AMCA ELECTROCARDIOGRAM (EKG) PRACTICE EXAM (SAMPLE)

STUDY GUIDE



SAMPLE STUDY GUIDE WITH LIMITED QUESTIONS

VISIT US ONLINE FOR THE FULL VERSION STUDY GUIDE

https://amcaekg.examzify.com

Copyright © 2026 by Examzify - A Kaluba Technologies Inc. product.

ALL RIGHTS RESERVED.

No part of this book may be reproduced or transferred in any form or by any means, graphic, electronic, or mechanical, including photocopying, recording, web distribution, taping, or by any information storage retrieval system, without the written permission of the author.

Notice: Examzify makes every reasonable effort to obtain accurate, complete, and timely information about this product from reliable sources.

SAMPLE

Table of Contents

Copyright 1

Table of Contents 2

Introduction 3

How to Use This Guide 4

Questions 5

Answers 8

Explanations 10

Next Steps 15

SAMPLE

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.

SAMPLE

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!

SAMPLE

Questions

SAMPLE

1. What does the prefix "gastro" refer to in medical terminology?

A. Heart

B. Small intestine

C. Stomach

D. Liver

2. What is another name for mini strokes?

A. Myocardial infraction

B. Cerebral aneurysms

C. Transient ischemic attack (TIA)

D. Ventricular fibrillation

3. During which phase of the cardiac cycle do the coronary arteries fill?

A. Early Diastole

B. Late Diastole

C. During Systole

D. During Atrial Contraction

4. Which EKG component indicates electrical activity preceding ventricular contraction?

A. QRS complex

B. ST segment

C. P wave

D. T wave

5. In a 12-lead EKG, which leads are placed at the fifth intercostal space at the midclavicular line and at the same level as the mid axillary line?

A. V2 and V5

B. V1 and V4

C. V4 and V6

D. V3 and V6

SAMPLE

6. What body position is best for performing an EKG on a healthy patient?

A. Sitting
B. Standing
C. Supine
D. Prone

7. Each large square in the EKG graph paper represents how much time?

A. 0.10 seconds
B. 0.20 seconds
C. 0.25 seconds
D. 0.50 seconds

8. What critical priority action should be taken for a patient in asystole?

A. Defibrillation
B. Cardiopulmonary resuscitation (CPR)
C. Administration of antiarrhythmics
D. Rapid transport to the hospital

9. What does the T wave represent in an EKG reading?

A. It is normally oriented in the same direction as the preceding QRS complex
B. It indicates atrial depolarization
C. It signifies ventricular systole
D. It represents electrical inactivity in the heart

10. What part of the EKG waveform does the ST segment represent?

A. Recovery phase of ventricles
B. Depolarization of atria
C. Depolarization of ventricles
D. Repolarization of atria

SAMPLE

Answers

SAMPLE

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

SAMPLE

Explanations

SAMPLE

1. What does the prefix "gastro" refer to in medical terminology?

A. Heart

B. Small intestine

C. Stomach

D. Liver

In medical terminology, the prefix "gastro" specifically refers to the stomach. It is derived from the Greek word "gaster," which means stomach. This prefix is commonly used in various medical terms associated with conditions, procedures, or anatomy relating to the stomach, such as gastritis (inflammation of the stomach lining) and gastroscopy (a procedure to visualize the stomach). Understanding this terminology is essential for healthcare professionals as it helps in accurately identifying and communicating about conditions affecting the gastrointestinal system. The other options relate to different parts of the digestive system or organs, but they do not pertain to the stomach, solidifying "gastro" as uniquely and directly linked to that specific organ.

2. What is another name for mini strokes?

A. Myocardial infraction

B. Cerebral aneurysms

C. Transient ischemic attack (TIA)

D. Ventricular fibrillation

Mini strokes are commonly referred to as Transient Ischemic Attacks (TIA). These events occur when there is a temporary blockage of blood flow to the brain, leading to stroke-like symptoms that resolve within a short period, usually less than 24 hours. The distinguishing factor of a TIA is that it does not cause permanent damage to the brain, making it critical for individuals to recognize the symptoms and seek medical attention promptly. Recognizing TIAs is vital, as they can be warning signs for future strokes, hence early intervention and preventive measures can be crucial for patient health outcomes. The other terms listed do not refer to mini strokes; for instance, myocardial infarction denotes a heart attack resulting from a blockage in the arteries supplying blood to the heart muscle. Cerebral aneurysms refer to weak spots in the walls of blood vessels in the brain that can rupture and cause serious complications. Ventricular fibrillation is a serious heart rhythm disturbance that can lead to sudden cardiac arrest.

3. During which phase of the cardiac cycle do the coronary arteries fill?

A. Early Diastole

B. Late Diastole

C. During Systole

D. During Atrial Contraction

The correct answer is early diastole because this is the phase of the cardiac cycle when the heart muscle relaxes, allowing the chambers of the heart to fill with blood. During this relaxation phase, the pressure in the aorta decreases, leading to a pressure gradient that facilitates blood flow into the coronary arteries, which supply the heart muscle with oxygen-rich blood. As the ventricles relax, the aortic valve closes, preventing backflow from the aorta into the ventricles. This closure maintains a pressure in the aorta that allows blood to flow into the coronary arteries. The filling of the coronary arteries primarily occurs during the early diastolic phase since this is when the heart is least contracted and more blood flow is directed towards the coronary arteries to provide adequate oxygenation to muscle tissues. In contrast, during late diastole, while the heart is still filling with blood, much of the coronary perfusion has already occurred. Systole, which is the contraction phase, primarily focuses on ejecting blood from the heart rather than filling the coronary arteries. Atrial contraction occurs towards the end of diastole and aids in filling the ventricles, but it does not play a significant role in the primary filling of the coronary arteries.

SAMPLE

4. Which EKG component indicates electrical activity preceding ventricular contraction?

A. QRS complex

B. ST segment

C. P wave

D. T wave

The P wave represents the electrical activity associated with the depolarization of the atria, which occurs just before the ventricles contract. This initial phase of the cardiac cycle is crucial as it signals that the atria are contracting and pushing blood into the ventricles, setting the stage for ventricular contraction that follows. The P wave is therefore a key indicator of atrial electrical activity and precedes the QRS complex, where the ventricles depolarize and contract. The other components noted in the options serve different purposes in the cardiac cycle. The QRS complex indicates ventricular depolarization, the ST segment represents the period between ventricular depolarization and repolarization, and the T wave reflects ventricular repolarization. Thus, while all these components are interconnected in the EKG, it is the P wave that specifically denotes the electrical activity prior to ventricular contraction.

5. In a 12-lead EKG, which leads are placed at the fifth intercostal space at the midclavicular line and at the same level as the mid axillary line?

A. V2 and V5

B. V1 and V4

C. V4 and V6

D. V3 and V6

The correct response focuses on the placement of the leads on the chest during a standard 12-lead EKG. Specifically, lead V4 is positioned at the fifth intercostal space at the midclavicular line, which is the standard location for this lead as it provides crucial information about the electrical activity from the heart's anterior wall. Lead V6, on the other hand, is placed at the same level as V4 but in the midaxillary line, which is located horizontally across the body at the level of V4 to ensure accurate capture of electrical signals from the heart and to provide comprehensive data regarding heart function and potential abnormalities. The combination of V4 and V6 at these specific anatomical landmarks allows for a thorough representation of the electrical activity of the heart's lateral and anterior aspects. This positioning is key in diagnosing various cardiac conditions, such as ischemia or other abnormalities, by providing a complete view of the heart's performance from different angles. Understanding the anatomical placements of these EKG leads is essential for accurately interpreting the findings, as each lead offers different insights into different areas of the heart.

SAMPLE

6. What body position is best for performing an EKG on a healthy patient?

A. Sitting

B. Standing

C. Supine

D. Prone

The supine position is ideal for performing an EKG on a healthy patient because it allows the patient to be relaxed and at ease, minimizing muscle tension that could interfere with the electrical readings. By lying flat on their back, the patient provides a stable surface that helps to ensure accurate electrode placement and proper contact with the skin. This position also aids in achieving a consistent and clear tracing of the heart's electrical activity. Other positions, such as sitting or standing, may not provide the same level of stability and relaxation, possibly leading to artifacts or noise on the EKG tracing. The prone position, where a patient lies face down, is typically not suitable for an EKG, as it prevents access to the chest area needed for electrode placement. Thus, the supine position is the most appropriate and effective for obtaining a clear EKG reading.

7. Each large square in the EKG graph paper represents how much time?

A. 0.10 seconds

B. 0.20 seconds

C. 0.25 seconds

D. 0.50 seconds

In an electrocardiogram (EKG or ECG), each large square on the graph paper corresponds to 0.20 seconds. This is crucial for measuring heart rhythms and intervals accurately. The EKG paper is typically printed at a speed of 25 mm per second, and since each large square measures 5 mm across, it takes 0.20 seconds to traverse one large square. This measurement is essential for calculating various components of the heart's electrical activity, such as the PR interval, QRS duration, and QT interval, as these can provide critical information regarding cardiac function and potential abnormalities. Understanding this time representation allows clinicians and technicians to assess heart rate and rhythm more efficiently.

8. What critical priority action should be taken for a patient in asystole?

A. Defibrillation

B. Cardiopulmonary resuscitation (CPR)

C. Administration of antiarrhythmics

D. Rapid transport to the hospital

In the context of asystole, which is a state where there is no electrical activity in the heart, the critical priority action is to begin cardiopulmonary resuscitation (CPR). This is essential because CPR helps to maintain blood flow to vital organs, particularly the brain, and increases the chances of reviving the patient. In cases of asystole, there is no effective heart rhythm that can be treated with defibrillation, as defibrillation is intended for shockable rhythms such as ventricular fibrillation or pulseless ventricular tachycardia. Initiating CPR ensures that there is a continued supply of oxygenated blood, which is critical while waiting for further advanced interventions, like the potential administration of medications or advanced airway management. The importance of immediate CPR cannot be overstated, as it is a vital step in the chain of survival for patients experiencing cardiac arrest due to asystole. Thus, prioritizing CPR can significantly influence patient outcomes in life-threatening situations.

SAMPLE

9. What does the T wave represent in an EKG reading?

A. It is normally oriented in the same direction as the preceding QRS complex

B. It indicates atrial depolarization

C. It signifies ventricular systole

D. It represents electrical inactivity in the heart

The T wave in an EKG reading represents the process of ventricular repolarization, which is when the ventricles recover and prepare for the next heartbeat. Normally, the T wave is oriented in the same direction as the preceding QRS complex, reflecting the electrical activity of the heart during the repolarization phase. When the T wave is aligned in this way, it indicates a healthy and coordinated heart rhythm. This alignment signifies that the electrical activity is progressing correctly, allowing the heart chambers to reset after contraction. Other choices do not accurately describe the T wave's function. For instance, while atrial depolarization is represented by the P wave, it is unrelated to the T wave. Additionally, the T wave does not indicate ventricular systole; that phase is reflected in the QRS complex. Lastly, electrical inactivity in the heart is not shown by the T wave; rather, it implies no active electrical activity, which is not the case during this phase of the cardiac cycle.

10. What part of the EKG waveform does the ST segment represent?

A. Recovery phase of ventricles

B. Depolarization of atria

C. Depolarization of ventricles

D. Repolarization of atria

The ST segment of the EKG waveform represents the recovery phase of the ventricles, also known as the early phase of ventricular repolarization. During this phase, the ventricles are transitioning from the state of contraction (systole) to relaxation (diastole). This segment occurs after the QRS complex, which depicts ventricular depolarization, and before the T wave, which illustrates full ventricular repolarization. The ST segment is crucial in determining the heart's electrical stability and can be clinically significant in identifying conditions such as ischemia or myocardial infarction. Changes in the ST segment, such as elevation or depression, can indicate various cardiac issues that may require medical attention. Understanding the significance of the ST segment allows healthcare professionals to analyze the heart's overall electrical activity effectively.

SAMPLE

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://amcaekg.examzify.com

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

SAMPLE