

HOLES ANATOMY AND PHYSIOLOGY PRACTICE TEST (SAMPLE)

STUDY GUIDE



**SAMPLE STUDY GUIDE
WITH LIMITED QUESTIONS**

**VISIT US ONLINE FOR
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. The kidney structure that contains the glomerulus and Bowman's capsule is the?**
 - A. Renal cortex
 - B. Renal medulla
 - C. Renal corpuscle
 - D. Renal pelvis

- 2. Which function is associated with Broca's area in language processing?**
 - A. Language production
 - B. Vision
 - C. Balance
 - D. Hearing

- 3. Which brain regions are associated with the cerebrum and what are their primary functions?**
 - A. Frontal lobe: planning and movement; Parietal: somatosensation; Temporal: hearing and memory; Occipital: vision.
 - B. Frontal lobe: hearing; Parietal: vision; Temporal: movement; Occipital: language.
 - C. Frontal lobe: balance; Parietal: memory; Temporal: smell; Occipital: taste.
 - D. Frontal lobe: language production; Parietal: balance; Temporal: motor control; Occipital: hearing.

- 4. Which division of the autonomic nervous system dominates during rest and digestion?**
 - A. Sympathetic
 - B. Parasympathetic
 - C. Somatic
 - D. Central

- 5. Which part of the nephron is primarily involved in filtration of blood?**
 - A. Proximal tubule
 - B. Glomerulus
 - C. Collecting duct
 - D. Loop of Henle

- 6. Which statement best describes negative feedback?**
- A. Accelerates the actions of the body
 - B. Is Always Short-Lived
 - C. Examples include blood clotting and childbirth
 - D. Prevents Sudden, Severe Changes in the Body
- 7. Which connective tissue function is to provide support and protection?**
- A. Epithelial
 - B. Connective
 - C. Muscle
 - D. Nervous
- 8. Which acid activates pepsinogen to form pepsin in the stomach?**
- A. Nitric acid.
 - B. Acetic acid.
 - C. Hydrochloric acid.
 - D. Sulfuric acid.
- 9. Which quadrant contains the splenic flexure of the colon?**
- A. Right Lower Quadrant
 - B. Left Upper Quadrant
 - C. Right Upper Quadrant
 - D. Left Lower Quadrant
- 10. What is the sequence that leads to skeletal muscle relaxation after contraction, and what is ATP's role?**
- A. Calcium is pumped back into the sarcoplasmic reticulum by Ca^{2+} -ATPase; troponin-tropomyosin blocks actin; cross-bridges detach; ATP is required for detachment and relaxation.
 - B. Calcium remains in cytosol; troponin detaches; cross-bridges continue; no ATP required.
 - C. Myosin releases calcium into blood; actin binds permanently; ATP not used.
 - D. Sodium channels depolarize; muscle relaxes spontaneously; ATP not involved.

Answers

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

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Explanations

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1. The kidney structure that contains the glomerulus and Bowman's capsule is the?

- A. Renal cortex
- B. Renal medulla
- C. Renal corpuscle**
- D. Renal pelvis

The filtration unit of the nephron is the renal corpuscle. It consists of the glomerulus, a tiny tuft of capillaries, and Bowman's capsule, a cup-shaped chamber that surrounds the glomerulus and collects the filtrate that leaks out of the blood. This whole unit sits mainly in the renal cortex, where filtration begins before the fluid moves into the renal tubule for processing. The renal cortex is just the outer region that houses these capsules and other parts of the nephron, but it is not the specific structure that contains the glomerulus and Bowman's capsule. The renal medulla houses the loops of Henle and collecting ducts, not the initial filtration apparatus. The renal pelvis is the funnel that collects urine and channels it toward the ureter, not involved in filtration. So the term that describes the structure containing the glomerulus and Bowman's capsule is the renal corpuscle.

2. Which function is associated with Broca's area in language processing?

- A. Language production**
- B. Vision
- C. Balance
- D. Hearing

Broca's area is responsible for language production and speech motor planning. This region, located in the left frontal lobe, organizes the complex movements and sequencing needed to articulate words, shaping syntax and grammar as we speak. When you picture how someone forms a sentence aloud, this area coordinates which words to choose and how to arrange them, plus the precise timing of the mouth, tongue, and vocal cords. That's why damage to Broca's area leads to nonfluent, effortful speech while comprehension can remain relatively intact. The other options don't fit because vision is handled by the occipital lobe, balance by the cerebellum and vestibular pathways, and hearing and understanding language involve Wernicke's area in the temporal lobe and auditory processing networks rather than speech production.

3. Which brain regions are associated with the cerebrum and what are their primary functions?

- A. Frontal lobe: planning and movement; Parietal: somatosensation; Temporal: hearing and memory; Occipital: vision.**
- B. Frontal lobe: hearing; Parietal: vision; Temporal: movement; Occipital: language.
- C. Frontal lobe: balance; Parietal: memory; Temporal: smell; Occipital: taste.
- D. Frontal lobe: language production; Parietal: balance; Temporal: motor control; Occipital: hearing.

The cerebrum is organized into lobes, each with primary roles in processing different kinds of information. The frontal lobe is mainly involved in planning, decision making, and voluntary motor control. The parietal lobe handles somatosensory information like touch, temperature, and proprioception. The temporal lobe processes auditory information and supports memory (and language-related processes). The occipital lobe is the primary center for visual processing. The pairing described matches these core roles: planning and movement with the frontal lobes, somatosensation with the parietal lobes, hearing and memory with the temporal lobes, and vision with the occipital lobe. Other options mix up these associations—for example, attributing hearing to the frontal lobe or vision to the parietal lobe—so this combination best reflects the typical primary functions of the cerebrum's lobes.

4. Which division of the autonomic nervous system dominates during rest and digestion?

- A. Sympathetic
- B. Parasympathetic**
- C. Somatic
- D. Central

During rest and digestion, parasympathetic activity dominates. This branch of the autonomic nervous system promotes calming, energy storage, and digestive processes. It slows the heart rate, increases gastrointestinal motility and secretions, stimulates saliva and pancreatic juice, and constricts pupils. Its neurons release acetylcholine at both preganglionic and postganglionic synapses, producing these restorative effects. The sympathetic division, by contrast, prepares the body for action by increasing heart rate and diverting blood to muscles, reducing digestion. The somatic system handles voluntary control of skeletal muscles, and the central nervous system refers to the brain and spinal cord, not a functional division in this context. So the rest-and-digest state is governed by the parasympathetic division.

5. Which part of the nephron is primarily involved in filtration of blood?

- A. Proximal tubule
- B. Glomerulus**
- C. Collecting duct
- D. Loop of Henle

Filtration of blood occurs at the glomerulus, a tuft of capillaries inside the renal corpuscle. The barrier there—fenestrated capillary endothelium, a porous basement membrane, and podocyte filtration slits—allows water and small solutes to pass into Bowman's capsule while keeping back blood cells and most proteins. This filtrate then moves downstream to the tubules for reabsorption and secretion. The proximal tubule, loop of Henle, and collecting duct mainly handle reabsorption and processing of the filtrate, not the initial filtration step. So the glomerulus is the site responsible for filtering blood.

6. Which statement best describes negative feedback?

- A. Accelerates the actions of the body
- B. Is Always Short-Lived
- C. Examples include blood clotting and childbirth
- D. Prevents Sudden, Severe Changes in the Body**

Negative feedback maintains stability by counteracting deviations from a set point. When a value strays from normal, sensors detect the change and a control center activates effectors to reverse it, and once things are back in range, the response dampens or stops. This keeps body conditions from swinging wildly, preventing sudden, severe changes. Think of temperature regulation: if you get too hot, sweating and vasodilation help lower it; if you get too cold, shivering and vasoconstriction help raise it. Glucose control works similarly with insulin lowering blood sugar and glucagon raising it to keep levels steady. The example given—blood clotting and childbirth—is actually positive feedback, which amplifies a change rather than opposing it, so it's not how negative feedback operates.

7. Which connective tissue function is to provide support and protection?

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

Connective tissue provides support and protection. It forms the framework that holds structures in place, shields delicate organs with protective capsules, and stores energy or cushions tissues as needed. Its extracellular matrix gives it strength and resilience, as seen in bone and cartilage. In contrast, epithelial tissue mainly lines surfaces and forms barriers, muscle tissue is for generating force and movement, and nervous tissue handles signaling. So, the function described—providing support and protection—fits connective tissue best.

8. Which acid activates pepsinogen to form pepsin in the stomach?

- A. Nitric acid.
- B. Acetic acid.
- C. Hydrochloric acid.**
- D. Sulfuric acid.

Activation of pepsinogen to pepsin hinges on an extremely acidic environment. In the stomach, hydrochloric acid from parietal cells creates a highly acidic milieu (very low pH). This acidic setting induces pepsinogen, the inactive precursor from chief cells, to undergo a change that reveals its active site and allows it to become pepsin. Pepsin can also help activate more pepsinogen, speeding up protein digestion in the stomach. Other acids like nitric acid, acetic acid, or sulfuric acid aren't produced in the stomach for this purpose and wouldn't provide the specific gastric conditions needed to convert pepsinogen into pepsin.

9. Which quadrant contains the splenic flexure of the colon?

- A. Right Lower Quadrant
- B. Left Upper Quadrant**
- C. Right Upper Quadrant
- D. Left Lower Quadrant

Understanding where organs sit in the four abdominal quadrants helps locate the splenic flexure. The splenic flexure, or left colic flexure, is the bend between the transverse and descending colon and sits near the spleen. The spleen is located in the left upper quadrant beneath the left ribs, with the stomach nearby in the same quadrant. Therefore, the splenic flexure is in the left upper quadrant. (The other quadrants contain different structures—right upper has liver and gallbladder, left lower has much of the descending and sigmoid colon, etc.—so they don't match the splenic flexure's location.)

10. What is the sequence that leads to skeletal muscle relaxation after contraction, and what is ATP's role?

- A. Calcium is pumped back into the sarcoplasmic reticulum by Ca^{2+} -ATPase; troponin-tropomyosin blocks actin; cross-bridges detach; ATP is required for detachment and relaxation.**
- B. Calcium remains in cytosol; troponin detaches; cross-bridges continue; no ATP required.
- C. Myosin releases calcium into blood; actin binds permanently; ATP not used.
- D. Sodium channels depolarize; muscle relaxes spontaneously; ATP not involved.

Relaxation happens when Ca^{2+} is removed from the cytosol and the contractile machinery is shut off again. The Ca^{2+} that triggered contraction is pumped back into the sarcoplasmic reticulum by the Ca^{2+} -ATPase pump, which uses ATP for this transport. As cytosolic Ca^{2+} falls, Ca^{2+} dissociates from troponin C, allowing the troponin-tropomyosin complex to return to its blocking position over the actin filaments. With those binding sites blocked, the myosin heads can no longer form strong cross-bridges, and any existing cross-bridges detach. Detachment of myosin from actin requires ATP, which provides the energy to release the cross-bridge and reset the myosin head for a potential next cycle. Thus, ATP is essential both for pumping Ca^{2+} back into the SR and for the detachment of cross-bridges during relaxation.

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://holesanatomyphysiology.examzify.com>

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

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