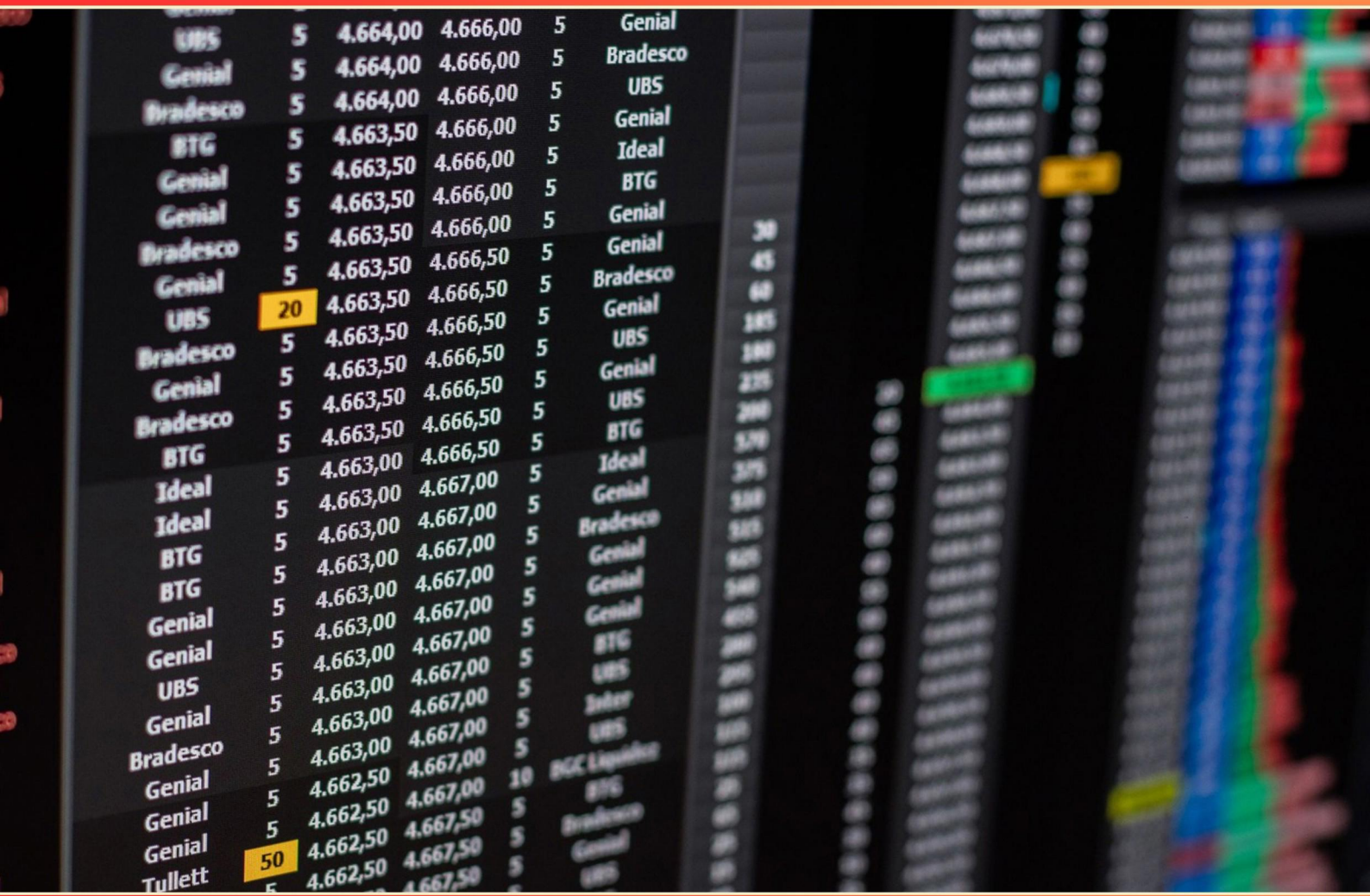
ELECTROPHYSIOLOGY UNIT (EPU) 26.19 PRACTICE TEST (SAMPLE)

STUDY GUIDE



SAMPLE STUDY GUIDE WITH LIMITED QUESTIONS

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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

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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 component is targeted during AVNRT ablation?

A. Slow pathway

B. Fast pathway

C. His bundle

D. Right atrial appendage

2. Regarding PVC QRS morphology, which statement is true?

A. It is always narrow

B. It matches normal QRS in origin

C. It is wide in most leads

D. It occurs only in lead II

3. Which node has the highest intrinsic rate and acts as the heart's natural pacemaker?

A. AV Node

B. Purkinje Network

C. Bundle of His

D. SA Node

4. Where is the spine in a RAO view?

A. On the left of the heart

B. On the right of the heart

C. In front of the heart

D. Behind the heart

5. In AVRT, which pathway shows HIS earliest activation?

A. Left lateral pathways

B. Septal pathways

C. Right lateral pathways

D. Posterior wall

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6. Which term describes pacing that captures the chamber without eliciting a His bundle signal and is distinct from VANERP?

A. VANERP

B. AVNERP

C. AVNERP

D. Noncapture pacing

7. What does CTI stand for?

A. Cavotricuspid Isthmus

B. Coronary Sinus Ostium

C. Cavoatrial Junction

D. Cardiac Tricuspid Interface

8. Which of the following is a potential advantage of ICE imaging when used with EP procedures?

A. It cannot integrate with mapping systems

B. It provides 3D imaging only

C. It can integrate with 3D mapping systems for anatomy accuracy

D. It eliminates the need for fluoroscopy entirely

9. What maps should you create for Aflutter?

A. Activation map and voltage map

B. Isochoric map

C. P-wave map

D. QRS morphology map

10. In VT mapping, what does the isthmus refer to?

A. Slow conduction through an isthmus, a corridor between scar and normal tissue, forming part of the reentrant circuit.

B. A rapid conduction pathway near the AV node.

C. A completely scarred nonconductive area.

D. A normal conduction pathway in the right ventricle.

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Answers

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

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Explanations

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1. Which component is targeted during AVNRT ablation?

A. Slow pathway

B. Fast pathway

C. His bundle

D. Right atrial appendage

AVNRT relies on a reentrant loop that uses two pathways near the AV node: a slow-conducting limb and a fast-conducting limb. In the common slow-fast form, the impulse travels antegrade down the slow pathway and returns retrograde via the fast pathway. Ablation aims to eliminate the slow pathway, disrupting the antegrade limb of the circuit and preventing reentry, which stops the tachycardia. The fast pathway can remain intact to preserve normal AV conduction, and ablation is carefully placed away from the His bundle to avoid complete AV block. The right atrial appendage isn't part of the reentrant circuit, so it isn't targeted.

2. Regarding PVC QRS morphology, which statement is true?

A. It is always narrow

B. It matches normal QRS in origin

C. It is wide in most leads

D. It occurs only in lead II

The key idea is that a premature ventricular contraction originates in the ventricular muscle rather than the normal His–Purkinje system, so its depolarization spreads through the ventricles more slowly. That slower, cell-to-cell spread broadens the QRS complex, giving a wide QRS during the PVC. This broad QRS is typically seen across most ECG leads, often with a morphology resembling a bundle-branch block pattern, and usually longer than 120 ms. Because the impulse starts in the ventricles, the QRS does not match a normal, sinus-origin QRS in timing or pattern, and it isn't limited to a single lead like lead II. It can appear in multiple leads depending on the origin within the ventricle and the heart's axis. So, the statement that the PVC QRS is wide in most leads best captures the key characteristic.

3. Which node has the highest intrinsic rate and acts as the heart's natural pacemaker?

A. AV Node

B. Purkinje Network

C. Bundle of His

D. SA Node

The heart's natural pacemaker is the tissue whose cells depolarize the fastest on their own, setting the pace for the whole heart. The sinoatrial node has the highest intrinsic firing rate, so it regularly initiates impulses fastest among the nodal tissues. Its pacemaker cells undergo spontaneous diastolic depolarization due to the funny current and other ion channel dynamics, reaching threshold sooner than the other nodes. This automatic impulse sets the heart rate and drives the conduction sequence through the AV node, His bundle, and Purkinje system. The AV node has a slower intrinsic rate and mainly acts as a backup pacemaker if the SA node fails, while the Purkinje network is primarily responsible for rapid conduction to the ventricles rather than setting the pace.

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4. Where is the spine in a RAO view?

A. On the left of the heart

B. On the right of the heart

C. In front of the heart

D. Behind the heart

In a right anterior oblique view, the chest is rotated so the right front side is closer to the detector. This oblique angle shifts posterior structures like the spine so that they appear to the left side of the cardiac silhouette on the image. The spine is a posterior structure, and the rotation causes it to project to the left of the heart, helping to identify the orientation of the view.

5. In AVRT, which pathway shows HIS earliest activation?

A. Left lateral pathways

B. Septal pathways

C. Right lateral pathways

D. Posterior wall

During AVRT, the timing of His bundle activation tracks how close the accessory pathway is to the AV node/His system. Septal pathways lie on the interventricular septum right near the AV node and His bundle, so the retrograde impulse traveling through the accessory pathway reaches the atrium in proximity to the His region and makes the His bundle activate earliest. Lateral and posterior pathways are farther from the His bundle, leading to later activation timings. So the pathway that shows the earliest His activation is the septal one.

6. Which term describes pacing that captures the chamber without eliciting a His bundle signal and is distinct from VANERP?

A. VANERP

B. AVNERP

C. AVNERP

D. Noncapture pacing

The key idea here is identifying pacing outcomes based on whether the stimulus captures the heart muscle and whether it also activates the His bundle. When you pace a chamber and you observe a paced response without a His bundle signal, you've achieved chamber capture without engaging the His-Purkinje system. The term that describes this specific situation is AVNERP. It designates pacing that successfully captures the chamber but does not produce a His bundle response, making it distinct from VANERP, which refers to a different pacing behavior related to the His/Purkinje conduction pattern. Noncapture pacing, by contrast, means the stimulus fails to capture the chamber at all, which is not the scenario described.

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7. What does CTI stand for?

A. Cavotricuspid Isthmus

B. Coronary Sinus Ostium

C. Cavoatrial Junction

D. Cardiac Tricuspid Interface

CTI stands for Cavotricuspid Isthmus, the region of the right atrium between the inferior vena cava opening and the tricuspid valve annulus. This area forms the critical slow-conduction path that sustains the typical atrial flutter circuit; catheter ablation across the CTI creates a bidirectional block that interrupts the flutter and often cures the arrhythmia. The other terms refer to different anatomical structures (for example, the coronary sinus ostium is the opening of the coronary sinus into the right atrium, and the cavoatrial junction is where the caval veins meet the atrium) and do not describe the CTI.

8. Which of the following is a potential advantage of ICE imaging when used with EP procedures?

A. It cannot integrate with mapping systems

B. It provides 3D imaging only

C. It can integrate with 3D mapping systems for anatomy accuracy

D. It eliminates the need for fluoroscopy entirely

The main idea here is that ICE imaging can be fused with 3D electroanatomic mapping to improve anatomy accuracy during EP procedures. Real-time intracardiac ultrasound from the catheter provides detailed views of cardiac structures, catheters, and nearby anatomy. When these ICE images are integrated with a 3D map, clinicians can confirm catheter position relative to the true anatomy, verify lesion targets, and avoid critical structures with greater confidence. This combination often enhances navigation and planning beyond what the map or fluoroscopy alone can offer. Other options don't fit as well because ICE can indeed integrate with mapping systems, which is a real and useful advantage. ICE typically provides real-time 2D imaging (with some systems offering 3D capabilities, but it's not the sole feature). While ICE can reduce fluoroscopy exposure, it does not always eliminate it entirely in every case.

9. What maps should you create for Aflutter?

A. Activation map and voltage map

B. Isochoric map

C. P-wave map

D. QRS morphology map

Atrial flutter mapping focuses on the timing and path of atrial activation and the underlying tissue substrate that sustains the circuit. An activation map shows the sequence of electrical activation across the atria, revealing the macro-reentrant loop and identifying the critical slow-conduction areas that ablation targets. A voltage map complements this by highlighting regions of low voltage or scar, which can anchor or shape the flutter circuit. Together, they provide the essential view of both how activation propagates and where the substrate enables that propagation. Mapping surface P waves or QRS morphology isn't as helpful for intracardiac activation patterns in atrial flutter, and while isochronal representations exist, the primary, most informative pair for flutter is activation and voltage mapping.

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10. In VT mapping, what does the isthmus refer to?

A. Slow conduction through an isthmus, a corridor between scar and normal tissue, forming part of the reentrant circuit.

B. A rapid conduction pathway near the AV node.

C. A completely scarred nonconductive area.

D. A normal conduction pathway in the right ventricle.

In VT mapping, the isthmus is a narrow corridor of surviving myocardial tissue that sits between scar and normal tissue and exhibits slow conduction. This slow, channel-like pathway forms a critical part of the reentrant circuit, allowing impulses to travel around the scar and perpetuate VT; interrupting or ablating this isthmus can terminate the arrhythmia. It's not a rapid conduction pathway near the AV node, which would be a different conduction route; it's not a completely scarred nonconductive area, which would block conduction entirely; and it isn't a normal conduction pathway in the right ventricle, since VT circuits in scar-related disease depend on these slow, surviving channels within/around scar tissue.

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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://epu2619.examzify.com

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

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