Ivy Tech Anatomy and Physiology II (APHY 102) Heart Practice Test (Sample)

Study Guide

BY EXAMZIFY

Everything you need from our exam experts!

Sample study guide. For the full version with hundreds of questions, visit:
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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.

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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!

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Questions

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1. Which structure is primarily involved in preventing AV valve prolapse by connecting leaflets to ventricular walls?

A. Chordae tendinae

B. Papillary muscle

C. Interventricular septum

D. Pectinate muscle

2. Trabeculae Carneae are muscular ridges located in which chamber of the heart?

A. Left Pulmonary Artery

B. Left Common Carotid Artery

C. Trabeculae Carneae

D. Right Ventricle

3. When the ventricles begin to contract, what happens to the AV valves and later to the semilunar valves?

A. AV valves close, semilunar valves open

B. AV valves open, semilunar valves close

C. AV valves close, semilunar valves close

D. AV valves open, semilunar valves open

4. Which fibers spread action potentials through gap junctions to all ventricular cardiomyocytes, coordinating ventricular contraction?

A. Purkinje fibers

B. SA node

C. AV node

D. Fibrous skeleton

5. Which artery carries blood to the left lung?

A. Left Pulmonary Artery

B. Left Common Carotid Artery

C. Anterior Interventricular Artery

D. Ascending Aorta

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6. Which vessel returns deoxygenated blood from the lower body to the right atrium?

A. Inferior Vena Cava

B. Superior Vena Cava

C. Ascending Aorta

D. Pulmonary Trunk

7. Which valve lies between the left atrium and left ventricle?

A. Bicuspid valve

B. Tricuspid valve

C. Pulmonary semilunar valve

D. Chordae tendinae

8. Which vessel returns oxygenated blood from the left lung to the left atrium?

A. Left Pulmonary Vein

B. Right Pulmonary Artery

C. Left Coronary Artery

D. Superior Vena Cava

9. Which artery runs in the anterior interventricular sulcus and supplies the anterior wall of the heart?

A. Left Pulmonary Artery

B. Left Common Carotid Artery

C. Anterior Interventricular Artery

D. Great Cardiac Vein

10. What conducts impulses from the AV node toward the ventricles and toward the apex?

A. Atrioventricular bundle

B. Bundle branches

C. Purkinje fibers

D. SA node

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Answers

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

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Explanations

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1. Which structure is primarily involved in preventing AV valve prolapse by connecting leaflets to ventricular walls?

A. Chordae tendinae

B. Papillary muscle

C. Interventricular septum

D. Pectinate muscle

Chordae tendineae are the fibrous cords that tether the valve leaflets of the mitral and tricuspid valves to the papillary muscles on the ventricular walls. When the ventricle contracts, the papillary muscles pull on these cords to tense the leaflets, preventing them from bulging back into the atria and thus preventing prolapse. In this system, the papillary muscles act as the muscular anchors, while the chordae tendineae are the actual connections that keep the leaflets aligned and closed during systole. The interventricular septum and pectinate muscles are not involved in this tethering mechanism.

2. Trabeculae Carneae are muscular ridges located in which chamber of the heart?

A. Left Pulmonary Artery

B. Left Common Carotid Artery

C. Trabeculae Carneae

D. Right Ventricle

Trabeculae carneae are muscular ridges lining the inner walls of the ventricles. They help to maintain ventricular wall shape during contraction, prevent suction that could cause the walls to collapse, and provide attachment points for papillary muscles that support the heart valves. The right ventricle is particularly noted for a pronounced trabeculated inner surface and includes the moderator band, which carries part of the conduction system. Because the question asks which chamber contains these ridges, the right ventricle is the best choice, recognizing that both ventricles have trabeculae carneae but the right ventricle is especially characteristic. The other options are vessels or the term itself, not a heart chamber.

3. When the ventricles begin to contract, what happens to the AV valves and later to the semilunar valves?

A. AV valves close, semilunar valves open

B. AV valves open, semilunar valves close

C. AV valves close, semilunar valves close

D. AV valves open, semilunar valves open

When the ventricles start contracting, the pressure inside them rises quickly and pushes the atrioventricular valves closed, preventing blood from flowing back into the atria. This marks the isovolumetric contraction phase, where all valves are momentarily closed. As ventricular pressure continues to rise and exceeds the pressure in the arteries, the semilunar valves open, allowing blood to be ejected into the aorta and pulmonary trunk.

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4. Which fibers spread action potentials through gap junctions to all ventricular cardiomyocytes, coordinating ventricular contraction?

A. Purkinje fibers

B. SA node

C. AV node

D. Fibrous skeleton

The spreading of the ventricular action potential through gap junctions to every cardiomyocyte to produce a synchronized ventricular squeeze is accomplished by the Purkinje fibers. These specialized conducting fibers form a fast, low-resistance network that runs through the subendocardial layer and connects to the ventricular muscle mass. Because they have abundant gap junctions and highly specialized conduction properties, Purkinje fibers transmit impulses rapidly throughout the ventricles, ensuring nearly simultaneous activation of all ventricle cells and a coordinated contraction. The SA node sets the pace, the AV node introduces a delay to optimize filling, and the fibrous skeleton mainly provides insulation and structural support rather than conducting impulses, so they do not spread the signal to the ventricular myocardium.

5. Which artery carries blood to the left lung?

A. Left Pulmonary Artery

B. Left Common Carotid Artery

C. Anterior Interventricular Artery

D. Ascending Aorta

The main concept is how the pulmonary circulation delivers blood to the lungs. Blood leaves the heart to the lungs through the pulmonary arteries, which are the vessels that carry blood to each lung for gas exchange. The left pulmonary artery specifically travels to the left lung, delivering deoxygenated blood from the right side of the heart to that lung. In contrast, the left common carotid artery supplies blood to the head and neck, the anterior interventricular artery is a coronary vessel supplying the heart itself, and the ascending aorta distributes blood to the systemic circulation, not directly to the lungs.

6. Which vessel returns deoxygenated blood from the lower body to the right atrium?

A. Inferior Vena Cava

B. Superior Vena Cava

C. Ascending Aorta

D. Pulmonary Trunk

Blood from the lower body returns to the heart through the inferior vena cava, a large vein that drains deoxygenated blood from the pelvis, abdomen, and legs and empties it into the right atrium. From there, blood moves on to the right ventricle and then to the lungs for oxygenation. The superior vena cava handles the upper body, the ascending aorta carries oxygen-rich blood away from the heart, and the pulmonary trunk carries deoxygenated blood from the right ventricle to the lungs. So the vessel that returns deoxygenated blood from the lower body to the right atrium is the inferior vena cava.

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7. Which valve lies between the left atrium and left ventricle?

A. Bicuspid valve

B. Tricuspid valve

C. Pulmonary semilunar valve

D. Chordae tendinae

The valve between the left atrium and left ventricle is the bicuspid valve, also called the mitral valve. It has two cusps and is tethered by chordae tendineae to papillary muscles, which helps prevent the valve from flapping backward into the atrium when the left ventricle contracts. The other structures mentioned aren't between the left atrium and left ventricle: the tricuspid valve lies between the right atrium and right ventricle; the pulmonary semilunar valve sits at the exit of the right ventricle into the pulmonary artery; and chordae tendineae are the string-like structures that support valve leaflets, not a valve themselves.

8. Which vessel returns oxygenated blood from the left lung to the left atrium?

A. Left Pulmonary Vein

B. Right Pulmonary Artery

C. Left Coronary Artery

D. Superior Vena Cava

Oxygenated blood from the lungs returns to the heart through the pulmonary veins, which lead into the left atrium. From the left lung, the left pulmonary vein carries the oxygen-rich blood into the left atrium, delivering it for systemic circulation. In contrast, the right pulmonary artery carries blood to the lungs (and is deoxygenated), the left coronary artery supplies the heart tissue itself, and the superior vena cava returns deoxygenated blood from the upper body to the right atrium. So the vessel that returns oxygenated blood from the left lung to the left atrium is the left pulmonary vein.

9. Which artery runs in the anterior interventricular sulcus and supplies the anterior wall of the heart?

A. Left Pulmonary Artery

B. Left Common Carotid Artery

C. Anterior Interventricular Artery

D. Great Cardiac Vein

The main concept is the coronary artery that travels in the anterior interventricular sulcus to supply the front of the heart. The artery that sits in that groove and provides arterial blood to the anterior wall of the heart (the left ventricle) is known as the anterior interventricular artery, also called the left anterior descending (LAD) artery. It runs along the front surface in that sulcus and gives branches to the anterior wall and the interventricular septum. Other options don't fit: the left pulmonary artery is part of the pulmonary circulation and doesn't run in that sulcus. The left common carotid artery supplies the head and neck, not the heart. The great cardiac vein travels in the same groove but is a vein, not an artery, draining blood from the heart back toward the coronary sinus.

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10. What conducts impulses from the AV node toward the ventricles and toward the apex?

A. Atrioventricular bundle

B. Bundle branches

C. Purkinje fibers

D. SA node

The main pathway transmitting impulses from the AV node down into the ventricles and toward the apex is the atrioventricular bundle (bundle of His). This bundle carries the signal from the AV node into the lower conducting system and into the interventricular septum, where it splits into the right and left bundle branches that race toward the apex. From there, the Purkinje fibers quickly distribute the impulse through the ventricular myocardium to produce coordinated contraction. The SA node sets the pace in the atria, not the conduit to the ventricles, and while Purkinje fibers play a crucial role in distribution within the ventricles, the initial highway from the AV node to the ventricles is the AV bundle.

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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://ivytechaphy102heart.examzify.com

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

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