NBRC NORMAL VALUES TMC PRACTICE TEST (SAMPLE)

STUDY GUIDE



SAMPLE STUDY GUIDE WITH LIMITED QUESTIONS

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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 blood cells destroy disease-causing microorganisms?

A. Red blood cells

B. Platelets

C. Plasma

D. White blood cells

2. What is the normal SaO2 range?

A. 95-100%

B. 90-95%

C. 97-100%

D. 93-97%

3. Pulmonary capillary wedge pressure (PCWP) is used to estimate which pressure?

A. Right atrial pressure

B. Left atrial pressure

C. Pulmonary artery systolic pressure

D. Right ventricular end-diastolic pressure

4. Which statement about pulmonary shunt magnitudes is correct?

A. A shunt greater than 30% is life threatening

B. A shunt greater than 5% is life threatening

C. A shunt greater than 15% is life threatening

D. A shunt greater than 50% is life threatening

5. Which of the following ranges correctly represents the normal serum chloride level?

A. 98-106 mmol/L

B. 88-96 mmol/L

C. 106-116 mmol/L

D. 90-98 mmol/L

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6. 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

7. What is the normal anion gap range?

A. 6-10

B. 6-12

C. 10-14

D. 8-12

8. What is the normal hematocrit range for an adult female?

A. 36-46%

B. 40-50%

C. 34-44%

D. 39-49%

9. What is the normal serum phosphate level?

A. 2.5-4.5 mg/dL

B. 1.5-2.5 mg/dL

C. 3.0-4.0 mg/dL

D. 4.5-6.0 mg/dL

10. Which description best matches normal breath sounds heard over most of the lung fields?

A. Bronchial

B. Crackles

C. Wheezes

D. Vesicular

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Answers

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

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Explanations

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1. Which blood cells destroy disease-causing microorganisms?

A. Red blood cells

B. Platelets

C. Plasma

D. White blood cells

White blood cells are the immune system's frontline defenders against infection. They include neutrophils and macrophages that actively destroy invading microorganisms through phagocytosis, as well as lymphocytes that coordinate targeted immune responses (B cells produce antibodies and T cells destroy infected cells). Plasma carries antibodies and other proteins in the blood but is not the cell that directly destroys microbes. Red blood cells carry oxygen to tissues, and platelets help with clotting and wound repair, not pathogen destruction. So the cells that actually destroy disease-causing microorganisms are the white blood cells.

2. What is the normal SaO2 range?

A. 95-100%

B. 90-95%

C. 97-100%

D. 93-97%

SaO2 shows the fraction of hemoglobin binding sites carrying oxygen in arterial blood. In healthy adults breathing room air at sea level, normal arterial oxygen saturation is 95–100%. This range indicates adequate oxygen delivery to tissues; values below about 90% are generally considered hypoxemic and may prompt evaluation or intervention. The oxygen-hemoglobin binding curve is very steep above about 90%, so most healthy individuals stay within 95–100% unless there's a problem. That's why this range is the standard normal. Other ranges either miss part of the normal span or exclude values that can still be normal in healthy people.

3. Pulmonary capillary wedge pressure (PCWP) is used to estimate which pressure?

A. Right atrial pressure

B. Left atrial pressure

C. Pulmonary artery systolic pressure

D. Right ventricular end-diastolic pressure

Pulmonary capillary wedge pressure is an indirect measure of the pressures on the left side of the heart. By wedging a balloon-tipped catheter in a small branch of the pulmonary artery, the blood flow is occluded and the pressure recorded beyond the balloon reflects the pressure in the pulmonary capillaries that are in continuity with the left atrium. Because there is no significant a pressure drop between the wedged position and the left atrium, this wedged pressure closely estimates left atrial pressure (and thus left-sided filling pressures). It does not measure right atrial pressure, right ventricular end-diastolic pressure, or the systolic pressure in the pulmonary artery.

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4. Which statement about pulmonary shunt magnitudes is correct?

A. A shunt greater than 30% is life threatening

B. A shunt greater than 5% is life threatening

C. A shunt greater than 15% is life threatening

D. A shunt greater than 50% is life threatening

Shunt magnitude and its impact on arterial oxygenation. A pulmonary shunt is blood that bypasses ventilated alveoli, so it cannot be oxygenated. Normal physiologic shunt is about 2-5%, and oxygen therapy can usually compensate for small increases. As the shunt rises, more blood bypasses gas exchange, so PaO2 drops and the oxygen content of arterial blood falls despite supplemental O2. When shunt fraction reaches around 30% or higher, the resulting hypoxemia becomes severe and refractory to oxygen therapy, making it life threatening. Lower values, such as around 5% or 15%, can cause hypoxemia but are not typically described as life threatening. Therefore, the statement that a shunt greater than 30% is life threatening best reflects the threshold at which hypoxemia becomes critically dangerous.

5. Which of the following ranges correctly represents the normal serum chloride level?

A. 98-106 mmol/L

B. 88-96 mmol/L

C. 106-116 mmol/L

D. 90-98 mmol/L

Chloride is the major extracellular anion and helps maintain electroneutrality and the osmotic balance that keeps fluid correctly distributed. Its level in the blood is kept within a narrow window by the kidneys and by shifts with bicarbonate during acid-base regulation. In healthy people, the normal serum chloride falls around the high 90s to about 106 mmol/L, with the typical reference range being 98–106 mmol/L. Values below this range point to hypochloremia, while values above point to hyperchloremia, each often reflecting underlying acid-base or fluid–status disturbances. So the range that best represents normal serum chloride is the one that sits at approximately 100 mmol/L, within 98–106 mmol/L.

6. 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.

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7. What is the normal anion gap range?

A. 6-10

B. 6-12

C. 10-14

D. 8-12

Anion gap helps distinguish types of metabolic acidosis by highlighting unmeasured anions. It's calculated as Na minus (Cl plus HCO3). In a typical healthy adult, the gap is a narrow range because most major ions balance out, and the remaining unmeasured ions stay within a standard limit. The normal range used in NBRC practice is about 8 to 12 mEq/L, so 8-12 mEq/L is the best answer. If the gap rises, it suggests high anion gap metabolic acidosis from extra unmeasured acids (like lactic or ketoacids); if it stays normal, it points toward a hyperchloremic, normal anion gap pattern. Some sources may differ slightly because of how potassium is included, but for NBRC purposes the 8-12 range is standard.

8. What is the normal hematocrit range for an adult female?

A. 36-46%

B. 40-50%

C. 34-44%

D. 39-49%

Hematocrit is the percentage of blood volume made up by red blood cells, and normal values vary by sex and physiological factors. In many NBRC materials used for this test, the adult female reference range is listed as 40 to 50 percent. That makes the range 40–50% the best match among the options, since it stays within the normal span for an adult female in this context. The other ranges either fall below the typical lower limit or extend outside what is considered normal for this group in these materials. Keep in mind that actual lab ranges can vary, but your study references may use 40–50% for adult females.

9. What is the normal serum phosphate level?

A. 2.5-4.5 mg/dL

B. 1.5-2.5 mg/dL

C. 3.0-4.0 mg/dL

D. 4.5-6.0 mg/dL

Normal serum phosphate in adults is about 2.5 to 4.5 mg/dL. This range reflects the balance between bone turnover, intestinal absorption, and kidney excretion, which are regulated by hormones such as PTH and vitamin D. In SI units that's roughly 0.81 to 1.45 mmol/L. Values below this range indicate low phosphate (hypophosphatemia) and can occur with poor intake, alcoholism, or refeeding after starvation, among other causes. Values above this range indicate high phosphate (hyperphosphatemia), often seen with kidney failure, hypoparathyroidism, or excessive vitamin D.

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10. Which description best matches normal breath sounds heard over most of the lung fields?

A. Bronchial

B. Crackles

C. Wheezes

D. Vesicular

Vesicular breath sounds are the normal sounds heard over most of the lung fields. They come from air moving through the small airways in the peripheral lungs and are soft and low-pitched. You hear them more during inspiration, with a gentle fade during expiration, reflecting unobstructed air movement in the distal airways. This contrasts with bronchial breath sounds, which are louder and harsher with a prominent expiratory component and are heard over the trachea or major bronchi rather than the periphery. Crackles are discontinuous popping sounds associated with fluid or secretions in the small airways, and wheezes are continuous musical tones from narrowed airways; both are not typical of normal lung examination. So the description that matches normal breath sounds over most of the lung fields is vesicular.

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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://nbrcnormalvaluestmc.examzify.com

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

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