NCLEX Cardiovascular System Practice Test (Sample)

Study Guide

Everything you need from our exam experts!

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. If a significant portion of the heart is deprived of circulation, what may be required?

- **A. Lifestyle modification only**
- **B. Surgical intervention may be necessary to restore circulation**
- **C. No treatment is needed**
- **D. Medication alone is always sufficient**

2. Collateral circulation is defined as what?

- **A. The development of alternate pathways for blood supply when major arteries are blocked**
- **B. The narrowing of arteries due to plaque**
- **C. Increased ventricular contraction**
- **D. Delayed conduction in the myocardium**

3. The inferior vena cava carries deoxygenated blood from the lower body to which chamber of the heart?

- **A. Right atrium**
- **B. Left atrium**
- **C. Right ventricle**
- **D. Pulmonary artery**

4. Which structures prevent valve cusps from everting during ventricular contraction?

- **A. Papillary muscles**
- **B. Chordae tendineae**
- **C. Aortic valve leaflets**
- **D. Interventricular septum**

5. What are semilunar valves?

- **A. Valves located at the exits of the heart that prevent backflow of blood**
- **B. Valves between the atria and ventricles**
- **C. Valves within veins**
- **D. Valves controlling blood flow into the heart**

6. From the common iliac artery, what arteries arise?

- **A. Internal and External Iliac Arteries**
- **B. Anterior Tibial and Posterior Tibial Arteries**
- **C. Lumbar and Sacral Arteries**
- **D. Phrenic and Hepatic Arteries**

7. What is the function of the tricuspid valve?

- **A. To regulate flow from the left atrium to the left ventricle.**
- **B. To prevent backflow of blood from the right ventricle to the right atrium.**
- **C. To prevent backflow of blood from the pulmonary artery to the right ventricle.**
- **D. To regulate blood flow from the right atrium into the right ventricle.**

8. What is the function of the great cardiac vein?

- **A. It drains blood from the anterior heart surface.**
- **B. It drains blood from the posterior heart surface.**
- **C. It carries oxygenated blood to the heart muscle.**
- **D. It drains blood from the brain.**

9. What is preload?

- **A. The initial stretching of the cardiac muscle fibers prior to contraction.**
- **B. The resistance the heart must overcome to eject blood during systole.**
- **C. The amount of blood remaining in the ventricles after contraction.**
- **D. The electrical activity of the heart.**

10. Chordae tendineae connect valve leaflets to which structures?

- **A. Papillary muscles**
- **B. Aortic arch**
- **C. Interventricular septum**
- **D. Endocardial lining**

Answers

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

Explanations

1. If a significant portion of the heart is deprived of circulation, what may be required?

A. Lifestyle modification only

B. Surgical intervention may be necessary to restore circulation

C. No treatment is needed

D. Medication alone is always sufficient

When a large area of the heart isn't getting blood, restoring blood flow often requires procedures that physically reopen or bypass blocked vessels. Medications can help manage symptoms and prevent further clotting, but they may not adequately restore perfusion to a substantial myocardial area. Lifestyle changes won't rapidly improve circulation in an acute, significant ischemic situation. Procedures to revascularize—such as coronary artery bypass grafting or percutaneous coronary intervention—may be necessary to restore circulation to the affected heart tissue and minimize damage. Prompt reperfusion is crucial because saving heart muscle improves outcomes, and after revascularization, ongoing medical therapy supports healing and prevents future events.

2. Collateral circulation is defined as what?

A. The development of alternate pathways for blood supply when major arteries are blocked

B. The narrowing of arteries due to plaque

C. Increased ventricular contraction

D. Delayed conduction in the myocardium

Collateral circulation is the body's ability to maintain blood flow to a region by creating alternate pathways when a major artery is blocked. In the heart, small vessels can enlarge and connect to bypass a blocked coronary artery, ensuring tissue still receives oxygenated blood. This adaptive process helps preserve perfusion and can limit ischemia, especially when occlusion develops gradually. This concept differs from plaque buildup narrowing arteries, which is about the process of atherosclerosis reducing vessel diameter. It also isn't about how hard the heart contracts or about electrical conduction problems, which affect strength of pump or rhythm, respectively.

3. The inferior vena cava carries deoxygenated blood from the lower body to which chamber of the heart?

A. Right atrium

B. Left atrium

C. Right ventricle

D. Pulmonary artery

The main idea is where systemic venous return goes into the heart. The inferior vena cava brings deoxygenated blood from the lower body and drains directly into the right atrium. From there, blood moves into the right ventricle and then to the lungs for oxygenation. The left atrium, by contrast, receives oxygenated blood from the lungs, and the pulmonary artery carries blood away from the heart to the lungs, not into the heart. So, the chamber that receives blood from the inferior vena cava is the right atrium.

4. Which structures prevent valve cusps from everting during ventricular contraction?

A. Papillary muscles

B. Chordae tendineae

C. Aortic valve leaflets

D. Interventricular septum

During ventricular contraction the valves between the atria and ventricles must stay closed to prevent backflow. The chordae tendineae attach each valve cusp to papillary muscles inside the ventricle. As the ventricle contracts, the papillary muscles pull on these cords, keeping the cusps taut and preventing them from flipping upward into the atria. This tethering preserves one-way flow and resists cusp prolapse. If the chordae are damaged or rupture, the cusps can prolapse and cause regurgitation. The papillary muscles help by pulling on the cords, but the direct restraint comes from the chordae tendineae. The aortic valve leaflets and the interventricular septum don't perform this function.

5. What are semilunar valves?

A. Valves located at the exits of the heart that prevent backflow of blood

B. Valves between the atria and ventricles

C. Valves within veins

D. Valves controlling blood flow into the heart

Semilunar valves are the valves at the exits of the heart—the aortic valve where the left ventricle times blood into the aorta and the pulmonic valve where the right ventricle sends blood into the pulmonary artery. Their job is to prevent backflow of blood into the ventricles after they contract. When the ventricle contracts, pressure pushes blood through these valves and they open; as the ventricle relaxes and pressure falls, the cusps fill and snap shut to stop blood from flowing backward. They're not located between the atria and ventricles (that's the atrioventricular valves), not inside veins (vein valves prevent backflow in the vessels, but semilunar valves regulate flow out of the heart), and they don't control blood flow into the heart (that's governed by venous return and the atrioventricular valves).

6. From the common iliac artery, what arteries arise?

A. Internal and External Iliac Arteries

B. Anterior Tibial and Posterior Tibial Arteries

C. Lumbar and Sacral Arteries

D. Phrenic and Hepatic Arteries

From the common iliac artery, two branches arise: the internal iliac artery and the external iliac artery. The internal iliac travels into the pelvis to supply pelvic organs and the gluteal region, while the external iliac continues downward and becomes the femoral artery after crossing beneath the inguinal ligament, supplying the lower limb. Other arteries listed belong to different regions: leg arteries come from the femoral/popliteal system, most lumbar and sacral arteries originate from the aorta or specific pelvic branches, and phrenic and hepatic arteries arise from the aorta or celiac trunk rather than directly from the common iliac.

7. What is the function of the tricuspid valve?

A. To regulate flow from the left atrium to the left ventricle.

B. To prevent backflow of blood from the right ventricle to the right atrium.

C. To prevent backflow of blood from the pulmonary artery to the right ventricle.

D. To regulate blood flow from the right atrium into the right ventricle.

The main idea is unidirectional flow between the right atrium and right ventricle. The tricuspid valve sits between these chambers and opens to let blood move from the right atrium into the right ventricle during filling. It then closes as the ventricle contracts to prevent blood from flowing backward into the atrium. This one-way function is its primary role in the heart's rhythm and flow. To put it in context, the left-sided counterpart (the mitral valve) serves the same purpose between the left atrium and left ventricle, while the pulmonary valve prevents backflow from the pulmonary artery into the right ventricle. Saying it simply regulates flow from the right atrium into the right ventricle is true in a sense, but the most critical function is preventing backflow from the ventricle to the atrium during systole.

8. What is the function of the great cardiac vein?

A. It drains blood from the anterior heart surface.

B. It drains blood from the posterior heart surface.

C. It carries oxygenated blood to the heart muscle.

D. It drains blood from the brain.

The great cardiac vein is responsible for draining the anterior surface of the heart. It runs in the anterior interventricular sulcus with the left anterior descending artery and collects venous blood from the areas supplied by the left coronary artery, mainly the anterior portion of the left ventricle and parts of the right ventricle and interventricular septum. This blood then flows into the coronary sinus, which empties into the right atrium. Remember, veins carry deoxygenated blood back to the heart, not oxygenated blood, and they do not drain the brain.

9. What is preload?

A. The initial stretching of the cardiac muscle fibers prior to contraction.

B. The resistance the heart must overcome to eject blood during systole.

C. The amount of blood remaining in the ventricles after contraction.

D. The electrical activity of the heart.

Preload is the initial stretch of the ventricular muscle fibers just before they contract. It depends on how much blood fills the ventricles during diastole (the end-diastolic volume) and the pressure with which the ventricle fills, which is largely a result of venous return. This stretch sets the starting length of the cardiac muscle fibers and influences the strength of the subsequent contraction through the Frank-Starling mechanism: more preload means the fibers are stretched closer to their optimal length, so the heart can pump more vigorously and increase stroke volume, within physiological limits. Preload is different from afterload, which is the pressure the ventricle must overcome to eject blood during systole; it is not about how much blood remains after contraction (that's end-systolic volume) and it does not describe the electrical activity of the heart. Clinically, preload is reflected by filling pressures such as central venous pressure or LV end-diastolic volume. High preload indicates more filling (often fluid overload), while low preload suggests underfilling (dehydration or hemorrhage). So preload is the initial stretching of the cardiac muscle fibers prior to contraction.

10. Chordae tendineae connect valve leaflets to which structures?

A. Papillary muscles

B. Aortic arch

C. Interventricular septum

D. Endocardial lining

Chordae tendineae anchor the leaflets of the atrioventricular valves to the papillary muscles within the ventricles. This connection keeps the valve cusps taut when the heart contracts, preventing them from flipping back into the atria (prolapse) and thus avoiding regurgitation. The papillary muscles contract in coordination with the ventricles to maintain tension on the chordae during systole, ensuring one-way flow. The aortic arch is part of the arterial system, not involved in anchoring valve leaflets. The interventricular septum is the wall between the ventricles, and the endocardial lining is the inner surface of the heart chambers—neither serves as the attachment point for the leaflets.

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://nclexcardiovascularsys.examzify.com

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