

PIVOT POINT THE BUILDING BLOCKS OF THE HUMAN BODY 105E.01 PRACTICE TEST (SAMPLE) STUDY GUIDE



SAMPLE STUDY GUIDE WITH LIMITED QUESTIONS

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THE FULL VERSION STUDY GUIDE**

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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 tissue type provides binding, support, and energy storage?**
 - A. Epithelial tissue
 - B. Connective tissue
 - C. Nervous tissue
 - D. Muscle tissue
- 2. What is the term for the process of standard cell division that results in two identical daughter cells?**
 - A. Meiosis
 - B. Mitosis
 - C. Cytokinesis
 - D. Budding
- 3. Which part of a neuron receives signals?**
 - A. Synapse
 - B. Dendrites
 - C. Axon
 - D. Soma
- 4. Which organ filters blood to form urine?**
 - A. Liver
 - B. Spleen
 - C. Kidney
 - D. Lungs
- 5. Protoplasm is a colorless gel-like substance containing**
 - A. water, salt and nutrients
 - B. water and fats
 - C. air and nutrients
 - D. enzymes
- 6. Which system collects waste products and transports lymph for excretion?**
 - A. Lymphatic System
 - B. Excretory System
 - C. Digestive System
 - D. Respiratory System

- 7. During exercise, which system increases breathing rate to meet oxygen demand?**
- A. Respiratory System
 - B. Skeletal System
 - C. Endocrine System
 - D. Integumentary System
- 8. Which mineral is primarily stored in bone and is essential for bone strength?**
- A. Phosphorus
 - B. Calcium
 - C. Iron
 - D. Potassium
- 9. Which layer of the skin contains collagen fibers, elastin, and sensory receptors, providing strength and elasticity?**
- A. Dermis
 - B. Stratum corneum
 - C. Epidermis
 - D. Hypodermis
- 10. Which system coordinates long-term processes through hormones rather than nerve impulses?**
- A. Endocrine System
 - B. Nervous System
 - C. Digestive System
 - D. Muscular System

Answers

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

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Explanations

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1. Which tissue type provides binding, support, and energy storage?

- A. Epithelial tissue
- B. Connective tissue**
- C. Nervous tissue
- D. Muscle tissue

Binding tissues together, providing structural support, and storing energy describe the role of connective tissue. Its extracellular matrix, with fibers like collagen and elastin and a ground substance, forms the framework that holds organs in place and distributes mechanical forces. Different cells live in this matrix—fibroblasts produce the matrix, adipocytes store fat, and bone and cartilage cells maintain mineralized or resilient structures. The energy-storage aspect comes from adipose tissue, a type of connective tissue that packs away fat droplets for later use and also cushions and insulates. You can see connective tissue in bones and cartilage that support and protect, in tendons and ligaments that connect tissues, and in blood that transports nutrients. In contrast, epithelial tissue lines surfaces and protects, nervous tissue transmits signals, and muscle tissue contracts to move.

2. What is the term for the process of standard cell division that results in two identical daughter cells?

- A. Meiosis
- B. Mitosis**
- C. Cytokinesis
- D. Budding

Mitosis is the process that yields two identical daughter cells. In this sequence, the cell first duplicates its DNA so each chromosome has an identical copy. The chromosomes then condense, align, and their copies are separated so each new nucleus receives the same set of chromosomes. After the nuclear division, cytokinesis splits the cytoplasm, completing the formation of two separate, genetically identical cells. Meiosis, by contrast, halves the chromosome number and creates gametes with genetic variation, not exact copies. Budding is a different form of reproduction where a new organism grows from an outgrowth of the parent, not from splitting into two identical cells. So the standard division producing two identical daughter cells is mitosis.

3. Which part of a neuron receives signals?

- A. Synapse
- B. Dendrites**
- C. Axon
- D. Soma

Signals are received by the dendrites because they are the neuron's primary input surfaces. Their branched membranes are studded with receptors for neurotransmitters released from other neurons at synapses. When a neurotransmitter binds to these receptors, ion channels open and small electrical changes—postsynaptic potentials—occur. These inputs accumulate and are integrated mainly in the cell body and at the axon hillock; if the combined signal is strong enough, an action potential is triggered and travels down the axon. The synapse is the communication junction, but the actual reception of the signal happens on the dendritic membrane due to its high receptor density and large surface area. The axon, in contrast, carries signals away from the neuron, not reception, and the soma primarily integrates inputs rather than serving as the main receiving site.

4. Which organ filters blood to form urine?

- A. Liver
- B. Spleen
- C. Kidney
- D. Lungs

The kidneys filter blood to form urine by using tiny filtering units called nephrons, beginning with the glomerulus. Blood plasma is pushed through the glomerulus to form a filtrate. As this filtrate travels through the tubules, most water and essential substances are reabsorbed back into the bloodstream, while wastes such as urea, creatinine, and any excess ions are secreted into the tubules to be excreted. The result is urine that collects in the renal pelvis and leaves the body. Other organs like the liver, spleen, and lungs have different roles (metabolism, immune filtering, and gas exchange) and are not involved in forming urine, making the kidneys the organ that filters blood to produce urine.

5. Protoplasm is a colorless gel-like substance containing

- A. water, salt and nutrients
- B. water and fats
- C. air and nutrients
- D. enzymes

Protoplasm is the living, jelly-like material inside cells where all cellular activities happen. Its main constituents are water, dissolved salts (electrolytes), and nutrients that fuel metabolism. Water provides the solvent for biochemical reactions and the medium in which molecules move. Salts help maintain osmotic balance and enable enzyme functions. Nutrients supply the raw materials and energy the cell needs to grow and operate. Fats, air, or enzymes may be present, but they aren't the primary components described for protoplasm. That's why water, salt, and nutrients best describe its core makeup.

6. Which system collects waste products and transports lymph for excretion?

- A. Lymphatic System
- B. Excretory System
- C. Digestive System
- D. Respiratory System

The key idea is that the lymphatic system collects tissue fluid that leaks from blood vessels and converts it into lymph that travels through lymphatic vessels. This network gathers waste products from cells, moves them as lymph through lymph nodes and ducts, and returns the fluid to the bloodstream. By circulating this lymph, the body can remove cellular debris and transport immune cells, with the eventual disposal of wastes occurring as the fluid re-enters circulation and is processed by organs like the kidneys and liver for excretion. The other systems don't primarily handle this lymph-transport role: the excretory system directly eliminates wastes via organs like the kidneys; the digestive system processes and expels solid and liquid wastes but doesn't carry lymph; the respiratory system is focused on gas exchange.

7. During exercise, which system increases breathing rate to meet oxygen demand?

- A. Respiratory System**
- B. Skeletal System
- C. Endocrine System
- D. Integumentary System

When you exercise, your tissues need more oxygen and produce more carbon dioxide, so your breathing rate increases to bring in more O₂ and remove CO₂. This rapid adjustment is carried out by the respiratory system. The brainstem's respiratory centers respond to chemical signals from chemoreceptors that monitor blood CO₂ and O₂ levels, along with input from the body about how hard you're exercising. In response, they send stronger signals to the diaphragm and intercostal muscles, increasing both the rate and depth of breaths. The other systems aren't directly responsible for changing breathing rate. The skeletal system provides the bones and the muscles that move the chest wall, but it doesn't regulate how fast you breathe. The endocrine system can influence overall arousal and metabolism, but the immediate control of breathing rate comes from the respiratory system. The integumentary system mainly handles temperature regulation and protection of the body, not the regulation of ventilation.

8. Which mineral is primarily stored in bone and is essential for bone strength?

- A. Phosphorus
- B. Calcium**
- C. Iron
- D. Potassium

Bones store minerals to give them strength, and calcium is the central mineral for this purpose. Calcium combines with phosphate to form hydroxyapatite crystals, which fill the bone matrix and give bones their hardness and rigidity. This mineral also serves as a reservoir: when blood calcium is low, calcium is released from bone to support essential functions like muscle contraction and nerve signaling. Phosphorus is important too, but its role in bone strength is tied to its association with calcium in those crystals. Iron and potassium are needed elsewhere in the body and do not provide the primary structural strength that calcium does in bone.

9. Which layer of the skin contains collagen fibers, elastin, and sensory receptors, providing strength and elasticity?

- A. Dermis**
- B. Stratum corneum
- C. Epidermis
- D. Hypodermis

The dermis is the layer you're looking for. It's a thick, fibrous connective tissue layer rich in collagen fibers that give the skin its tensile strength and elastin fibers that allow it to stretch and snap back. This combination is what keeps skin strong yet flexible, especially as the body moves. The dermis also houses the sensory receptors that let you feel touch, pressure, and other sensations, along with hair follicles, glands, and a network of blood vessels. In contrast, the epidermis is the outer protective barrier made mainly of keratinocytes, with the outermost sublayer called the stratum corneum being composed of dead cells, and the hypodermis beneath containing fat that provides insulation and padding rather than elasticity.

10. Which system coordinates long-term processes through hormones rather than nerve impulses?

A. Endocrine System

B. Nervous System

C. Digestive System

D. Muscular System

Chemicals called hormones coordinate long-term processes by traveling through the bloodstream to distant targets. The endocrine system, made up of glands like the pituitary, thyroid, and adrenal, releases these hormones to regulate growth, metabolism, reproduction, and stress responses over extended periods. Since hormonal signals act more slowly than nerve impulses, their effects tend to develop gradually and last longer, providing sustained control across the body. In contrast, the nervous system uses nerve impulses for rapid, precise communication, producing quick responses to stimuli. The digestive and muscular systems play key roles in processing nutrients and enabling movement, but they're not the primary pathways for coordinating long-term hormonal signaling.

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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://pivotpoint105e01.examzify.com>

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

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