NBME FORM 28 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.

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. **A 67-year-old woman with a family history of colon cancer is reluctant to undergo colonoscopy. What is the primary concern with stool testing?**

   A. Low sensitivity

   B. Low specificity

   C. Risk of false-positive results

   D. Uncertain predictive values

2. **What is the expected impact of hypoxia on the pulmonary vasculature?**

   A. A) Vasodilation in pulmonary vessels

   B. B) Increased blood flow to low oxygen regions

   C. C) Hypoxic pulmonary vasoconstriction

   D. D) Decreased pulmonary artery pressure

3. **In the context of renal pathology, what primarily causes edema in nephrotic syndrome?**

   A. Excessive sodium retention

   B. Excessive proteinuria

   C. Decrease in renal blood flow

   D. Obstruction of lymphatic drainage

4. **What is the most likely cause of initial hypotension in a patient with sepsis and E. coli bacteremia?**

   A. Excessive production of nitric oxide

   B. Generation of hydrogen peroxide

   C. Hemorrhage

   D. Induction of endothelial adhesion molecules

5. **After a biopsy of a cervical leukoplakia shows invasive squamous cell carcinoma, to which lymph nodes will lymph most likely drain first?**

   A. Femoral

   B. Superficial inguinal

   C. Internal iliac

   D. Lumbar

6. Facial flushing after alcohol consumption in a 21-year-old woman suggests a mutation in which enzyme?

A. Alcohol dehydrogenase

B. Aldehyde dehydrogenase

C. Acetyl-CoA reductase

D. Alcohol catalase

7. Which laboratory finding commonly occurs in patients with chronic granulomatous disease?

A. Increased serum IgE levels

B. Decreased serum IgG levels

C. Absence of dihydrorhodamine test color change

D. Elevated serum IgM levels

8. Which ovarian cells are responsible for converting androstenedione to estradiol during the menstrual cycle?

A. Theca interna

B. Luteal

C. Granulosa

D. Theca externa

9. What is the most likely underlying cause of urinary symptoms in an elderly man with diabetes and bladder diverticulum?

A. Benign prostatic hyperplasia

B. Hypertension

C. Nephrolithiasis

D. Type 2 diabetes mellitus

10. A 7-year-old girl with painful swelling under her arm, showing pleomorphic bacilli in biopsy. What is the causal organism?

A. Bartonella henselae

B. Brucella melitensis

C. Burkholderia mallei

D. Francisella tularensis

Answers

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

Explanations

1. A 67-year-old woman with a family history of colon cancer is reluctant to undergo colonoscopy. What is the primary concern with stool testing?

A. Low sensitivity

B. Low specificity

C. Risk of false-positive results

D. Uncertain predictive values

Stool testing, particularly for colorectal cancer screening, is often used as a non-invasive alternative to colonoscopy. However, the primary concern regarding stool testing is its low sensitivity in comparison to the gold standard of colonoscopy. Although stool tests can effectively detect some cases of colorectal cancer and advanced adenomas, they may not identify all existing cancers, leading to false-negative results. This means there is a genuine risk that some individuals who have colorectal cancer could receive a negative result from stool testing, thereby missing the opportunity for early detection and potentially life-saving intervention. While stool tests can have varying levels of specificity and may result in false-positive tests, the critical issue is that the sensitivity of these tests is not sufficient to confidently rule out disease when the risk is substantial, especially in patients with a familial history of colon cancer. Therefore, utilizing stool testing alone without follow-up colonoscopy might not adequately address the patient's risk profile.

2. What is the expected impact of hypoxia on the pulmonary vasculature?

A. A) Vasodilation in pulmonary vessels

B. B) Increased blood flow to low oxygen regions

C. C) Hypoxic pulmonary vasoconstriction

D. D) Decreased pulmonary artery pressure

Hypoxia has a significant impact on the pulmonary vasculature, primarily through the mechanism known as hypoxic pulmonary vasoconstriction. When oxygen levels are low in the lungs, the response of the pulmonary vessels is to constrict rather than dilate. This is a unique physiological response of the pulmonary circulation compared to systemic circulation, where hypoxia typically induces vasodilation. The rationale behind this response is to optimize gas exchange. In areas of the lung where there is low oxygen (hypoxia), constricting the pulmonary blood vessels redirects blood flow away from these poorly ventilated regions to areas of the lung that are better ventilated and have higher oxygen levels. This helps the body to improve overall oxygenation by ensuring that blood is delivered to regions of the lung that can more effectively oxygenate it. This mechanism is particularly important during conditions such as chronic lung disease or during exposure to high altitudes, where parts of the lung might not be adequately ventilated. By constricting the blood vessels in response to low oxygen, the body can maintain better perfusion of well-ventilated areas and improve its overall efficiency in oxygen uptake. The other options do not accurately represent the physiological response of the pulmonary vasculature to hypoxia, highlighting

3. In the context of renal pathology, what primarily causes edema in nephrotic syndrome?

A. Excessive sodium retention

B. Excessive proteinuria

C. Decrease in renal blood flow

D. Obstruction of lymphatic drainage

In nephrotic syndrome, the primary cause of edema is excessive proteinuria, which leads to a significant loss of serum proteins, particularly albumin. Albumin plays a crucial role in maintaining oncotic pressure—the pressure that holds fluid within the blood vessels. When there is substantial proteinuria, the levels of albumin in the blood decrease (a condition known as hypoalbuminemia). This reduction in oncotic pressure results in fluid moving from the intravascular space into the interstitial spaces of tissues, ultimately leading to edema. This mechanism illustrates why patients with nephrotic syndrome often present with generalized swelling, particularly in areas such as the legs and face. The severity of proteinuria directly correlates with the degree of edema observed, making excessive proteinuria a key hallmark of the syndrome. While excessive sodium retention and decreased renal blood flow can contribute to fluid retention in other conditions, they are not the primary drivers of the edema seen in nephrotic syndrome. Moreover, obstruction of lymphatic drainage is generally not a characteristic feature of nephrotic syndrome and does not account for the protein loss or the resultant edema in this context.

4. What is the most likely cause of initial hypotension in a patient with sepsis and E. coli bacteremia?

A. Excessive production of nitric oxide

B. Generation of hydrogen peroxide

C. Hemorrhage

D. Induction of endothelial adhesion molecules

In sepsis, particularly with E. coli bacteremia, the initial hypotension is primarily caused by excessive production of nitric oxide. This occurs as a result of the systemic inflammatory response triggered by the infection. Lipopolysaccharides (LPS) from bacteria like E. coli stimulate the immune system, leading to the release of various pro-inflammatory cytokines. These cytokines activate various pathways, including the inducible nitric oxide synthase (iNOS) pathway, resulting in increased levels of nitric oxide (NO). The release of NO causes vasodilation, which is the widening of blood vessels. When blood vessels dilate, there is a decrease in vascular resistance, leading to a drop in blood pressure. This vasodilatory effect is significant in sepsis as it contributes to the characteristic hypotension observed in these patients. The resultant hypotension can lead to inadequate organ perfusion and subsequent organ dysfunction if not addressed promptly. Considering the other options, while oxidative stress might contribute to the pathophysiology of sepsis, the generation of hydrogen peroxide is not a direct cause of hypotension. Hemorrhage, on the other hand, would cause hypotension through blood loss, but that is not the initial mechanism in sepsis. Induction of

5. After a biopsy of a cervical leukoplakia shows invasive squamous cell carcinoma, to which lymph nodes will lymph most likely drain first?

A. Femoral

B. Superficial inguinal

C. Internal iliac

D. Lumbar

Invasive squamous cell carcinoma of the cervix primarily drains lymphatic fluid to the local lymph nodes associated with the pelvic region. The first lymph nodes to receive drainage from cervical tissues are typically the internal iliac nodes. These nodes are located laterally to the cervix and are a key component of the pelvic lymphatic system. The internal iliac lymph nodes receive lymphatic drainage from the cervix and then can further drain into the common iliac nodes and subsequently to the lumbar and paraaortic nodes. However, the initial drainage from a cervical lesion, especially one that is invasive, involves the internal iliac lymph nodes. Understanding this pathway is crucial for assessing cancer spread and planning treatment. Other lymph nodes mentioned, like the femoral, superficial inguinal, and lumbar nodes, do not serve as the first site of lymphatic drainage for cervical cancer, which emphasizes the significance of the internal iliac nodes in this context.

6. Facial flushing after alcohol consumption in a 21-year-old woman suggests a mutation in which enzyme?

A. Alcohol dehydrogenase

B. Aldehyde dehydrogenase

C. Acetyl-CoA reductase

D. Alcohol catalase

Facial flushing after alcohol consumption is commonly associated with a deficiency or mutation in the enzyme aldehyde dehydrogenase, particularly in individuals of certain Asian backgrounds. When alcohol is consumed, it is first metabolized to acetaldehyde by alcohol dehydrogenase. Normally, acetaldehyde is then rapidly converted to acetic acid by aldehyde dehydrogenase. However, if there is a mutation in the aldehyde dehydrogenase enzyme, acetaldehyde accumulates in the body, leading to various effects, including flushing, palpitations, and even nausea. This reaction is part of a pathway that explains the adverse effects experienced by individuals with this mutation. Accumulation of acetaldehyde, a toxic byproduct of alcohol metabolism, triggers the release of histamines and causes vasodilation, resulting in noticeable facial flushing. Thus, the facial flushing experienced by the 21-year-old woman indicates an issue with the metabolism of acetaldehyde rather than the initial conversion of alcohol itself.

7. Which laboratory finding commonly occurs in patients with chronic granulomatous disease?

A. Increased serum IgE levels

B. Decreased serum IgG levels

C. Absence of dihydrorhodamine test color change

D. Elevated serum IgM levels

Chronic granulomatous disease (CGD) is a genetic disorder that affects the immune system, specifically the ability of phagocytes (including neutrophils) to produce reactive oxygen species due to a defect in the NADPH oxidase complex. This defect hampers the body's ability to kill certain types of bacteria and fungi, leading to recurrent infections and the formation of granulomas. In patients with CGD, one of the key laboratory findings is the absence of color change in the dihydrorhodamine (DHR) test. The DHR test assesses the ability of phagocytes to produce reactive oxygen species. In a healthy immune response, when phagocytes encounter pathogens, they undergo respiratory burst, which leads to the production of reactive oxygen species that reduce dihydrorhodamine. This reduction results in a color change from colorless to green as the dihydrorhodamine becomes rhodamine. However, in individuals with CGD, the lack of functional NADPH oxidase means that there is no respiratory burst, hence no color change occurs during the DHR test, indicating impaired oxidative burst capability. This finding is pivotal for diagnosing CGD, as it directly reflects the underlying inability of leukocytes to produce the substances required to

8. Which ovarian cells are responsible for converting androstenedione to estradiol during the menstrual cycle?

A. Theca interna

B. Luteal

C. Granulosa

D. Theca externa

Granulosa cells play a crucial role in the conversion of androstenedione to estradiol during the menstrual cycle. This conversion process occurs primarily in the ovarian follicles during the follicular phase and is vital for the development and maturation of oocytes as well as the regulation of the menstrual cycle. In the ovarian follicle, theca interna cells produce androstenedione and testosterone in response to luteinizing hormone (LH). However, these androgens cannot be converted directly to estradiol. Granulosa cells have the enzyme aromatase, which allows them to convert the androgens produced by the Theca interna into estradiol when stimulated by follicle-stimulating hormone (FSH). This conversion process is essential for the synthesis of estrogen, which supports the proliferation of the endometrial lining in preparation for potential implantation. The activity of granulosa cells is regulated during different phases of the menstrual cycle and is crucial for proper ovarian function and reproductive health. The importance of the granulosa cells in producing estradiol underscores their role in the overall hormonal balance necessary for fertility.

9. What is the most likely underlying cause of urinary symptoms in an elderly man with diabetes and bladder diverticulum?

A. Benign prostatic hyperplasia

B. Hypertension

C. Nephrolithiasis

D. Type 2 diabetes mellitus

In the context of an elderly man with diabetes and bladder diverticulum, the underlying cause of urinary symptoms is most likely benign prostatic hyperplasia (BPH). As men age, it is common for the prostate gland to undergo hyperplastic changes, which can lead to a variety of obstructive urinary symptoms such as increased frequency, urgency, and difficulty initiating urination. In patients with bladder diverticula, which are pouches that form in the bladder wall, any obstructive symptoms from BPH can exacerbate urinary issues. The presence of diabetes can further complicate urinary function, but BPH typically stands out as a primary factor influencing urinary symptoms in elderly men. The mechanical obstruction caused by an enlarged prostate can lead to urinary retention and increased risk of urinary tract infections, particularly when combined with the existing diverticulum, which can serve as a reservoir for bacteria. Hypertension, nephrolithiasis, and type 2 diabetes mellitus can contribute to urinary symptoms, but they do not directly explain the immediate obstructive phenomena typically associated with BPH in this demographic. Thus, benign prostatic hyperplasia is the most relevant cause in the scenario presented.

10. A 7-year-old girl with painful swelling under her arm, showing pleomorphic bacilli in biopsy. What is the causal organism?

A. Bartonella henselae

B. Brucella melitensis

C. Burkholderia mallei

D. Francisella tularensis

The presence of painful swelling in the underarm area, along with the identification of pleomorphic bacilli in the biopsy, strongly suggests an infection associated with Bartonella henselae. This organism is known to be the causative agent of cat scratch fever, which can lead to lymphadenopathy and localized swelling typically seen in children after exposure to cats. Bartonella henselae is characterized by its pleomorphic nature, which means it can exist in various forms and sizes under microscopic examination. The clinical presentation in this case aligns well with the typical symptoms of a cat scratch fever infection, often presenting as a painful lymphadenopathy in young patients. Other potential organisms listed, while significant in other contexts, do not fit as neatly with the symptoms and biopsy findings presented. For instance, Brucella melitensis is typically associated with undulant fever and exposure to infected livestock, while Burkholderia mallei is linked to glanders disease, and Francisella tularensis is associated with tularemia. These infections generally do not present with the specific pleomorphic bacilli findings described in this case. Therefore, the identification of pleomorphic bacilli in the context of the clinical symptoms strongly supports Bartonella henselae as the causal

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!