

NBRC NORMAL VALUES TMC PRACTICE TEST (SAMPLE)

STUDY GUIDE



**SAMPLE STUDY GUIDE
WITH LIMITED QUESTIONS**

**VISIT US ONLINE FOR
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. Normal arterial PCO₂ range is?**
 - A. 25-35 mmHg
 - B. 35-45 mmHg
 - C. 45-55 mmHg
 - D. 15-25 mmHg
- 2. PaO₂ varies directly with FiO₂. Which option expresses this correctly?**
 - A. PaO₂ is fixed and does not depend on FiO₂
 - B. PaO₂ varies inversely with FiO₂
 - C. PaO₂ varies directly with FiO₂
 - D. PaO₂ is independent of FiO₂
- 3. What is the normal pulmonary capillary wedge pressure (PCWP) range?**
 - A. 0-4 mmHg
 - B. 6-12 mmHg
 - C. 4-8 mmHg
 - D. 12-16 mmHg
- 4. Which pressure is listed as having a mean value of 13-14 mm Hg?**
 - A. Mean pulmonary artery pressure
 - B. Mean arterial pressure
 - C. Right atrial pressure
 - D. Pulmonary capillary wedge pressure
- 5. Which statement about the normal TLC percent predicted range is true?**
 - A. 80-120%
 - B. 60-90%
 - C. 100-140%
 - D. 120-160%
- 6. Clotting time is typically up to how many minutes?**
 - A. Up to 4 minutes
 - B. Up to 10 minutes
 - C. Up to 6 minutes
 - D. Up to 8 minutes

7. What is the normal BUN level?

- A. 7-20 mg/dL
- B. 5-15 mg/dL
- C. 10-25 mg/dL
- D. 15-30 mg/dL

8. A normal Vital Capacity is approximately what value?

- A. 3.2 L
- B. 4.8 L or 80% of predicted or higher
- C. 6.0 L
- D. 4.0 L

9. Which statement best describes Systemic Vascular Resistance (SVR)?

- A. The resistance the blood must overcome to move within the systemic vasculature; typical value <20 mm Hg/L/min
- B. The pressure difference between systole and diastole
- C. The opposition encountered by the right ventricle
- D. The amount of blood the heart pumps per minute

10. The arterial-venous O₂ content difference is typically:

- A. 2-3 vol%
- B. 0-1 vol%
- C. 6-7 vol%
- D. 4-5 vol% $CaO_2 - CvO_2$

Answers

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

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Explanations

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1. Normal arterial PCO₂ range is?

- A. 25-35 mmHg
- B. 35-45 mmHg**
- C. 45-55 mmHg
- D. 15-25 mmHg

Normal arterial PCO₂ is determined by the balance between CO₂ production and elimination by the lungs. The body keeps PaCO₂ within a narrow window, about 35 to 45 mmHg, to maintain stable acid-base status. Values in this range indicate adequate ventilation. If PaCO₂ drops below 35, hyperventilation occurs and can lead to respiratory alkalosis; if it rises above 45, hypoventilation occurs and can cause respiratory acidosis. The 35–45 mmHg range is the standard normal range, while lower ranges reflect hypocapnia and higher ranges reflect hypercapnia.

2. PaO₂ varies directly with FiO₂. Which option expresses this correctly?

- A. PaO₂ is fixed and does not depend on FiO₂
- B. PaO₂ varies inversely with FiO₂
- C. PaO₂ varies directly with FiO₂**
- D. PaO₂ is independent of FiO₂

The main idea is that arterial oxygen tension (PaO₂) increases when the inspired oxygen fraction (FiO₂) is raised. In the alveolar gas equation, PAO₂ depends on FiO₂; increasing FiO₂ raises the oxygen available to diffuse into the blood, so PaO₂ tends to rise as well. This is why giving supplemental oxygen improves arterial oxygen tension, especially in those with hypoxemia. While the exact increase can be influenced by lung diffusion capacity and V/Q matching, the overall relationship is direct: higher FiO₂ leads to higher PaO₂.

3. What is the normal pulmonary capillary wedge pressure (PCWP) range?

- A. 0-4 mmHg
- B. 6-12 mmHg**
- C. 4-8 mmHg
- D. 12-16 mmHg

Pulmonary capillary wedge pressure reflects the pressure in the left atrium and serves as a surrogate for left-sided filling pressures. When a balloon-tipped catheter is wedged in a small pulmonary artery, the pressure read is equilibrated with the left atrial pressure, giving a measure of LV preload. The normal range is 6–12 mmHg. This window indicates normal left atrial pressures at rest. Values below this suggest low preload, while values above 12 mmHg point to elevated left-sided pressures, such as in left heart failure, significant mitral valve disease, or volume overload. The other ranges fall outside the normal window, either being too low or too high for typical resting left atrial pressure.

4. Which pressure is listed as having a mean value of 13-14 mm Hg?

- A. Mean pulmonary artery pressure**
- B. Mean arterial pressure
- C. Right atrial pressure
- D. Pulmonary capillary wedge pressure

Understanding normal ranges for cardiovascular pressures helps identify the correct choice. The mean pulmonary artery pressure in a healthy person is about 12 to 16 mm Hg, so a mean value of 13–14 mm Hg fits this range. The other pressures have different typical means: mean arterial pressure is usually much higher (roughly 70–105 mm Hg), right atrial pressure is quite low (around 2–6 mm Hg), and pulmonary capillary wedge pressure is also low (about 6–12 mm Hg). Therefore, the pressure with a mean value of 13–14 mm Hg is the mean pulmonary artery pressure.

5. Which statement about the normal TLC percent predicted range is true?

- A. 80-120%**
- B. 60-90%
- C. 100-140%
- D. 120-160%

TLC percent predicted compares your measured total lung capacity to a normal value expected for someone of the same age, height, and sex. The range considered normal is 80-120% of that predicted value. Staying within this band means the lungs can hold a typical amount of air for the person's body size. If TLC falls below 80% of predicted, it suggests a restrictive issue where the lungs or chest wall can't hold as much air. If TLC rises above 120% of predicted, it indicates hyperinflation or air trapping, which is common with obstructive conditions like emphysema or chronic asthma. So, the statement that 80-120% of predicted is the normal TLC range aligns with standard reference values.

6. Clotting time is typically up to how many minutes?

- A. Up to 4 minutes
- B. Up to 10 minutes
- C. Up to 6 minutes**
- D. Up to 8 minutes

Clotting time measures how long it takes for whole blood to form a stable clot under standardized lab conditions. Under common reference ranges used in practice tests, the upper limit is six minutes, so a normal result is typically up to six minutes. This reflects the time needed for the coagulation cascade and platelet function to generate a clot when conditions like temperature are controlled. If clotting takes longer than six minutes, it suggests a potential coagulopathy or effect of anticoagulants, warranting further evaluation. Values such as four minutes would be considered unusually quick for this reference, while eight or ten minutes exceed the standard upper limit used here.

7. What is the normal BUN level?

- A. 7-20 mg/dL
- B. 5-15 mg/dL
- C. 10-25 mg/dL
- D. 15-30 mg/dL

Normal BUN level reflects kidney function and protein metabolism, with the typical adult reference range around 7–20 mg/dL. This range is what most labs and NBRC practice tests use as the standard for a normal BUN. Values within this span indicate kidneys are likely filtering waste properly and hydration is balanced, while numbers outside it can suggest dehydration, impaired kidney function, or liver-related factors affecting urea production. The other ranges either miss the lower end of the typical normal values or extend into ranges that are commonly considered elevated, so they don't align with the standard reference used here.

8. A normal Vital Capacity is approximately what value?

- A. 3.2 L
- B. 4.8 L or 80% of predicted or higher
- C. 6.0 L
- D. 4.0 L

Vital capacity is the maximum amount of air a person can exhale after a deep, maximal inhalation, reflecting the combined capacity of the lungs and the surrounding muscles. In healthy adults, this value averages about 4.8 liters, though it varies with body size, age, and sex. Clinically, a vital capacity that is at least 80% of the predicted value—or about 4.8 liters in many adults—is considered normal. That's why this option best fits the typical reference range. Values well below this threshold, such as around 3.2 liters, are generally not normal for a healthy adult, while values like 6.0 liters exceed the common normal range. A value of 4.0 liters might be acceptable for some individuals, but the standard NBRC reference emphasizes the 4.8 L or 80% of predicted threshold as the typical normal.

9. Which statement best describes Systemic Vascular Resistance (SVR)?

- A. The resistance the blood must overcome to move within the systemic vasculature; typical value <20 mm Hg/L/min
- B. The pressure difference between systole and diastole
- C. The opposition encountered by the right ventricle
- D. The amount of blood the heart pumps per minute

Systemic Vascular Resistance is the load the left ventricle must overcome to push blood through the systemic circulation. It reflects the tone and impedance of the systemic arterioles and is calculated as $SVR = (\text{mean arterial pressure} - \text{right atrial pressure}) / \text{cardiac output}$. With typical values (MAP around 90 mmHg, low right atrial pressure, CO about 5 L/min), SVR falls in the vicinity of 18 mmHg/L/min, which is under 20 and considered normal. This makes the description "the resistance the blood must overcome to move within the systemic vasculature" the best match. The other statements refer to different concepts: one is the pulse pressure (difference between systolic and diastolic pressures), another to the right ventricle's opposition (pulmonary vascular resistance), and another to the amount of blood the heart pumps per minute (cardiac output).

10. The arterial-venous O₂ content difference is typically:

- A. 2-3 vol%
- B. 0-1 vol%
- C. 6-7 vol%
- D. 4-5 vol% CaO₂ - CvO₂**

The arterial-venous O₂ content difference shows how much oxygen tissues extract from the blood as it passes through the systemic circulation. It's calculated as CaO₂ minus CvO₂. In a healthy adult at rest, CaO₂ is about 20 vol% (roughly 20 mL O₂ per 100 mL blood), while CvO₂ is about 15 vol% (mixed venous O₂ content around 15 mL/dL). The result is an extraction of roughly 4-5 vol%. This resting value is the standard reference: it can rise with exercise as tissues extract more O₂, but resting values cluster around 4-5 vol%. The other options—2-3 vol%, 0-1 vol%, or 6-7 vol%—don't match the typical resting extraction for a healthy individual.

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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://nbrcnormvaluestmc.examzify.com>

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

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