

CARDIAC TESTING PRACTICE EXAM (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. What should be done to address a poor prep leading to artifact during an ECG?**
 - A. Inspect and clean the skin
 - B. Re-run the ECG immediately
 - C. Document the issues noted
 - D. Remove the ECG leads
- 2. Which component of an ECG traces the electrical activity in the atria during contraction?**
 - A. P wave
 - B. ST segment
 - C. T wave
 - D. QT interval
- 3. Which two heart murmurs are commonly evaluated with an echocardiogram?**
 - A. Aortic regurgitation and tricuspid stenosis
 - B. Aortic stenosis and mitral regurgitation
 - C. Mitral stenosis and ventricular septal defect
 - D. Aortic stenosis and pulmonary embolism
- 4. What role does echocardiography play in cardiac assessments?**
 - A. Measuring heart rate
 - B. Observing heart structure and function
 - C. Performing catheterization
 - D. Monitoring blood pressure
- 5. What does the ST segment represent in the context of ventricular function?**
 - A. Delay of atrial contraction
 - B. Initiation of ventricular contraction
 - C. Early phase of ventricular repolarization
 - D. Normal time from depolarization to repolarization

- 6. What is the main purpose of calculating the PR interval?**
- A. To measure atrial contraction
 - B. To reflect the delay in conduction through the AV node
 - C. To indicate ventricular depolarization
 - D. To measure heart rate
- 7. Which of the following conditions is commonly associated with ST-segment abnormalities?**
- A. Heart valve disorders
 - B. Myocardial ischemia
 - C. Cardiac arrest
 - D. Atrial fibrillation
- 8. How is the severity of coronary artery disease evaluated?**
- A. By assessing the degree of stenosis during angiography
 - B. By measuring blood pressure during exercise
 - C. Through a patient's family medical history
 - D. By conducting a physical examination alone
- 9. What is the outcome when impulses travel toward a negative electrode?**
- A. Upward deflection
 - B. Flat tracing
 - C. Downward deflection
 - D. No deflection
- 10. What is typically the cause of a wandering baseline artifact?**
- A. Inconsistent contact with the skin
 - B. Patient movement
 - C. Empty ECG leads
 - D. Device malfunction

Answers

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

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Explanations

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1. What should be done to address a poor prep leading to artifact during an ECG?

- A. Inspect and clean the skin**
- B. Re-run the ECG immediately
- C. Document the issues noted
- D. Remove the ECG leads

To effectively address a poor prep leading to artifact during an ECG, inspecting and cleaning the skin is essential. Artifacts often arise from poor electrode contact due to sweat, oil, or dead skin cells on the skin surface. When the electrodes do not adhere well, they can pick up noise, leading to misleading readings on the ECG. By inspecting the skin, you can identify areas that may need cleaning, and by properly preparing the skin—such as shaving hair, using alcohol swabs, or applying conductive gel—you can ensure better electrode adhesion and reduce the potential for artifact. The other choices may not effectively resolve the issue at hand. Re-running the ECG immediately may still result in similar artifacts if the skin is not adequately prepared. Documenting the issues is important for record-keeping, but it doesn't directly address the root cause of the artifact. Removing the ECG leads would only interrupt the ongoing test without rectifying the underlying problem of poor skin preparation. Thus, cleaning the skin is the fundamental first step in ensuring an accurate and clear ECG reading.

2. Which component of an ECG traces the electrical activity in the atria during contraction?

- A. P wave**
- B. ST segment
- C. T wave
- D. QT interval

The P wave is the component of an ECG that specifically represents the electrical activity associated with the contraction (depolarization) of the atria. When the sinoatrial (SA) node generates an electrical impulse, it triggers the atrial muscle cells to depolarize, leading to atrial contraction. This depolarization is visualized as the P wave on the ECG. In contrast, the ST segment, T wave, and QT interval represent different phases of the cardiac cycle. The ST segment reflects the period between ventricular depolarization and repolarization, while the T wave indicates ventricular repolarization. The QT interval encompasses the time from the beginning of ventricular depolarization to the end of ventricular repolarization. None of these components specifically relate to the electrical activity of the atria during contraction as the P wave does.

3. Which two heart murmurs are commonly evaluated with an echocardiogram?

- A. Aortic regurgitation and tricuspid stenosis
- B. Aortic stenosis and mitral regurgitation**
- C. Mitral stenosis and ventricular septal defect
- D. Aortic stenosis and pulmonary embolism

Both aortic stenosis and mitral regurgitation are common heart murmurs that are typically assessed with an echocardiogram due to the significant clinical implications associated with these conditions. An echocardiogram is a valuable non-invasive imaging technique that provides detailed visualization of cardiac structures and function, which is essential for diagnosing and evaluating these murmurs. Aortic stenosis arises from a narrowed aortic valve, leading to increased pressure in the left ventricle and reduced blood flow to the aorta. An echocardiogram can measure the severity of the stenosis, assess the left ventricular function, and evaluate for any potential complications, such as left ventricular hypertrophy. Mitral regurgitation occurs when the mitral valve does not close properly, allowing blood to flow backward into the left atrium during ventricular contraction. Echocardiography can help determine the severity of the regurgitation, measure the size of the left atrium, and assess the left ventricular function as a result of the volume overload caused by the backflow of blood. In contrast, the other options either include murmurs less commonly evaluated with echocardiography or conditions that do not primarily manifest as heart murmurs. For instance, tricuspid stenosis is not

4. What role does echocardiography play in cardiac assessments?

- A. Measuring heart rate
- B. Observing heart structure and function**
- C. Performing catheterization
- D. Monitoring blood pressure

Echocardiography is a vital diagnostic tool in cardiac assessments, primarily utilized to observe heart structure and function. This non-invasive imaging technique employs ultrasound waves to create detailed images of the heart. It allows healthcare providers to evaluate the size, shape, and motion of the heart's chambers and valves, and assess how well the heart is pumping blood. Through echocardiography, clinicians can detect various heart conditions such as valve diseases, cardiomyopathies, and congenital heart defects, as well as monitor the effectiveness of ongoing treatments. This rich visual information is essential for forming accurate diagnoses and making informed decisions regarding patient care and management strategies. While other options mention relevant aspects of cardiovascular health, they do not pertain specifically to the capabilities provided by echocardiography. For example, measuring heart rate, performing catheterization, and monitoring blood pressure are important, but these functions do not capture the comprehensive structural and functional insights provided by an echocardiogram.

5. What does the ST segment represent in the context of ventricular function?

- A. Delay of atrial contraction
- B. Initiation of ventricular contraction
- C. Early phase of ventricular repolarization**
- D. Normal time from depolarization to repolarization

The correct answer is rooted in the fundamental understanding of the cardiac cycle and the electrocardiogram (ECG) waveform. The ST segment specifically represents the early phase of ventricular repolarization. During this phase, the ventricles are transitioning from depolarization to repolarization after they have contracted. To elaborate, after the QRS complex (which signifies the depolarization of the ventricles leading to contraction), the ST segment follows. It indicates a period where the cardiac muscle cells are in a plateau phase, which is crucial for allowing the heart to contract effectively and then relax. This phase is important for maintaining the heart's output and rhythmic function. Therefore, any deviations in the ST segment can signify issues such as ischemia or myocardial infarction, as changes in this segment reflect alterations in the balance of electrical activity during the repolarization process. The other options refer to different phases of the cardiac cycle or electrical activity. The delay of atrial contraction pertains to the PR interval, the initiation of ventricular contraction relates to the QRS complex, and the normal time from depolarization to repolarization involves the entire length of the QT interval. However, the ST segment is specifically critical for understanding early repolarization right after ventricular

6. What is the main purpose of calculating the PR interval?

- A. To measure atrial contraction
- B. To reflect the delay in conduction through the AV node**
- C. To indicate ventricular depolarization
- D. To measure heart rate

The PR interval is an essential component of the electrocardiogram (ECG) that represents the time duration between the onset of atrial depolarization and the onset of ventricular depolarization. The main purpose of calculating the PR interval is to reflect the delay in conduction through the AV (atrioventricular) node. During the cardiac cycle, when the electrical impulse generated from the sinoatrial (SA) node reaches the AV node, there is a brief delay that allows for the atria to contract and complete filling of the ventricles before they begin to contract. This delay is critical for proper cardiac function, ensuring that the ventricles receive adequate blood volume before they pump. If the PR interval is prolonged, it may indicate issues such as first-degree heart block, where the conduction through the AV node is slowed. Thus, the PR interval serves not just as a timeframe, but as an important marker for assessing the efficiency of electrical conduction within the heart, particularly through the AV node.

7. Which of the following conditions is commonly associated with ST-segment abnormalities?

- A. Heart valve disorders
- B. Myocardial ischemia**
- C. Cardiac arrest
- D. Atrial fibrillation

ST-segment abnormalities are often indicative of myocardial ischemia, which occurs when there is a reduction in blood flow to the heart muscle. This condition can result from various issues, such as coronary artery disease, where the arteries become narrowed and cannot supply sufficient oxygen-rich blood to the heart. During ischemia, changes in the electrical activity of the heart can lead to characteristic alterations on the electrocardiogram (ECG), specifically T-wave inversions, ST-segment elevation, or depression. In contrast, while heart valve disorders might lead to symptoms affecting cardiac function, they are less directly associated with recognizable ST-segment changes on an ECG. Cardiac arrest involves a cessation of effective heart activity, which may be reflected in ECG findings, but these findings are usually more acute and different in nature compared to ischemic changes. Atrial fibrillation primarily affects heart rhythm and can lead to a variety of irregular ECG patterns, but it does not typically cause specific ST-segment abnormalities relating to ischemia. Thus, myocardial ischemia is most closely linked to the presence of ST-segment changes on an ECG, making it the condition that best fits the question regarding ST-segment abnormalities.

8. How is the severity of coronary artery disease evaluated?

- A. By assessing the degree of stenosis during angiography**
- B. By measuring blood pressure during exercise
- C. Through a patient's family medical history
- D. By conducting a physical examination alone

The severity of coronary artery disease (CAD) is primarily evaluated by assessing the degree of stenosis during angiography. Angiography is a specialized imaging technique that allows clinicians to visualize the coronary arteries and identify areas of narrowing or blockage. The extent of stenosis, which refers to the narrowing of the arteries, is a critical factor in determining how much blood flow is being reduced to the heart muscle. This evaluation helps guide treatment decisions, such as whether a patient may require medication management, further non-invasive testing, or invasive procedures like angioplasty or bypass surgery. While other methods such as measuring blood pressure during exercise or evaluating family medical history can provide supplementary information about a patient's risk or overall health, they do not directly assess the anatomical severity of CAD. Likewise, a physical examination alone may offer limited insights into coronary artery health without the detailed imaging provided by angiography.

9. What is the outcome when impulses travel toward a negative electrode?

- A. Upward deflection
- B. Flat tracing
- C. Downward deflection**
- D. No deflection

When impulses travel toward a negative electrode, the result is a downward deflection on the electrocardiogram (ECG) tracing. This occurs because the ECG machine measures the difference in electrical potential between electrodes. If the electrical wave is moving towards a negative electrode, it indicates that the positive side of the wave is positioned farther away from the negative electrode. Therefore, the resulting graphical representation on the ECG reflects this movement as a downward deflection. In cardiac electrical activity, the positive electrodes register positive deflection when they detect depolarization occurring towards them. Conversely, if the depolarizing wavefront moves towards a negative electrode, the result is a decrease in the electrical potential detected at that electrode, which is visually depicted as a downward mark on the ECG graph. This relationship between the direction of impulse movement and the resultant deflection is fundamental to interpreting heart rhythms and identifying abnormal electrical activity in cardiac testing.

10. What is typically the cause of a wandering baseline artifact?

- A. Inconsistent contact with the skin**
- B. Patient movement
- C. Empty ECG leads
- D. Device malfunction

The wandering baseline artifact in an electrocardiogram (ECG) is primarily caused by inconsistent contact between the electrodes and the skin. When electrodes do not maintain a stable connection, it can lead to fluctuating voltage readings that appear as a drift in the baseline, giving the impression that the heart's electrical activity is fluctuating when there is actually no variance in the heart's rhythm. Factors like oily skin, excessive body hair, or poor electrode placement can contribute to this inconsistency, emphasizing the importance of proper electrode application to ensure reliable data capture during ECG monitoring. While patient movement can create artifacts, these typically manifest as sharp spikes or irregularities rather than a wandering baseline. Empty ECG leads can result in no signal being detected rather than a wavering baseline. Similarly, device malfunction would likely lead to distinct errors or loss of signal instead of a subtle baseline drift. Understanding the origin of wandering baseline artifacts is critical for ensuring accurate cardiac assessments and diagnostics.

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://cardiactesting.examzify.com>

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

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