NIH Module 7 – Laboratory Testing, Diagnostic Imaging, and Screening Practice Test (Sample)

Study Guide

BY EXAMZIFY

Everything you need from our exam experts!

Table of Contents

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

1. Which term describes infection caused by introduction of a pathogen from outside the body?

A. Endogenous infection

B. Exogenous infection

C. Carrier

D. Subclinical case

2. Which test is not typically performed using venipuncture?

A. CBC

B. Lipid Panels

C. Blood Cultures

D. Urinalysis

3. What is the purpose of the Basic Metabolic Panel (BMP)?

A. Screening liver enzymes only

B. Imaging tissue perfusion

C. Assessing bone density

D. Diabetes screening and measuring electrolytes

4. What is the effect of cryotherapy on inflammation?

A. It decreases inflammation by slowing blood and fluid movement.

B. It increases inflammation by accelerating blood flow.

C. It has no effect on inflammation.

D. It only reduces pain without affecting inflammation.

5. What does TSH evaluate?

A. Thyroid function

B. Kidney function

C. Liver function

D. Adrenal function

6. What is venipuncture?

A. The withdrawal of blood from a vein

B. The withdrawal of blood from an artery

C. The collection of urine

D. The injection of a medication

7. What is the purpose of patient education in imaging?

A. To collect information from the patient

B. To schedule appointments

C. To gather history and screening information, including previous X-rays and pregnancy status

D. To perform the imaging procedure

8. Which statement is true about high RBC count?

A. It indicates dehydration.

B. It indicates polycythemia vera.

C. It may indicate infection, anemia, inflammation, or blood disorders.

D. It indicates liver disease.

9. Which description correctly defines medical asepsis?

A. A sterile technique that eliminates all microorganisms.

B. A clean technique to reduce microorganisms.

C. A method to completely remove all pathogens from the environment.

D. A process to disinfect patient skin.

10. Which sterilization method is used by an autoclave?

A. Dry heat

B. Ethylene oxide

C. Steam under pressure

D. Radiation

Answers

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

Explanations

1. Which term describes infection caused by introduction of a pathogen from outside the body?

A. Endogenous infection

B. Exogenous infection

C. Carrier

D. Subclinical case

External-source infections are called exogenous infections. The defining idea is that the pathogen comes from outside the body and enters through routes like inhalation of environmental organisms, ingestion of contaminated food or water, direct contact with an infected person, or through a contaminated medical device, and then establishes infection. This contrasts with endogenous infections, which arise from microorganisms that normally reside in or on the body and cause disease only after they gain access to sterile sites or after disruption of the usual barriers. A carrier is someone who harbors the pathogen without symptoms but can spread it, and a subclinical case is an infection that remains asymptomatic despite the presence of the pathogen. An example of an exogenous infection is acquiring a pathogen from a contaminated instrument or environment in a healthcare setting.

2. Which test is not typically performed using venipuncture?

A. CBC

B. Lipid Panels

C. Blood Cultures

D. Urinalysis

Tests that analyze blood components—like cell counts, lipids, or detecting bacteria in the bloodstream—are done by drawing blood from a vein (venipuncture). A complete blood count uses blood cells in the sample; a lipid panel measures cholesterol and triglycerides in serum after a blood draw; blood cultures look for bacteria in blood by culturing the drawn blood. Urinalysis, however, examines urine's appearance, chemical properties, and sometimes microscopic components, which requires a urine sample collected separately from the patient (usually a clean-catch voided sample or, if needed, catheterization). Because urine collection is not obtained from veins, urinalysis is not typically performed using venipuncture.

3. What is the purpose of the Basic Metabolic Panel (BMP)?

A. Screening liver enzymes only

B. Imaging tissue perfusion

C. Assessing bone density

D. Diabetes screening and measuring electrolytes

The BMP is used to quickly gauge metabolic and kidney status by measuring electrolytes and glucose, along with markers of renal function. Electrolytes like sodium, potassium, chloride, and bicarbonate reveal fluid balance, acid-base status, and cellular function. Kidney function is shown by creatinine and BUN, while glucose provides a snapshot that can point to abnormal blood sugar levels and prompt further diabetes evaluation when needed. This combination—electrolyte measurement plus glucose and kidney markers—best fits the purpose of the BMP. The other options describe tests outside what the BMP covers: liver enzymes, tissue imaging, and bone density are not part of this panel.

4. What is the effect of cryotherapy on inflammation?

A. It decreases inflammation by slowing blood and fluid movement.

B. It increases inflammation by accelerating blood flow.

C. It has no effect on inflammation.

D. It only reduces pain without affecting inflammation.

Cryotherapy reduces inflammation by causing vasoconstriction in the injured area, which lowers blood flow and reduces capillary permeability. This limits the movement of fluid and inflammatory mediators into the tissue, decreasing edema and the overall inflammatory response. It also slows the local metabolic rate, helping minimize further tissue damage and inflammatory signaling. While cold therapy can numb the area and relieve pain, its anti-inflammatory effect is mainly due to reduced blood flow and fluid leakage, not a lack of any effect on inflammation.

5. What does TSH evaluate?

A. Thyroid function

B. Kidney function

C. Liver function

D. Adrenal function

TSH evaluates thyroid function. It's a pituitary hormone that stimulates the thyroid to make thyroid hormones (T4 and T3). Because of negative feedback, TSH levels rise when thyroid hormone levels are low and fall when they're high. So a high TSH points to hypothyroidism, and a low TSH points to hyperthyroidism or a pituitary issue. This test is widely used for screening and for monitoring thyroid treatment. It does not measure kidney, liver, or adrenal function, which require other tests.

6. What is venipuncture?

A. The withdrawal of blood from a vein

B. The withdrawal of blood from an artery

C. The collection of urine

D. The injection of a medication

Venipuncture is the procedure of puncturing a vein to withdraw blood for laboratory testing. It's the standard method for obtaining venous blood samples, usually done by inserting a needle into a superficial vein (often in the arm) and using collection tubes to draw the blood. This is distinct from puncturing an artery (used for arterial blood gases or specific tests), collecting urine, or injecting medication, which are different procedures.

7. What is the purpose of patient education in imaging?

A. To collect information from the patient

B. To schedule appointments

C. To gather history and screening information, including previous X-rays and pregnancy status

D. To perform the imaging procedure

Collecting history and screening information before imaging is essential because it guides safe and effective imaging decisions. Knowing the patient's prior imaging helps us compare current findings with older studies, avoid unnecessary repeats, and tailor the exam to minimize radiation exposure while still answering the clinical question. Pregnancy status is crucial because ionizing radiation can harm a developing fetus, so determining whether pregnancy is possible can change the recommended modality (for example, using ultrasound or MRI instead of X-ray/CT) or trigger protective measures. This information directly informs imaging planning, safety, and interpretation. The other options are less precise within this context: simply collecting information in general is broader than the specific purpose of pre-imaging education; scheduling appointments and performing the imaging are separate steps and not the educational aim addressed here.

8. Which statement is true about high RBC count?

A. It indicates dehydration.

B. It indicates polycythemia vera.

C. It may indicate infection, anemia, inflammation, or blood disorders.

D. It indicates liver disease.

High RBC count is a non-specific finding: it doesn't point to one disease, but can occur in several different situations that either increase red cell production or concentrate the blood. Because elevated red cells can arise from multiple causes, the statement that it may indicate infection, inflammatory states, or various blood disorders best captures the range of possibilities a clinician would consider when you see a high RBC count. Liver disease isn't typically linked to an elevated red cell count, and dehydration is just one possible mechanism among others. The key point is that an elevated RBC count requires further context and testing to pinpoint the exact cause.

9. Which description correctly defines medical asepsis?

A. A sterile technique that eliminates all microorganisms.

B. A clean technique to reduce microorganisms.

C. A method to completely remove all pathogens from the environment.

D. A process to disinfect patient skin.

Medical asepsis involves clean technique to reduce the number of microorganisms and prevent their spread, lowering the risk of infection. It relies on practices like hand hygiene, using clean gloves and barriers, and routine cleaning and disinfecting of surfaces and equipment. The goal is to minimize microbial load rather than to achieve absolute sterility. This distinguishes it from sterile technique, which aims to eliminate all microorganisms and maintain a sterile field for invasive procedures. Thinking you can completely remove pathogens from the environment isn't realistic, since ongoing cleaning and disinfection reduce but do not guarantee total elimination. Disinfecting patient skin is a specific step within medical asepsis, not the overall definition.

10. Which sterilization method is used by an autoclave?

A. Dry heat

B. Ethylene oxide

C. Steam under pressure

D. Radiation

Steam under pressure is the sterilization method used by an autoclave. The autoclave blasts saturated steam into a chamber at high temperature and pressure, which rapidly denatures proteins and disrupts cellular structures of microorganisms, including spores. The moisture makes heat transfer much more efficient, so the items can be sterilized quickly and reliably at temperatures around 121°C (250°F) under about 15 psi for a standard cycle. This combination—moist heat plus pressure—is why autoclaves are effective for a wide range of heat-tolerant instruments and supplies. Dry heat sterilization relies on hot air and needs much higher temperatures and longer times, making it slower and less efficient for many items. Ethylene oxide is a gas sterilant used for heat- and moisture-sensitive items and has its own hazards and longer cycles. Radiation sterilization uses ionizing radiation and is not how an autoclave operates.

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://nihmodule7.examzify.com

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