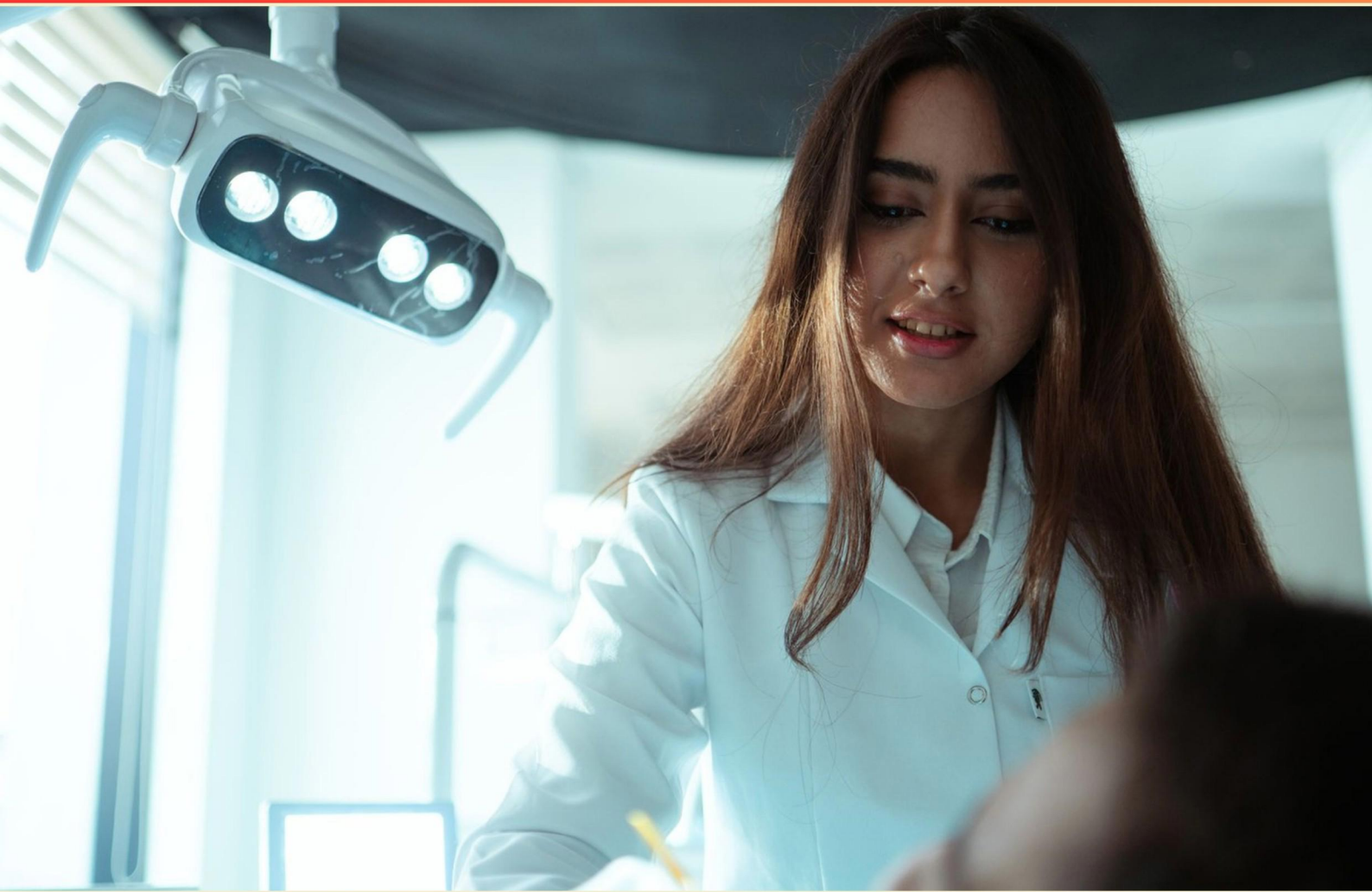


FUNDAMENTALS OF CRITICAL CARE NURSING (FCCN) LEVEL 1 PRACTICE EXAM (SAMPLE) STUDY GUIDE



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 is the equation for mean arterial pressure (MAP)?
 - A. $MAP = SVR \times CO$
 - B. $MAP = CO \times SVR$
 - C. $MAP = CO + SVR$
 - D. $MAP = SVR - CO$
2. How many peripheral intravenous (PIV) sites should be established for a patient with myocardial infarction?
 - A. One
 - B. Two
 - C. Three
 - D. Four
3. What effect does vasodilation have on preload?
 - A. Decreases preload
 - B. Increases preload
 - C. No change in preload
 - D. Increases afterload
4. What happens to diastolic blood pressure when arterioles are dilated?
 - A. It increases
 - B. It decreases
 - C. It remains unchanged
 - D. It fluctuates
5. What is the primary effect of non-dihydropyridine calcium channel blockers?
 - A. Vasodilation without affecting heart rate
 - B. Affect heart contractility
 - C. Block the AV node and help manage arrhythmias
 - D. Increase heart rate significantly

6. What symptom is commonly associated with hypophosphatemia?

- A. Fatigue
- B. Mental confusion
- C. Increased appetite
- D. Elevated heart rate

7. What is the primary effect of positive inotropes on the heart?

- A. Decrease the heart rate
- B. Increase the heart's force of contraction
- C. Reduce blood pressure
- D. Decrease oxygen consumption by the heart

8. What is the normal range for potassium levels?

- A. 2.5 to 3.0 mEq/L
- B. 3.5 to 5.0 mEq/L
- C. 5.0 to 6.5 mEq/L
- D. 1.5 to 2.5 mEq/L

9. Which statement is true regarding negative inotropes?

- A. They increase the heart's contraction force
- B. They decrease the heart's workload
- C. They are used to treat cardiogenic shock
- D. They enhance calcium influx into heart muscle cells

10. Which of the following is NOT a cause of prerenal renal failure?

- A. Dehydration
- B. Acute tubular necrosis
- C. Cognitive impairment
- D. Hypotension

Answers

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

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Explanations

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1. What is the equation for mean arterial pressure (MAP)?

- A. $MAP = SVR \times CO$
- B. $MAP = CO \times SVR$**
- C. $MAP = CO + SVR$
- D. $MAP = SVR - CO$

Mean arterial pressure (MAP) is a critical parameter in assessing the cardiovascular system, particularly in critically ill patients. The correct equation for calculating MAP is derived from the relationship between cardiac output (CO) and systemic vascular resistance (SVR). The equation $MAP = CO \times SVR$ indicates that the mean arterial pressure is influenced by both the blood flow directed by the heart (CO) and the resistance that the blood encounters as it travels through the circulatory system (SVR). A higher cardiac output or systemic vascular resistance results in a higher mean arterial pressure, which is vital for ensuring adequate perfusion to vital organs. Understanding this relationship aids healthcare providers in managing blood pressure and recognizing the implications of changes in either CO or SVR in critically ill patients. This knowledge is essential for making informed decisions about interventions to optimize hemodynamics.

2. How many peripheral intravenous (PIV) sites should be established for a patient with myocardial infarction?

- A. One
- B. Two**
- C. Three
- D. Four

In the context of a patient with a myocardial infarction, establishing two peripheral intravenous (PIV) sites is considered best practice. This approach facilitates rapid access for potential medications and fluids that may be needed urgently during treatment, enabling timely interventions such as the administration of thrombolytics, anticoagulants, and other critical medications. Having two PIV sites is beneficial in emergency situations where swift action is necessary. It provides an additional access point in case one site fails or if a higher volume of fluids or multiple medications needs administration simultaneously. This is especially crucial in a cardiac emergency, where every second counts, and multiple infusions may be required to stabilize the patient's condition. While one PIV site might be adequate in some scenarios, it does not offer the same reassurance and preparedness as having two. When dealing with serious conditions such as myocardial infarction, ensuring robust venous access is a priority for effective management and treatment of the patient's needs.

3. What effect does vasodilation have on preload?

- A. Decreases preload**
- B. Increases preload
- C. No change in preload
- D. Increases afterload

Vasodilation has the effect of decreasing preload. To understand this, it's essential to consider the physiological processes involved in preload and how vasodilation influences venous return to the heart. Preload refers to the amount of blood in the ventricles at the end of diastole, right before the heart contracts. It is influenced significantly by the volume of blood returning to the heart and the state of the blood vessels. When vasodilation occurs, the blood vessels widen, which reduces vascular resistance. This decrease in resistance allows blood to pool in the peripheral circulation instead of returning to the heart efficiently. As a result, the venous return is diminished, leading to a lower volume of blood entering the ventricles. Consequently, this reduction in the volume of blood results in decreased preload. Understanding this relationship is crucial for managing patients in critical care, as preload is a key factor in cardiac output and overall hemodynamic stability.

4. What happens to diastolic blood pressure when arterioles are dilated?

- A. It increases
- B. It decreases**
- C. It remains unchanged
- D. It fluctuates

When arterioles are dilated, diastolic blood pressure typically decreases. This reduction occurs because the dilation of arterioles leads to increased vascular capacitance and a decrease in vascular resistance in the systemic circulation. As resistance decreases, blood is able to flow more freely through the dilated vessels, which in turn lowers the diastolic pressure recorded in the arteries. Diastolic blood pressure is influenced primarily by the resistance the blood encounters as it flows through the arteries during the relaxation phase of the heart cycle. With dilated arterioles, there is less resistance, resulting in a lower pressure during diastole. Understanding this relationship is crucial in managing conditions that relate to blood pressure regulation, as well as in recognizing the physiological responses to various medications or therapeutic interventions that cause vasodilation.

5. What is the primary effect of non-dihydropyridine calcium channel blockers?

- A. Vasodilation without affecting heart rate
- B. Affect heart contractility
- C. Block the AV node and help manage arrhythmias**
- D. Increase heart rate significantly

The primary effect of non-dihydropyridine calcium channel blockers includes their significant ability to block the atrioventricular (AV) node, which is crucial in the management of various types of arrhythmias. By inhibiting calcium influx into cells in the AV node, these medications slow conduction through the node, leading to reduced heart rates and improved heart rhythm control. This mechanism is particularly beneficial in treating conditions such as atrial fibrillation or flutter, where heart rate control is necessary to prevent complications. In addition to their effect on the AV node, non-dihydropyridines can also influence heart contractility, though this is secondary to their primary role in managing electrical conduction. They are distinct from dihydropyridine calcium channel blockers, which predominantly exert vasodilatory effects without much influence on heart rate or conduction. Understanding these nuances about non-dihydropyridine calcium channel blockers can guide clinical decisions related to treating arrhythmias and ensuring optimal patient care.

6. What symptom is commonly associated with hypophosphatemia?

- A. Fatigue
- B. Mental confusion**
- C. Increased appetite
- D. Elevated heart rate

Hypophosphatemia, which refers to low levels of phosphate in the blood, can lead to a variety of symptoms due to phosphate's critical role in energy production and cellular function. Mental confusion is a common symptom because phosphate is essential for the formation of ATP (adenosine triphosphate), the energy currency of the cell. When phosphate levels are low, energy metabolism can be impaired, leading to neurological manifestations such as mental confusion or decreased cognitive function. Moreover, this condition can also affect the central nervous system, causing alterations in mental status and potentially leading to more severe neurological issues if not addressed. In contexts of critical care nursing, identifying such symptoms plays a vital role in monitoring and managing patients effectively, especially those at risk for electrolyte imbalances. Therefore, mental confusion is closely associated with hypophosphatemia, highlighting the importance of phosphate in maintaining cognitive function and overall cellular health.

7. What is the primary effect of positive inotropes on the heart?

- A. Decrease the heart rate
- B. Increase the heart's force of contraction**
- C. Reduce blood pressure
- D. Decrease oxygen consumption by the heart

The choice regarding the primary effect of positive inotropes on the heart is specifically focused on their ability to enhance the contractile strength of the heart muscles. Positive inotropes are medications or substances that increase the force of contraction (contractility) of the cardiac muscle. By enhancing contractility, the heart is able to pump a greater volume of blood with each beat, which can be particularly beneficial in conditions where the heart's ability to pump blood is compromised, such as in heart failure. The increase in the heart's force of contraction leads to improved cardiac output, which can help ensure that organs and tissues receive adequate blood supply and oxygen. This is essential in the setting of critical care, where many patients may be experiencing compromised cardiac function. The other options provided relate to different physiological effects that are not the primary action of positive inotropes. For instance, decreasing heart rate or reducing blood pressure are not the main effects of positive inotropes; instead, these actions may be more closely associated with medications that have beta-blocking properties or vasodilators. Additionally, while positive inotropes may influence oxygen consumption, they primarily aim to increase contractility rather than decrease it. Thus, the emphasis is on the ability of these agents to strengthen cardiac

8. What is the normal range for potassium levels?

- A. 2.5 to 3.0 mEq/L
- B. 3.5 to 5.0 mEq/L**
- C. 5.0 to 6.5 mEq/L
- D. 1.5 to 2.5 mEq/L

The normal range for potassium levels in the human body is indeed 3.5 to 5.0 mEq/L. Potassium is an essential electrolyte that plays a critical role in various bodily functions, including muscle contraction, nerve transmission, and maintaining proper fluid balance. Levels outside of this range can lead to significant complications, including cardiac arrhythmias and other serious health issues. Relying on established clinical guidelines, the values within the normal range are crucial for sustaining normal physiological processes. Monitoring potassium levels is especially important in critical care settings, where imbalances can arise due to various factors such as renal function, medications, and underlying health conditions. Maintaining potassium within this normal range is vital for the overall health and stability of the patient.

9. Which statement is true regarding negative inotropes?

- A. They increase the heart's contraction force
- B. They decrease the heart's workload**
- C. They are used to treat cardiogenic shock
- D. They enhance calcium influx into heart muscle cells

Negative inotropes are agents that decrease the force of myocardial contractions. Therefore, the statement that they decrease the heart's workload is accurate. By reducing the strength of each heartbeat, negative inotropes effectively lower the overall myocardial oxygen demand and energy expenditure. This can be particularly beneficial in conditions where the heart is under stress or in cases of heart failure, where excessive workload can exacerbate the patient's condition. In contrast, stating that negative inotropes increase the heart's contraction force, are used to treat cardiogenic shock, or enhance calcium influx into heart muscle cells misrepresents their pharmacological effects. Negative inotropes typically work by reducing intracellular calcium levels or blocking calcium entry, thereby diminishing the contractility. This makes them useful in specific clinical contexts but not for increasing cardiac output or treating conditions like cardiogenic shock, where improved contractility is often necessary.

10. Which of the following is NOT a cause of prerenal renal failure?

- A. Dehydration
- B. Acute tubular necrosis**
- C. Cognitive impairment
- D. Hypotension

Acute tubular necrosis is indeed not a cause of prerenal renal failure. Prerenal failure primarily results from conditions that lead to a decrease in blood flow to the kidneys, thereby reducing the kidneys' ability to filter blood and produce urine. Dehydration, cognitive impairment, and hypotension are all factors that can lead to decreased renal perfusion. Dehydration reduces fluid volume in the body, which can lead to lower blood pressure and impaired kidney function. Cognitive impairment may result in inadequate fluid intake or difficulty recognizing thirst, which can also contribute to dehydration and subsequently affect renal blood flow. Hypotension, or low blood pressure, directly reduces blood flow to the kidneys and can cause prerenal failure. In contrast, acute tubular necrosis is classified as an intrinsic renal failure. It is characterized by damage to the renal tubules, often due to ischemia or nephrotoxins, rather than a reduction in blood flow to the kidneys. Therefore, it does not fall under the category of prerenal causes. Understanding the distinction between prerenal and intrinsic causes of renal failure is crucial for appropriate diagnosis and management in critical care settings.

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:

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

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