# ANATOMY AND PHYSIOLOGY II (APII) EXAM 2 PRACTICE TEST (SAMPLE)

## STUDY GUIDE

## SAMPLE STUDY GUIDE WITH LIMITED QUESTIONS

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# Table of Contents

# 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

**1. Which force is directly proportional to blood flow?**

A. Resistance.

B. Viscosity.

C. Capillary hydrostatic pressure.

D. Pressure.

**2. Which immature blood cell is typically found in circulating blood?**

A. Erythroblasts

B. Normoblasts

C. Reticulocytes

D. Megaloblasts

**3. Plasma cells and what do they secrete?**

A. Enzymes

B. Antibodies

C. Hormones

D. Cytokines

**4. What connects the pulmonary and aortic trunks?**

A. Ductus arteriosus

B. Ductus venosus

C. Foramen ovale

D. Umbilical vein

**5. Name the three elastic arteries that deliver blood to the head, neck, shoulders, and upper limbs.**

A. Brachiocephalic trunk, left common carotid artery, left subclavian artery

B. Right common carotid artery, right subclavian artery, left vertebral artery

C. Internal carotid arteries, external carotid arteries, vertebral arteries

D. Ascending aorta, descending aorta, abdominal aorta

**6. Through which vessel does blood exit the heart after passing through the aortic valve?**

A. Pulmonary artery

B. Superior vena cava

C. Ascending aorta

D. Inferior vena cava

**7. How is cardiac output calculated?**

A. CO = HR + SV

B. CO = EDV - ESV

C. CO = SV / HR

D. CO = HR x SV

**8. Which valve is located between the right atrium and the right ventricle?**

A. Mitral valve

B. Aortic valve

C. Tricuspid valve

D. Pulmonary valve

**9. What parts of the body receive blood from the subclavian artery?**

A. Arms, chest wall, shoulders, back, and CNS

B. Legs and feet

C. Digestive tract

D. Face and neck only

**10. What is positive chemotaxis?**

A. Draws WBCs toward chemical signals produced by pathogens

B. Stimulates WBC to produce antibodies

C. Guides WBCs to invading pathogens

D. Repairs tissue by WBCs

# Answers

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

# Explanations

## 1. Which force is directly proportional to blood flow?

A. Resistance.

B. Viscosity.

C. Capillary hydrostatic pressure.

D. Pressure.

*The driving force behind blood flow is the pressure gradient across the vessels. Blood flow rises in direct proportion to the difference between the arterial and venous pressures (ΔP) when resistance remains constant, as captured by the equation Q  ΔP / R. In other words, increasing the pressure gradient pushes more blood through, while changes in viscosity or vessel characteristics alter flow mainly by changing resistance. Capillary hydrostatic pressure affects exchange locally, but the overall flow through a vascular bed follows the pressure gradient: higher pressure difference means higher flow.*

## 2. Which immature blood cell is typically found in circulating blood?

A. Erythroblasts

B. Normoblasts

C. Reticulocytes

D. Megaloblasts

*Immature red blood cells that can be found circulating in the blood are reticulocytes. During erythropoiesis, cells progress from early precursors in the bone marrow to a stage where the nucleus is expelled. Once the nucleus is gone, the cell becomes a reticulocyte and is released into the bloodstream, where it continues to mature into a fully mature red blood cell over the next day or two. Reticulocytes still contain some residual RNA, which is why they can be identified with special stains and are typically slightly larger than mature erythrocytes. In healthy individuals, only a small fraction of circulating red cells are reticulocytes, reflecting normal bone marrow activity. Erythroblasts and normoblasts are earlier marrow precursors and usually stay in the marrow, while megaloblasts are large abnormal precursors seen in certain anemias; they are not normally circulating under standard conditions.*

## 3. Plasma cells and what do they secrete?

A. Enzymes

B. Antibodies

C. Hormones

D. Cytokines

*Plasma cells are specialized B cells that actively produce and secrete antibodies (immunoglobulins). After encountering an antigen and receiving help from T cells, B cells differentiate into plasma cells that churn out large amounts of a single antibody type. These antibodies travel through body fluids to bind their specific antigens on pathogens or toxins, neutralizing them and helping other parts of the immune system clear infections. Enzymes are proteins that catalyze chemical reactions, hormones are endocrine signals traveling through the bloodstream to distant targets, and cytokines are signaling molecules coordinating immune responses. The defining product of plasma cells is antibodies, making them the best answer.*

## 4. What connects the pulmonary and aortic trunks?

A. Ductus arteriosus

B. Ductus venosus

C. Foramen ovale

D. Umbilical vein

*In fetal circulation, the ductus arteriosus directly links the pulmonary trunk to the aorta. This shunt lets most blood bypass the nonfunctional lungs and enter the systemic circulation, delivering well-oxygenated blood to the body. After birth, it constricts and becomes the ligamentum arteriosum. The other structures have different roles: the foramen ovale connects the right and left atria to bypass the fetal lungs at the atrial level; the ductus venosus shunts blood from the umbilical vein to the inferior vena cava; and the umbilical vein carries oxygenated blood from the placenta to the fetus.*

## 5. Name the three elastic arteries that deliver blood to the head, neck, shoulders, and upper limbs.

A. Brachiocephalic trunk, left common carotid artery, left subclavian artery

B. Right common carotid artery, right subclavian artery, left vertebral artery

C. Internal carotid arteries, external carotid arteries, vertebral arteries

D. Ascending aorta, descending aorta, abdominal aorta

*The three elastic arteries that branch off the aortic arch and supply the head, neck, shoulders, and upper limbs are the major vessels coming directly from the arch: the brachiocephalic trunk, the left common carotid artery, and the left subclavian artery. These are elastic arteries, built to handle the high-pressure surge from the heart, and they route blood to the regions you mentioned. The brachiocephalic trunk is the first arch branch on the right and quickly divides into the right common carotid and right subclavian arteries, supplying the right side of the head/neck and the right upper limb. The left common carotid supplies the left side of the head and neck, and the left subclavian supplies the left upper limb. The other options either involve arteries that are not direct branches from the arch, or arteries that are not elastic arteries, or arteries in regions outside the head/neck/upper limbs.*

## 6. Through which vessel does blood exit the heart after passing through the aortic valve?

A. Pulmonary artery

B. Superior vena cava

C. Ascending aorta

D. Inferior vena cava

*Blood leaves the heart by the left ventricle pushing through the aortic valve into the ascending aorta. The aortic valve sits at the exit of the left ventricle, and the first vessel that receives this ejected blood is the ascending aorta, which then conveys it into the arch and the rest of the systemic circulation. The other vessels have different roles: the pulmonary artery carries blood from the right ventricle to the lungs, while the superior and inferior vena cavae return blood to the right atrium. So the ascending aorta is the vessel that immediately carries blood away after the aortic valve.*

## 7. How is cardiac output calculated?

A. CO = HR + SV

B. CO = EDV - ESV

C. CO = SV / HR

D. CO = HR x SV

*Cardiac output is the amount of blood the heart pumps per minute, determined by how often the heart beats and how much blood is ejected with each beat. The amount ejected per beat is the stroke volume, which equals end-diastolic volume minus end-systolic volume. Multiply heart rate (beats per minute) by stroke volume (mL per beat) to get cardiac output (mL per minute): CO = HR × SV. For example, with a heart rate of about 70 beats per minute and a stroke volume of about 70 mL per beat, CO ≈ 4900 mL/min (roughly 5 L/min). The other expressions don't match the units or the physiological meaning: adding HR and SV would be incorrect, EDV – ESV gives stroke volume, and SV divided by HR would not yield a flow rate.*

## 8. Which valve is located between the right atrium and the right ventricle?

A. Mitral valve

B. Aortic valve

C. Tricuspid valve

D. Pulmonary valve

*The valve between the right atrium and the right ventricle is the tricuspid valve, the right atrioventricular valve. It has three leaflets and opens to allow blood to flow from the atrium into the ventricle during diastole. As the right ventricle contracts, the leaflets close to prevent blood from flowing back into the atrium. The other valves are located elsewhere: the mitral valve sits between the left atrium and left ventricle; the aortic valve lies between the left ventricle and the aorta; the pulmonary valve lies between the right ventricle and the pulmonary artery.*

## 9. What parts of the body receive blood from the subclavian artery?

A. Arms, chest wall, shoulders, back, and CNS

B. Legs and feet

C. Digestive tract

D. Face and neck only

*Subclavian arteries mainly supply structures of the upper body: the entire upper limb, parts of the chest wall and shoulder region, and even areas of the back. They give off branches like the vertebral arteries that ascend to form the brain's posterior circulation, so they also contribute to the central nervous system's blood supply. That combination—arms, chest wall, shoulders, back, and CNS via the vertebrobasilar system—fits the distribution of the subclavian arteries. In contrast, the legs and feet get their blood from arteries branching off the aorta into the abdominal and pelvic regions, not the subclavian. The digestive tract is fed by the celiac trunk and mesenteric arteries, not the subclavian. The face is mainly supplied by the carotid arteries, with only some neck regions receiving blood from subclavian branches, so "face and neck only" isn't the full picture.*

## 10. What is positive chemotaxis?

A. Draws WBCs toward chemical signals produced by pathogens

B. Stimulates WBC to produce antibodies

C. Guides WBCs to invading pathogens

D. Repairs tissue by WBCs

*Positive chemotaxis is the movement of white blood cells toward higher concentrations of a chemical attractant. In the immune response, neutrophils and other leukocytes detect chemoattractants such as bacterial products and inflammatory mediators and migrate along the chemical gradient to the site of infection. This makes the idea of guiding white blood cells to invading pathogens the best description, because it captures the purpose of chemotaxis: drawing defense cells toward the source of infection to neutralize it. The other options describe different immune activities: producing antibodies is about activating the adaptive response rather than movement; tissue repair involves other processes and cells, not the chemotactic migration itself; and while some signals can come from pathogens, the core idea is the directed movement toward the pathogens themselves.*

# 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://ap2exam2.examzify.com

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