

ANATOMY AND PHYSIOLOGY FOR MULTIPLE ORGAN SYSTEMS PRACTICE TEST (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 term refers to cancer of the colon and rectum?

- A. Pancreatic cancer
- B. Colitis
- C. Colorectal cancer
- D. Appendicitis

2. What is the function of erythrocytes?

- A. Transport oxygen and carbon dioxide.
- B. Protect the body against pathogens.
- C. Prevent blood loss and help with clotting.
- D. Water, proteins, electrolytes, nutrients, hormones.

3. Amenorrhea refers to which of the following?

- A. Heavy menstrual bleeding
- B. Absence of menstrual periods
- C. Painful periods
- D. Irregular periods

4. Which description best identifies the structure of the breasts?

- A. Skeletal muscle and bone
- B. Fatty tissue containing ducts, ligaments, lobes, and nipple
- C. Dense connective tissue only
- D. Glandular tissue with cartilage

5. Major minerals are minerals required in amounts greater than 100 mg/day.

- A. Minerals required in less than 100 mg/day.
- B. Vitamins necessary for energy production.
- C. Minerals required in more than 100 mg/day.
- D. Fats stored in the body.

6. Which statement describes erythrocytes most accurately?

- A. Erythrocytes are pink, anucleate, lack organelles, and are biconcave discs that transport oxygen and carbon dioxide.
- B. Erythrocytes are nucleated cells that fight infection.
- C. Erythrocytes are large white blood cells involved in immunity.
- D. Erythrocytes are platelets involved in clotting.

7. Colorectal cancer is a malignancy of which regions?

- A. Malignancy of colon and rectum
- B. Benign tumor of colon
- C. Inflammation of colon
- D. Infection of rectum

8. Hypernatremia is defined as a rise in which of the following?

- A. Blood sodium less than 136 mEq/L.
- B. Blood sodium between 136 and 145 mEq/L.
- C. Excess water relative to salt.
- D. Blood sodium over 145 mEq/L; deficit of water to salt.

9. What is the primary function of the small intestine?

- A. Absorption of nutrients.
- B. Mechanical digestion only.
- C. Storage of chyme.
- D. Production of bile.

10. Which component delays the heart's electrical impulse between the atria and ventricles to allow ventricular filling?

- A. AV node
- B. SA node
- C. Purkinje fibers
- D. AV bundle

Answers

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

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Explanations

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1. Which term refers to cancer of the colon and rectum?

- A. Pancreatic cancer
- B. Colitis
- C. Colorectal cancer**
- D. Appendicitis

The term used for cancer that affects the colon or the rectum is colorectal cancer. The colon and rectum are the final portions of the large intestine, and cancers arising in either area are grouped together because they share similar anatomy, risk factors, and screening and treatment approaches (such as colonoscopy and surgical removal). Other options refer to cancer of a different organ (pancreas) or to non-cancerous conditions (colitis, an inflammatory condition of the colon, and appendicitis, inflammation of the appendix). So, colorectal cancer is the most accurate description for cancer occurring in the colon or rectum.

2. What is the function of erythrocytes?

- A. Transport oxygen and carbon dioxide.**
- B. Protect the body against pathogens.
- C. Prevent blood loss and help with clotting.
- D. Water, proteins, electrolytes, nutrients, hormones.

The function being tested is the transport of gases in the blood. Erythrocytes, or red blood cells, carry oxygen from the lungs to tissues throughout the body using hemoglobin, which has heme groups that bind O₂. This oxygen is released where it's needed for cellular respiration. They also help remove carbon dioxide, a waste product of metabolism, by transporting it from tissues back to the lungs to be exhaled. CO₂ is carried in several forms, including dissolved bicarbonate in plasma and as carbaminohemoglobin bound to hemoglobin, facilitating its removal. The efficiency of this gas exchange is aided by the red blood cells' biconcave shape, which increases surface area for oxygen and carbon dioxide diffusion. Other options describe different blood components: protection against pathogens is the role of white blood cells and specific immune factors; preventing blood loss is primarily the job of platelets and clotting factors; and the listed item about water, proteins, electrolytes, nutrients, and hormones describes blood plasma composition, not the function of erythrocytes.

3. Amenorrhea refers to which of the following?

- A. Heavy menstrual bleeding
- B. Absence of menstrual periods**
- C. Painful periods
- D. Irregular periods

Amenorrhea is the absence of menstrual periods. This directly matches the definition, making the description of no menses the correct choice. The other terms describe different menstrual disturbances: heavy bleeding is menorrhagia, painful periods are dysmenorrhea, and irregular periods refer to an irregular or infrequent cycle (oligomenorrhea), not a complete absence. There are two main forms—primary and secondary amenorrhea—depending on whether menstruation has ever occurred or has stopped after it began.

4. Which description best identifies the structure of the breasts?

- A. Skeletal muscle and bone
- B. Fatty tissue containing ducts, ligaments, lobes, and nipple**
- C. Dense connective tissue only
- D. Glandular tissue with cartilage

Understanding breast anatomy means recognizing it as a mix of glandular and adipose tissue supported by connective tissue. The glandular part forms lobes with milk-producing lobules and ducts that drain toward the nipple, while fat tissue fills the surrounding space and varies with age and hormones. Ligaments provide structural support within the breast. Because of this combination, fatty tissue containing ducts, ligaments, lobes, and nipple best fits the structure of the breasts. The other options miss essential components: skeletal muscle and bone are part of the chest wall rather than the breast itself; dense connective tissue alone omits the glandular and fat components; cartilage is not a feature of breast tissue.

5. Major minerals are minerals required in amounts greater than 100 mg/day.

- A. Minerals required in less than 100 mg/day.
- B. Vitamins necessary for energy production.
- C. Minerals required in more than 100 mg/day.**
- D. Fats stored in the body.

Major minerals are minerals required in amounts greater than 100 mg per day. These are also called macrominerals, and they include nutrients like calcium, phosphorus, potassium, sodium, chloride, magnesium, and sulfur. Because the body relies on them in larger quantities to support bone structure, fluid balance, nerve signaling, and muscle function, daily intake is relatively higher. The other ideas don't fit: vitamins are not minerals, and fats stored in the body are lipids, not minerals. Minerals needed in smaller amounts fall into the category of trace minerals (less than 100 mg/day).

6. Which statement describes erythrocytes most accurately?

- A. Erythrocytes are pink, anucleate, lack organelles, and are biconcave discs that transport oxygen and carbon dioxide.**
- B. Erythrocytes are nucleated cells that fight infection.
- C. Erythrocytes are large white blood cells involved in immunity.
- D. Erythrocytes are platelets involved in clotting.

The main concept is that erythrocytes are specialized for efficient gas transport. Mature human red blood cells have no nucleus and lack other organelles, which frees space to pack hemoglobin. Their biconcave shape increases surface area, speeding up the diffusion of oxygen into and carbon dioxide out of the blood. Hemoglobin binds oxygen in the lungs (giving a pink color when oxygenated) and releases it to tissues, then picks up carbon dioxide from tissues to be exhaled. This combination—pink color, anucleate, no organelles, and biconcave discs optimized for gas transport—best describes erythrocytes. In contrast, descriptions involving nucleated cells that fight infection or platelets involved in clotting refer to other blood components, not red blood cells.

7. Colorectal cancer is a malignancy of which regions?

A. Malignancy of colon and rectum

B. Benign tumor of colon

C. Inflammation of colon

D. Infection of rectum

Colorectal cancer is cancer that starts in the colon or rectum—the two regions of the large intestine. Malignancy means the cells have become invasive and capable of spreading, and in colorectal cancer these malignant growths typically arise in the mucosal lining and often develop from benign polyps over time. Because it specifically occurs in the colon and rectum, the description as a malignancy of those regions is the accurate one. The other options describe noncancerous or noninfectious processes (benign tumor, inflammation, infection) and do not represent cancer.

8. Hypernatremia is defined as a rise in which of the following?

A. Blood sodium less than 136 mEq/L.

B. Blood sodium between 136 and 145 mEq/L.

C. Excess water relative to salt.

D. Blood sodium over 145 mEq/L; deficit of water to salt.

Hypernatremia means there is too much sodium in the blood relative to water, so the plasma Na⁺ concentration is high (usually >145 mEq/L). This reflects a free-water deficit relative to salt—water loss or insufficient water intake without a matching salt gain. Normal sodium sits roughly between 135 and 145 mEq/L, so values above 145 indicate hypernatremia. If there's excess water relative to salt, sodium concentration would decrease, causing hyponatremia, not hypernatremia. The idea here is that the condition describes a high sodium level due to not enough water relative to salt.

9. What is the primary function of the small intestine?

A. Absorption of nutrients.

B. Mechanical digestion only.

C. Storage of chyme.

D. Production of bile.

Absorption of nutrients is the primary function of the small intestine. Its lining is highly folded with villi and microvilli, giving a large surface area for taking up carbohydrates, proteins, fats, vitamins, minerals, and water. Digestive enzymes from the pancreas and enzymes on the intestinal wall finalize chemical digestion, and nutrients move into enterocytes to enter the bloodstream or lymphatic system for distribution throughout the body. While mixing and propulsion (segmentation and peristalsis) help process the chyme, the essential outcome here is absorption. The other options reflect roles of other organs or stages of digestion: storage of chyme mainly occurs in the stomach, bile is produced by the liver (stored and released by the gallbladder), and mechanical digestion alone is not the main activity of the small intestine since chemical digestion and absorption are central there.

10. Which component delays the heart's electrical impulse between the atria and ventricles to allow ventricular filling?

A. AV node

B. SA node

C. Purkinje fibers

D. AV bundle

In coordinating heartbeats, the impulse travels from the atria to the ventricles and must pause briefly to let the atria finish contracting and filling the ventricles. This pause is provided by the atrioventricular (AV) node, which sits at the junction of the atria and ventricles and slows conduction due to its tissue properties. The slower spread through the AV node gives enough time for ventricular filling before the ventricles are activated. After this delay, the impulse moves quickly through the AV bundle and Purkinje fibers to depolarize the ventricles in a synchronized manner. The SA node sets the pace but does not create this delay, and the Purkinje fibers along with the AV bundle conduct rapidly, so they don't introduce the pause.

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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://anatomyphysio4multipleorgansys.examzify.com>

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

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