

# NCLEX Cardiovascular System Practice Test (Sample)

## Study Guide



**Everything you need from our exam experts!**

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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. 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.**
  
- 2. The initial bifurcation of the common iliac artery yields which pair?**
  - A. Internal and External Iliac Arteries**
  - B. Superior and Inferior Gluteal Arteries**
  - C. Deep Circumflex Iliac and Obturator Arteries**
  - D. Gastroduodenal and Right Gastric Arteries**
  
- 3. 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**
  
- 4. 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**
  
- 5. What is one role of the fibrous pericardium?**
  - A. Anchors the heart in the mediastinum and prevents overfilling.**
  - B. Pumps blood through the circulatory system.**
  - C. Produces the heart sounds.**
  - D. Forms the heart valves.**

- 6. The common iliac artery distributes into which arteries?**
- A. Internal and External Iliac Arteries**
  - B. Renal and Gonadal Arteries**
  - C. Celiac and Superior Mesenteric Arteries**
  - D. Femoral and Popliteal Arteries**
- 7. Which heart chambers serve as receiving centers for blood?**
- A. Atria**
  - B. Ventricles**
  - C. Aorta**
  - D. Pulmonary trunk**
- 8. What is the function of the pericardium?**
- A. Surrounds and protects the heart**
  - B. Pumps blood**
  - C. Regulates heartbeat**
  - D. Stores blood**
- 9. What changes occur in the cardiovascular system with aging?**
- A. Decreased elasticity of blood vessels, increased blood pressure, and potential heart valve issues**
  - B. Decreased blood volume**
  - C. Increased heart rate**
  - D. Decreased cholesterol levels**
- 10. What is the primary function of the cardiovascular system?**
- A. Transportation of gases, nutrients, hormones, and wastes throughout the body**
  - B. Regulation of digestion and nutrient absorption**
  - C. Protection against infection and disease**
  - D. Storage of minerals and vitamins**

## **Answers**

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

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## **Explanations**

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## 1. 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.

## 2. The initial bifurcation of the common iliac artery yields which pair?

- A. Internal and External Iliac Arteries**
- B. Superior and Inferior Gluteal Arteries**
- C. Deep Circumflex Iliac and Obturator Arteries**
- D. Gastroduodenal and Right Gastric Arteries**

The common iliac arteries divide into two main branches: the internal iliac and the external iliac. The internal iliac (hypogastric) artery supplies pelvic organs and adjacent structures, while the external iliac continues down to become the femoral artery after passing beneath the inguinal ligament. This makes the internal and external iliac arteries the correct result of the initial bifurcation. The other vessels listed come from different origins (branches of the internal iliac or from the celiac trunk) and are not the immediate split of the common iliac.

### 3. 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).

### 4. 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.

### 5. What is one role of the fibrous pericardium?

- A. Anchors the heart in the mediastinum and prevents overfilling.**
- B. Pumps blood through the circulatory system.**
- C. Produces the heart sounds.**
- D. Forms the heart valves.**

The fibrous pericardium serves as a sturdy, outer sac that provides structural support for the heart. It anchors the heart in the mediastinum and helps keep it in place as you move and as surrounding structures shift with breathing. It also limits how much the heart can stretch when venous return increases, preventing overfilling and protecting the heart from distension. This combination of anchoring and restraint is its defining role, which is why this description fits best. Remember, pumping blood is done by the heart muscle (myocardium), heart sounds come from valve closures and blood flow, and valves are formed by endocardial tissue, not the fibrous pericardium.

**6. The common iliac artery distributes into which arteries?**

- A. Internal and External Iliac Arteries**
- B. Renal and Gonadal Arteries**
- C. Celiac and Superior Mesenteric Arteries**
- D. Femoral and Popliteal Arteries**

The route of the common iliac arteries is to split into two branches: an internal iliac and an external iliac. The internal iliac remains in the pelvis to supply pelvic organs and surrounding structures, while the external iliac continues forward, passes beneath the inguinal ligament, and becomes the femoral artery to supply the lower limb. This is why the common iliac artery distributes into internal and external iliac arteries. Renal and gonadal arteries branch directly from the abdominal aorta, not from the common iliac. The celiac and superior mesenteric arteries are also major abdominal branches higher up the aorta. The femoral and popliteal arteries are downstream segments—the femoral artery arises from the external iliac after it passes under the inguinal ligament, and the popliteal artery is a continuation behind the knee, not a direct division of the common iliac.

**7. Which heart chambers serve as receiving centers for blood?**

- A. Atria**
- B. Ventricles**
- C. Aorta**
- D. Pulmonary trunk**

The receiving chambers are the atria. They collect blood returning to the heart from the body and lungs: the right atrium receives systemic venous return via the superior and inferior vena cavae (and coronary sinus), while the left atrium receives oxygenated blood from the lungs via the pulmonary veins. Blood then moves from the atria into the ventricles through the atrioventricular valves. The ventricles are the pumping chambers that send blood out through the major arteries—the aorta to the body and the pulmonary trunk to the lungs. So, since the question asks which chambers serve as receiving centers for blood, the atria are the correct choice.

**8. What is the function of the pericardium?**

- A. Surrounds and protects the heart**
- B. Pumps blood**
- C. Regulates heartbeat**
- D. Stores blood**

The pericardium's job is to surround and protect the heart. It forms a fibrous sac around the heart and a serous inner lining that creates a small amount of lubricating fluid. This setup keeps the heart properly positioned in the chest, reduces friction with each beat, and limits how much the heart can stretch when venous return is high. Pumping blood is the job of the heart muscle itself (the myocardium), while regulating heartbeat comes from the heart's electrical conduction system and autonomic input. Storing blood isn't a function of the pericardium.

**9. What changes occur in the cardiovascular system with aging?**

- A. Decreased elasticity of blood vessels, increased blood pressure, and potential heart valve issues**
- B. Decreased blood volume**
- C. Increased heart rate**
- D. Decreased cholesterol levels**

Aging primarily affects the cardiovascular system by making blood vessels stiffer and by increasing the workload on the heart. Arteries lose elasticity as structural changes occur in the vessel walls (more collagen, less elastin, sometimes calcification). That stiffness raises systolic blood pressure and often widens the pulse pressure because the aorta and large arteries don't expand as well during each heartbeat. Over time, this higher afterload can contribute to changes in the heart muscle, such as hypertrophy or reduced filling during diastole. Valves can also become thicker and calcified with age, increasing the likelihood of valve dysfunction like aortic stenosis or mitral valve issues. These vascular and valvular changes together explain why aging commonly presents with higher blood pressure and potential heart valve problems. In contrast, blood volume is not a defining age-related change, heart rate tends to have a reduced maximal response rather than increase at rest, and cholesterol levels typically rise with age rather than decrease. The described pattern of arterial stiffening with concomitant blood pressure rise and possible valve calcification best matches aging.

**10. What is the primary function of the cardiovascular system?**

- A. Transportation of gases, nutrients, hormones, and wastes throughout the body**
- B. Regulation of digestion and nutrient absorption**
- C. Protection against infection and disease**
- D. Storage of minerals and vitamins**

The main function of the cardiovascular system is to move substances through the body by circulating blood. The heart pumps blood via vessels to deliver oxygen and nutrients to all tissues, remove carbon dioxide and other wastes, and carry hormones to their target organs. Blood also transports immune cells and helps regulate body temperature and pH, supporting overall homeostasis. Digestion is handled by the digestive system, protection against infection is primarily the immune system, and storage of minerals and vitamins occurs in bones, liver, and other tissues, not in the cardiovascular system.

## 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](mailto: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!**

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