leukemia
 - D. Thrombocytopenia
- 5. What does the P wave of the electrocardiogram (EKG) represent?**
 - A. Ventricular depolarization
 - B. Atrial depolarization
 - C. Atrial repolarization
 - D. Ventricular repolarization

- 6. What aspect of hormone function is primarily responsible for maintaining homeostasis?**
- A. Hormone production
 - B. Feedback mechanisms
 - C. Target cell activation
 - D. Receptor sensitivity
- 7. Which component of blood plasma helps in the formation of blood clots?**
- A. Globulins
 - B. Albumin
 - C. Fibrinogen
 - D. Electrolytes
- 8. Which type of chemical messengers is secreted into the blood stream and acts on cells far away?**
- A. Neurotransmitters
 - B. Hormones
 - C. Enzymes
 - D. Cytokines
- 9. What is the normal range for hemoglobin in the blood?**
- A. 8-12 g/dL
 - B. 12-18 g/dL
 - C. 20-25 g/dL
 - D. 15-22 g/dL
- 10. Which part of the adrenal gland is responsible for making epinephrine?**
- A. Adrenal Cortex
 - B. Adrenal Medulla
 - C. Zona Glomerulosa
 - D. Zona Fasciculata

Answers

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

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Explanations

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1. Which layer of the heart wall contracts and is composed primarily of cardiac muscle tissue?

- A. Endocardium
- B. Myocardium**
- C. Epicardium
- D. Pericardium

The layer of the heart wall that contracts and is composed primarily of cardiac muscle tissue is the myocardium. This thick muscular layer is responsible for the heart's pumping action, generating the force needed to circulate blood throughout the body. The unique structure of cardiac muscle tissue, with its intercalated discs and branching fibers, allows for synchronized contractions, which is crucial for efficient heart function. In contrast, the endocardium is the innermost layer lining the heart's chambers, composed of endothelial cells that contribute to a smooth surface for blood flow but do not have muscle fibers for contraction. The epicardium serves as the outer layer of the heart wall and is made up of connective tissue and a layer of mesothelial cells, providing protection and serving as a conduit for blood vessels and nerves. Lastly, the pericardium refers to the fibrous sac surrounding the heart, providing stability and reducing friction, but it does not participate in the contraction of the heart.

2. Which of the following is a function of the circulatory system?

- A. Digestion of food
- B. Production of hormones
- C. Transport of oxygen and carbon dioxide**
- D. Regulation of body temperature

The transport of oxygen and carbon dioxide is a primary function of the circulatory system. This system, comprising the heart, blood vessels, and blood, facilitates the movement of oxygen from the lungs to the tissues and carries carbon dioxide, a metabolic waste product, back from the tissues to the lungs for exhalation. Oxygen is vital for cellular respiration, enabling cells to produce energy, while the removal of carbon dioxide is essential for maintaining the body's pH balance and preventing toxicity. The circulatory system also contributes to other functions such as nutrient transport, immune response, and temperature regulation, but its core role in gas exchange is foundational. Understanding the specific function of transporting gases highlights the importance of the circulatory system in maintaining homeostasis within the body.

3. What is the role of glucagon in the body?

- A. Inhibits insulin secretion
- B. Stimulates breakdown of fats and proteins**
- C. Stimulates insulin production
- D. Decreases blood sugar levels

Glucagon plays a crucial role in maintaining blood glucose levels, particularly during fasting or between meals. It is a hormone produced by the alpha cells of the pancreas and primarily functions to increase blood glucose levels when they are low. One of its key actions is to stimulate the breakdown of stored glycogen into glucose in the liver, a process known as glycogenolysis. Additionally, glucagon promotes gluconeogenesis, which is the synthesis of glucose from non-carbohydrate sources, such as fats and proteins. By stimulating the breakdown of fats, glucagon facilitates the release of fatty acids that can be used as an alternative energy source. When protein breakdown is stimulated, it provides amino acids that can be converted into glucose through gluconeogenesis, further aiding in elevating blood sugar levels. The other options do not accurately represent the main functions of glucagon. While it inhibits insulin secretion, this action is more of a regulatory response to ensure that glucose levels can rise when needed, rather than its primary role. Glucagon does not stimulate insulin production; in fact, insulin and glucagon have opposing effects on blood sugar levels. Lastly, rather than decreasing blood sugar levels, glucagon acts to increase them, particularly during periods of low glucose availability. Understanding

4. What is an abnormally low number of leukocytes called?

- A. Leukocytosis
- B. Leukopenia**
- C. Leukemia
- D. Thrombocytopenia

An abnormally low number of leukocytes, or white blood cells, is referred to as leukopenia. Leukocytes play a crucial role in the immune system, helping the body fight off infections and other diseases. When their numbers fall below the normal range, this can impair the immune response, making the individual more susceptible to infections. Leukopenia can result from various causes, including bone marrow disorders, autoimmune diseases, certain medications, or severe infections. It's important to recognize this condition in clinical settings, as it requires careful management to prevent potential complications due to increased vulnerability to pathogens. The other terms listed relate to different conditions: leukocytosis refers to an increase in the number of white blood cells, leukemia is a type of cancer that affects blood and bone marrow leading to high levels of immature white blood cells, and thrombocytopenia indicates a low number of platelets in the blood. Each of these conditions has distinct implications for health, but they do not pertain to leukocyte deficiency.

5. What does the P wave of the electrocardiogram (EKG) represent?

- A. Ventricular depolarization
- B. Atrial depolarization**
- C. Atrial repolarization
- D. Ventricular repolarization

The P wave of the electrocardiogram (EKG) specifically represents atrial depolarization. This event occurs when the electrical impulse generated by the sinoatrial node travels through the atria, causing them to contract and pump blood into the ventricles. This depolarization is visually depicted on the EKG as the first small upward deflection following the baseline. Understanding the significance of the P wave is crucial for interpreting the EKG and assessing the heart's electrical activity. Atrial depolarization is the first step in the cycle of cardiac electrical conduction, initiating the process that leads to the subsequent contraction of the ventricles. This sequence is vital for maintaining proper blood circulation in the body.

6. What aspect of hormone function is primarily responsible for maintaining homeostasis?

- A. Hormone production
- B. Feedback mechanisms**
- C. Target cell activation
- D. Receptor sensitivity

The aspect of hormone function that plays a crucial role in maintaining homeostasis is feedback mechanisms. These mechanisms operate by regulating hormone levels in the body based on the current physiological conditions. When hormone levels rise or fall, feedback mechanisms can trigger various responses to correct imbalances, ensuring that the internal environment remains stable. For example, in the case of blood sugar regulation, an increase in glucose levels stimulates insulin release. Insulin then promotes the uptake of glucose by cells and lowers blood sugar levels back to a normal range. Conversely, when blood sugar levels drop, the secretion of glucagon is stimulated to raise blood sugar levels back to homeostasis. While hormone production, target cell activation, and receptor sensitivity are important components of hormonal function, they are not solely responsible for maintaining homeostasis. Instead, it is the feedback mechanisms that actively monitor and adjust hormone levels to respond to changes in the body, thus playing the primary role in sustaining a stable internal environment.

7. Which component of blood plasma helps in the formation of blood clots?

- A. Globulins
- B. Albumin
- C. Fibrinogen**
- D. Electrolytes

Fibrinogen plays a crucial role in the formation of blood clots, making it the correct choice. This plasma protein is synthesized in the liver and is essential for coagulation. When bleeding occurs, the body activates a series of biochemical reactions known as the coagulation cascade. Fibrinogen is converted into fibrin, which forms a mesh-like structure that traps blood cells and platelets, thereby creating a stable clot. This process is vital for preventing excessive blood loss and facilitating tissue repair. In contrast, albumin primarily contributes to maintaining osmotic pressure and transporting substances in the blood, while globulins play roles in immune function and transport. Electrolytes are essential for various physiological processes, including nerve impulse transmission and muscle contraction, but they do not directly contribute to blood clot formation. Understanding these functions highlights the specific role of fibrinogen in hemostasis and its importance in the overall process of wound healing and vascular integrity.

8. Which type of chemical messengers is secreted into the blood stream and acts on cells far away?

- A. Neurotransmitters
- B. Hormones**
- C. Enzymes
- D. Cytokines

Hormones are chemical messengers that are secreted directly into the bloodstream. This allows them to travel over varying distances throughout the body to reach target cells or organs, where they exert their effects. Hormones are produced by various glands in the endocrine system, such as the pituitary, thyroid, adrenal glands, and pancreas. The function of hormones is crucial for regulating many physiological processes, including metabolism, growth and development, tissue function, and mood. They can influence cells far away from their site of release, making them distinct from other types of chemical messengers that typically act over shorter distances. Neurotransmitters, for example, are chemicals released by neurons at synapses to communicate with other neurons; their actions are localized to the immediate vicinity. Enzymes primarily catalyze biochemical reactions and do not function as messengers. Cytokines are signaling molecules used by the immune system for communication between cells, but they generally have a more localized effect rather than acting over long distances like hormones. Thus, the role of hormones as systemic regulators emphasizes their importance in the body's overall functioning.

9. What is the normal range for hemoglobin in the blood?

- A. 8-12 g/dL
- B. 12-18 g/dL**
- C. 20-25 g/dL
- D. 15-22 g/dL

The normal range for hemoglobin in the blood for healthy adults typically falls between 12 and 18 grams per deciliter (g/dL). Hemoglobin is a crucial protein found in red blood cells that carries oxygen throughout the body. Levels below this range may indicate anemia, while levels above it could suggest conditions such as polycythemia. It is important for individuals, especially those in the medical field, to recognize this range as it helps inform assessments of a person's oxygen-carrying capacity and overall health. Understanding the normal hemoglobin levels is essential for diagnosing and managing various medical conditions effectively.

10. Which part of the adrenal gland is responsible for making epinephrine?

- A. Adrenal Cortex
- B. Adrenal Medulla**
- C. Zona Glomerulosa
- D. Zona Fasciculata

The part of the adrenal gland responsible for producing epinephrine is the adrenal medulla. This inner region of the adrenal gland functions as part of the sympathetic nervous system and is critical for the body's fight-or-flight response. When stimulated by the sympathetic nervous system, the adrenal medulla releases epinephrine (also known as adrenaline) and norepinephrine into the bloodstream. This release of hormones prepares the body to respond to stressful situations by increasing heart rate, blood pressure, and energy availability. The adrenal cortex, on the other hand, produces different hormones such as cortisol, aldosterone, and androgens, which are involved in metabolic processes, stress responses, and electrolyte balance. The zona glomerulosa and zona fasciculata refer to specific layers within the adrenal cortex, with the zona glomerulosa mainly producing aldosterone and the zona fasciculata primarily producing cortisol. Thus, the role of the adrenal medulla is distinct and specialized for the synthesis of catecholamines, including epinephrine.

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-bio202exam1.examzify.com>

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

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