

GALEN ANATOMY AND PHYSIOLOGY (A&P) 1 THEORY EXAM 2 PRACTICE (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. The cytoskeleton is best described as

- A. A network of fibers that holds the cell together, helps the cell to keep its shape, and aids in movement
- B. The outer boundary of the cell
- C. The fluid inside the nucleus
- D. A group of ribosomes attached to the rough endoplasmic reticulum

2. Non-membranous organelles are not isolated from the cytosol.

- A. True
- B. False
- C. Sometimes
- D. Not applicable

3. Which statement is true about primary tissue types?

- A. The four primary tissue types are epithelial, connective, muscle, and nervous
- B. Three primary tissue types exist
- C. Epithelial tissue lacks vascularization
- D. All tissues are composed of cells

4. Once epidermal cells reach the stratum corneum, how long do they typically remain there before shedding replaces them?

- A. 1 day
- B. 1 week
- C. 1 month
- D. 2 weeks

5. Dendrites are described as?

- A. Carry outgoing messages
- B. Line ventricles with CSF
- C. Contains the nucleus
- D. Branches off of the cell body

- 6. Which organelle receives vesicles from the Rough ER and is the main site of protein modification and sorting before final destinations?**
- A. Golgi apparatus
 - B. Lysosome
 - C. Peroxisome
 - D. Mitochondrion
- 7. Cytosine pairs with which base?**
- A. Adenine
 - B. Thymine
 - C. Guanine
 - D. Uracil
- 8. Which of the following are accessory structures of the integumentary system?**
- A. Hair, Nails, Exocrine glands
 - B. Epidermis and Dermis
 - C. Blood vessels and nerves
 - D. Sweat glands only
- 9. Where is the subpapillary plexus located?**
- A. In the subcutaneous layer
 - B. In the epidermis only
 - C. Along the border of the epidermis and dermis
 - D. In the hair follicle
- 10. Which cells degranulate during tissue injury releasing histamine and heparin?**
- A. Mast cells
 - B. Fibroblasts
 - C. Neurons
 - D. Macrophages

Answers

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

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Explanations

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1. The cytoskeleton is best described as

- A. A network of fibers that holds the cell together, helps the cell to keep its shape, and aids in movement**
- B. The outer boundary of the cell
- C. The fluid inside the nucleus
- D. A group of ribosomes attached to the rough endoplasmic reticulum

The cytoskeleton is a dynamic internal framework made of protein filaments that runs throughout the cytoplasm. This network gives the cell its shape and mechanical strength, helping it resist deformation and maintain integrity. It also serves as tracks for movement and transport, with motor proteins carrying cargo along actin filaments and microtubules, which enables intracellular organization and cell locomotion. In addition, the cytoskeleton positions and anchors organelles and plays a key role in cell division by forming structures like the spindle apparatus. It's not the outer boundary of the cell (that's the plasma membrane), nor is it the fluid inside the nucleus (the nucleoplasm), nor a cluster of ribosomes on the rough endoplasmic reticulum.

2. Non-membranous organelles are not isolated from the cytosol.

- A. True**
- B. False
- C. Sometimes
- D. Not applicable

Non-membranous organelles are not isolated from the cytosol because they lack a surrounding lipid membrane. Without a barrier, these structures—such as ribosomes, proteasomes, and components of the cytoskeleton—reside directly in the cytosol and can exchange molecules, ions, and information with the cytosolic environment immediately. This contrasts with membranous organelles (like mitochondria, ER, Golgi, lysosomes, and the nucleus), whose membranes create separate internal compartments and regulate what enters or leaves. So the lack of a membrane means they remain in direct contact with the cytosol, making the statement true.

3. Which statement is true about primary tissue types?

- A. The four primary tissue types are epithelial, connective, muscle, and nervous**
- B. Three primary tissue types exist
- C. Epithelial tissue lacks vascularization
- D. All tissues are composed of cells

Classification into four primary tissue types defines how we categorize the tissues that form organs and body structures. The four main categories are epithelial, connective, muscle, and nervous tissue, and this grouping is the foundational way we describe tissue structure and function in anatomy and physiology. The statement that there are three primary tissue types would miss one of these essential categories, so it isn't correct. The fact that epithelial tissue lacks vascularization describes a property of a specific tissue type, not the count or arrangement of primary tissue types as a group. And while it's true that all tissues are composed of cells, that's a general cell-theory point and doesn't directly address how many primary tissue types exist. So the four-tissue classification best captures what's being asked about primary tissue types.

4. Once epidermal cells reach the stratum corneum, how long do they typically remain there before shedding replaces them?

- A. 1 day
- B. 1 week
- C. 1 month
- D. 2 weeks**

Epidermal turnover and shedding timing. New keratinocytes originate in the deepest layer, move up through the epidermis, and become corneocytes in the outermost stratum. Once they reach the stratum corneum, they remain there for about two weeks before desquamation replaces them. This two-week dwell time fits with the overall roughly one-month cycle of epidermal renewal. So, the most accurate duration is about two weeks.

5. Dendrites are described as?

- A. Carry outgoing messages
- B. Line ventricles with CSF
- C. Contains the nucleus
- D. Branches off of the cell body**

Dendrites are the input arms of a neuron, designed to receive signals from other neurons or sensory receptors. Their branched structure increases surface area for synaptic contacts, which is why they're described as branches off of the cell body. They don't carry outgoing messages—that's the axon's job. The nucleus sits in the cell body, not in the dendrites, and ventricles are lined by ependymal cells, not dendrites. So describing dendrites as branches off the cell body best matches their form and role in neuronal communication.

6. Which organelle receives vesicles from the Rough ER and is the main site of protein modification and sorting before final destinations?

- A. Golgi apparatus**
- B. Lysosome
- C. Peroxisome
- D. Mitochondrion

Proteins synthesized on the rough endoplasmic reticulum are carried in transport vesicles to the Golgi apparatus, which serves as the main processing and sorting center for these proteins. Inside the Golgi, proteins undergo post-translational modifications—such as glycosylation, and sometimes trimming, sulfation, or phosphorylation—and are then packaged into different vesicles based on their final destinations. The cis face receives the incoming vesicles, and the trans face, especially the trans-Golgi network, directs them to secretion outside the cell, incorporation into the plasma membrane, or delivery to lysosomes. This central role in modification and precise trafficking is what makes the Golgi apparatus the correct choice. The other organelles have different primary functions: lysosomes are degradative compartments; peroxisomes handle fatty acid breakdown and detoxification; mitochondria generate ATP and manage their own protein import, rather than acting as the main hub for secretory protein sorting.

7. Cytosine pairs with which base?

- A. Adenine
- B. Thymine
- C. Guanine
- D. Uracil

Base pairing follows complementary rules: cytosine forms three hydrogen bonds with guanine, a purine–pyrimidine pairing that helps maintain the uniform width of the DNA double helix. That specific pairing is what makes cytosine pair with guanine. In DNA, adenine pairs with thymine (two hydrogen bonds), and in RNA, adenine pairs with uracil. So cytosine pairs with guanine, not with adenine, thymine, or uracil.

8. Which of the following are accessory structures of the integumentary system?

- A. Hair, Nails, Exocrine glands
- B. Epidermis and Dermis
- C. Blood vessels and nerves
- D. Sweat glands only

Integumentary system accessories are the structures that extend beyond the skin's two main layers to perform protective, regulatory, and maintenance roles. Hair and nails are such derivatives, providing protection and fine-tuned function at surfaces like the scalp and fingertips. Exocrine glands, including sweat and sebaceous glands, secrete substances onto the skin or hair shaft to keep skin moisturized and help regulate temperature. Together, these components—hair, nails, and exocrine glands—are the accessory structures of the integumentary system because they are not the skin layers themselves but the additional features derived from them. The epidermis and dermis are the skin's primary layers, not accessories. Blood vessels and nerves are essential parts of the dermis, supporting sensation and circulation within the skin, but they aren't accessory structures. Sweating glands alone omit hair and nails, so they don't capture the full set of accessories.

9. Where is the subpapillary plexus located?

- A. In the subcutaneous layer
- B. In the epidermis only
- C. Along the border of the epidermis and dermis
- D. In the hair follicle

The subpapillary plexus is found in the upper dermis, just beneath the epidermal-dermal boundary, along the border where the epidermis meets the dermis. This position places capillary loops close enough to the epidermis to supply nutrients and oxygen to the avascular epidermis through diffusion, and it helps with heat transfer to the surface. It's not located in the deeper subcutaneous layer, not within the epidermis itself, and not exclusively inside a hair follicle—hair follicles receive their blood supply from vessels in the surrounding dermis.

10. Which cells degranulate during tissue injury releasing histamine and heparin?

A. Mast cells

B. Fibroblasts

C. Neurons

D. Macrophages

Mast cells are the resident sentinels in connective tissue that store histamine and heparin in their granules. When tissue is injured, they degranulate and release these mediators into the local tissue. Histamine rapidly widens nearby blood vessels and increases vascular permeability, causing the familiar redness, warmth, and swelling of acute inflammation. Heparin acts as an anticoagulant locally, helping to keep the area fluid and facilitating immune cells' access to the site. Fibroblasts, neurons, and macrophages don't release histamine and heparin from granules in this injury-related degranulation process; fibroblasts are involved in repair by making extracellular matrix, neurons transmit signals, and macrophages focus on phagocytosis and cytokine 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://galenaandp1theory2.examzify.com>

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

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