

HEALTH SCIENCE I – ANATOMY, PHYSIOLOGY, AND MEDICAL CONDITIONS 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 muscle is located on the anterior of the upper leg?**
 - A. Quadriceps
 - B. Hamstrings
 - C. Calf
 - D. Gluteus maximus
- 2. The triangular-shaped divisions of the medulla of the kidney are called?**
 - A. Calyces
 - B. Lobes
 - C. Pyramids
 - D. Columns
- 3. Which bone in the leg is the kneecap?**
 - A. Tibia
 - B. Femur
 - C. Fibula
 - D. Patella
- 4. What does the root word 'chondro' mean?**
 - A. Cartilage
 - B. Bone
 - C. Muscle
 - D. Nerve
- 5. Which body cavity holds the urinary bladder?**
 - A. Abdominal cavity
 - B. Pelvic cavity
 - C. Cranial cavity
 - D. Thoracic cavity
- 6. Where is the optic disc located?**
 - A. Retina
 - B. Cornea
 - C. Iris
 - D. Lens

- 7. Which STI presents with painful urination and may have no symptoms in females?**
- A. Chlamydia
 - B. Herpes
 - C. Gonorrhea
 - D. Syphilis
- 8. Which hormone is associated with the body's fight-or-flight response?**
- A. Melatonin
 - B. Adrenaline
 - C. Insulin
 - D. Cortisol
- 9. What health condition may a healthcare worker be at risk for after a contaminated needle?**
- A. Hepatitis C
 - B. HIV
 - C. Influenza
 - D. Hepatitis B
- 10. Which body plane divides the body into front and back halves?**
- A. Frontal plane
 - B. Coronal plane
 - C. Sagittal plane
 - D. Transverse plane

Answers

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

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Explanations

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1. Which muscle is located on the anterior of the upper leg?

- A. Quadriceps
- B. Hamstrings
- C. Calf
- D. Gluteus maximus

The main concept is the location of muscles on the front of the thigh. The muscle group that sits on the anterior upper leg is the quadriceps femoris, often simply called the quadriceps. This group consists of four muscles that run along the front of the thigh and are the primary extensors of the knee (and, for the rectus femoris, also assist with hip flexion). The other options don't fit the location: the hamstrings are on the back of the thigh and flex the knee; the calf is in the lower leg near the ankle; and the gluteus maximus is in the buttock region, far from the upper anterior thigh.

2. The triangular-shaped divisions of the medulla of the kidney are called?

- A. Calyces
- B. Lobes
- C. Pyramids
- D. Columns

Renal pyramids are the triangular-shaped divisions of the medulla. Their broad bases face the cortex and their pointed tips, called papillae, project toward the renal pelvis. These pyramids house the structures that concentrate and conduct urine, such as the loops of Henle and collecting ducts, guiding urine down to the papilla and into the calyces. The tissue between pyramids forms the renal columns, which are extensions of cortex that separate the pyramids. In this context, the other terms refer to different renal structures: calyces are urine-collecting chambers, columns are the cortical tissue separating pyramids, and a lobe encompasses one pyramid plus its overlying cortex.

3. Which bone in the leg is the kneecap?

- A. Tibia
- B. Femur
- C. Fibula
- D. Patella

The kneecap is the patella. It's a small, flat bone sitting at the front of the knee, embedded in the quadriceps tendon as a sesamoid bone. This placement lets the patella act like a pulley, increasing the leverage of the quadriceps muscle so extending the knee becomes more efficient. The patella glides within a groove on the femur (the trochlear groove) as the knee flexes and extends, and its posterior surface is covered with cartilage to reduce friction against the femur. The other bones listed—tibia (shinbone), fibula (calf bone), and femur (thigh bone)—are not the kneecap.

4. What does the root word 'chondro' mean?

A. Cartilage

B. Bone

C. Muscle

D. Nerve

Chondro denotes cartilage—the flexible connective tissue that covers joint surfaces and forms parts of structures like the ear and nose. This root shows up in terms such as chondrocyte (a cell inside cartilage), chondromalacia (cartilage softening or damage, often in the knee), and chondrogenesis (the formation of cartilage). That's why it's the best answer: it directly names cartilage. It's different from bone (osteo-), muscle (myo-), or nerve (neur- or neuro-), which are used for those tissues.

5. Which body cavity holds the urinary bladder?

A. Abdominal cavity

B. Pelvic cavity

C. Cranial cavity

D. Thoracic cavity

The urinary bladder resides in the pelvic cavity. This lower, bony basin shape is the space within the pelvic bones that contains the bladder, part of the rectum, and reproductive organs. The bladder sits just behind the pubic symphysis and, as it fills, it can expand upward toward the abdominal area, but its normal, primary location is the pelvic cavity. This distinction helps differentiate it from organs in the abdominal, thoracic, or cranial cavities, which house different organ systems.

6. Where is the optic disc located?

A. Retina

B. Cornea

C. Iris

D. Lens

The optic disc is located on the retina. It's the point where the nerve fibers from the retina converge to form the optic nerve and exit the eye, creating the natural blind spot because there are no photoreceptors there. This place is on the inner surface of the retina, where blood vessels also enter and exit. The other structures—cornea, iris, and lens—are all in the anterior part of the eye, involved in focusing and regulating light, not the location where the optic nerve connects to the retina.

7. Which STI presents with painful urination and may have no symptoms in females?

- A. Chlamydia
- B. Herpes
- C. Gonorrhea**
- D. Syphilis

Painful urination comes from inflammation of the urethra caused by gonorrhea. Neisseria gonorrhoeae infects mucosal surfaces of the genitourinary tract, leading to dysuria. In women, the infection can be present without noticeable symptoms or only mild signs, so someone may have gonorrhea without obvious problems. That combination—dysuria as a presenting symptom with the possibility of no symptoms in females—best fits this STI. Herpes would more commonly cause painful genital ulcers or vesicles; syphilis primary presents with a painless sore; chlamydia in women is often asymptomatic or presents with discharge rather than specifically painful urination.

8. Which hormone is associated with the body's fight-or-flight response?

- A. Melatonin
- B. Adrenaline**
- C. Insulin
- D. Cortisol

During the fight-or-flight response, the body rapidly readies itself for action by activating the sympathetic nervous system, which triggers the adrenal medulla to release adrenaline (epinephrine). This hormone quickly increases heart rate and the force of contraction, dilates airways, redirects blood to the muscles, and promotes the breakdown of glycogen to raise blood glucose. These rapid changes prepare the body to either confront a threat or flee. Melatonin is for sleep-wake cycles, not acute stress. Insulin lowers blood glucose by promoting uptake into cells, which isn't about mobilizing energy for immediate action. Cortisol supports energy over a longer period and acts more slowly than adrenaline. So adrenaline best fits the immediate fight-or-flight response.

9. What health condition may a healthcare worker be at risk for after a contaminated needle?

- A. Hepatitis C
- B. HIV
- C. Influenza
- D. Hepatitis B**

Exposure to blood via a contaminated needle can transmit bloodborne pathogens. Hepatitis B virus is highly infectious through percutaneous exposure, and vaccination provides strong protection, making HBV the most significant risk to healthcare workers after a needlestick. If exposure occurs in someone who isn't immune, post exposure steps include completing the hepatitis B vaccine series and, in some cases, hepatitis B immune globulin to boost protection. By contrast, HIV can be transmitted by needle-stick but with a lower per exposure risk, and there is a targeted post exposure treatment protocol if indicated. Hepatitis C can also be transmitted through needlesticks but there is no vaccine, so prevention relies on vaccination against HBV and strict infection control practices. Influenza is a respiratory virus and is not transmitted via contaminated needles in the same way.

10. Which body plane divides the body into front and back halves?

- A. Frontal plane
- B. Coronal plane**
- C. Sagittal plane
- D. Transverse plane

Dividing the body into front and back halves is done by the coronal plane, also called the frontal plane. This vertical plane runs from head to feet and separates anterior (front) structures from posterior (back) structures, being perpendicular to the sagittal plane which divides left from right. In contrast, the sagittal plane splits left and right sides, and the transverse plane cuts into upper and lower portions. So the front-and-back division is the coronal/frontal plane.

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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://healthscience1anatomyphysio.examzify.com>

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

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