NBME FORM 26 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. **What is the most likely diagnosis for a 2-year-old boy with recurrent bacterial infections and increased absolute neutrophil counts?**

   A. Chronic granulomatous disease

   B. Leukocyte adhesion deficiency

   C. Myeloperoxidase deficiency

   D. NADPH oxidase deficiency

2. **A 22-year-old boy presents with weakness, vomiting, and coma after reduced food intake. Intravenous glucose leads to increased serum B-hydroxybutyrate after feeding medium-chain triglycerides. What is the likely disorder?**

   A. Carnitine-acylcarnitine translocase deficiency

   B. Dietary carnitine deficiency

   C. Fatty acyl COA synthetase deficiency

   D. Medium-chain acyl CoA deficiency

3. **In a case of aortic stenosis, which characteristic change in the aortic valve is most commonly observed?**

   A. Myxomatous degeneration

   B. Fibrosis and calcification

   C. Congenital bicuspid valve

   D. Infective endocarditis

4. **A 15-year-old girl is found to have an ectopic endometrial tissue causing abdominal pain. Which organ should be evaluated for such tissue?**

   A. Falciform ligament

   B. Meckel diverticulum

   C. Vermiform appendix

   D. Ascending colon

5. **Which test characteristic is primarily affected by changing cut points for diagnosing diabetes?**

   A. Sensitivity

   B. Specificity

   C. False-positive rate

   D. Prevalence of disease

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6. What disorder is most consistent with a hemoglobin concentration of 18.5 g/dL in a 57-year-old man?

A. Agnogenic myeloid metaplasia

B. Chronic obstructive pulmonary disease

C. Hereditary hemochromatosis

D. Hypersplenism

7. What finding is most characteristic of central retinal artery occlusion?

A. Pale fundus with a cherry red spot

B. Optic disc edema

C. Retinal edema and cotton wool spots

D. Flame-shaped retinal hemorrhages

8. What is the main treatment approach for chondrosarcoma?

A. Chemotherapy

B. Radiation therapy

C. Surgical resection

D. Medication

9. What is the main limitation to the internal validity of a study assessing cough medication effectiveness in children?

A. Lack of blinding

B. Limited number of participants

C. Marginal statistical significance

D. Short duration of study

10. In terms of immune response mechanisms, how does mucosal immunity primarily utilize B lymphocytes?

A. Producing IgM upon initial exposure

B. Activating macrophages for phagocytosis

C. Generating IgA-producing cells for mucosal sites

D. Transferring antibodies through vascular circulation

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Answers

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

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Explanations

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1. What is the most likely diagnosis for a 2-year-old boy with recurrent bacterial infections and increased absolute neutrophil counts?

A. Chronic granulomatous disease

B. Leukocyte adhesion deficiency

C. Myeloperoxidase deficiency

D. NADPH oxidase deficiency

In this case scenario involving a 2-year-old boy with recurrent bacterial infections and increased absolute neutrophil counts, the most likely diagnosis is leukocyte adhesion deficiency (LAD). Leukocyte adhesion deficiency is a primary immunodeficiency characterized by the inability of leukocytes, particularly neutrophils, to migrate from the bloodstream to sites of infection. The defect is primarily due to a mutation in genes responsible for the production of integrins, which are adhesion molecules that facilitate the binding of leukocytes to the endothelium of blood vessels, allowing them to exit the circulation. Although these children have a normal or elevated number of neutrophils in the blood (which is why the absolute neutrophil counts are increased), they are unable to effectively reach and combat infections in tissues, leading to recurrent bacterial infections. The other conditions listed have different mechanisms and clinical presentations. Chronic granulomatous disease involves a defect in the ability of neutrophils to generate reactive oxygen species, leading to issues in killing certain bacteria, but it typically does not result in elevated neutrophil counts. Myeloperoxidase deficiency also does not generally result in recurrent bacterial infections, as affected individuals can still produce other antibacterial substances. NADPH oxidase deficiency, which under

2. A 22-year-old boy presents with weakness, vomiting, and coma after reduced food intake. Intravenous glucose leads to increased serum B-hydroxybutyrate after feeding medium-chain triglycerides. What is the likely disorder?

A. Carnitine-acylcarnitine translocase deficiency

B. Dietary carnitine deficiency

C. Fatty acyl COA synthetase deficiency

D. Medium-chain acyl CoA deficiency

The clinical scenario describes a young patient showing symptoms of weakness, vomiting, and coma after a period of reduced food intake, indicating a potential metabolic disorder related to fatty acid oxidation. The key points to focus on are the administration of intravenous glucose leading to an increase in serum B-hydroxybutyrate and the response to medium-chain triglycerides. In the case of carnitine-acylcarnitine translocase deficiency, the body is unable to transport long-chain fatty acids into the mitochondria for beta-oxidation due to a defect in this specific transport protein. This leads to a build-up of fatty acids outside the mitochondria and a subsequent increased production of ketone bodies, including B-hydroxybutyrate, when glucose levels rise. The fact that feeding medium-chain triglycerides resulted in an increase in serum B-hydroxybutyrate further supports this condition. Medium-chain fatty acids do not require the transport mechanism that is deficient in this disorder, allowing their oxidation and leading to ketone production amidst the body's stress response to low food intake. Overall, this combination of symptoms and test result uniquely points to carnitine-acylcarnitine translocase deficiency as the underlying metabolic disorder.

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3. In a case of aortic stenosis, which characteristic change in the aortic valve is most commonly observed?

A. Myxomatous degeneration

B. Fibrosis and calcification

C. Congenital bicuspid valve

D. Infective endocarditis

In aortic stenosis, the most commonly observed characteristic change in the aortic valve is fibrosis and calcification. This condition typically arises in older adults due to age-related degeneration of the aortic valve, which leads to the accumulation of calcium deposits. These changes stiffen the valve leaflets, reducing their ability to open properly during systole, which in turn causes the heart to work harder to pump blood through the narrowed opening. Fibrosis contributes to the thickening of the valvular tissue, while calcification leads to further rigidity and narrowing. This process usually develops over many years and is a significant aspect of the pathophysiology of aortic stenosis, particularly in elderly patients who may have other contributing factors such as hypercholesterolemia or hypertension. While other conditions mentioned, like myxomatous degeneration and congenital bicuspid valve, can lead to aortic stenosis, they are not the most common causes of the degenerative form seen in older patients. Infective endocarditis is an inflammatory condition that impacts the valve but is not a characteristic change of aortic stenosis. Therefore, fibrosis and calcification are definitive markers of aortic stenosis, representing the most prevalent alterations seen in the valve in these patients.

4. A 15-year-old girl is found to have an ectopic endometrial tissue causing abdominal pain. Which organ should be evaluated for such tissue?

A. Falciform ligament

B. Meckel diverticulum

C. Vermiform appendix

D. Ascending colon

In the context of ectopic endometrial tissue, particularly in a 15-year-old girl experiencing abdominal pain, it is important to focus on structures that are commonly associated with endometriosis. Meckel diverticulum is a remnant of the embryonic yolk sac and can have ectopic endometrial tissue implanted within it, particularly in females. Ectopic endometrial tissue is often found in the pelvic region, commonly affecting the ovaries, fallopian tubes, and peritoneum, but it can also manifest in atypical locations like the gastrointestinal tract. Since Meckel diverticulum is identified as a location where endometrial tissue could be found, it is the most relevant organ to be evaluated in this scenario. The other options (falciform ligament, vermiform appendix, ascending colon) do not typically serve as sites for ectopic endometrial tissue and are therefore less relevant in this case. In essence, evaluating the Meckel diverticulum makes sense as it can house ectopic endometrial tissue and is associated with potential abdominal pain, particularly in adolescent girls.

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5. Which test characteristic is primarily affected by changing cut points for diagnosing diabetes?

A. Sensitivity

B. Specificity

C. False-positive rate

D. Prevalence of disease

Changing cut points for diagnosing diabetes primarily impacts sensitivity. Sensitivity is the ability of a test to correctly identify individuals who have the disease. When the cut point is altered, it either increases or decreases the threshold for diagnosing diabetes. If the cut point is lowered, more individuals are classified as having diabetes, which increases the sensitivity of the test. This means that the test will capture more true positive cases, identifying a greater number of individuals who truly have the disease. Conversely, raising the cut point could result in fewer individuals being correctly diagnosed, thus reducing sensitivity. While sensitivity changes with the cut point, specificity remains constant because it relates to the proportion of true negatives identified by the test. The false-positive rate, which is the inverse of specificity, is also unaffected in terms of its intrinsic value; it will vary according to the definition of the condition based on the cut point, but it does not represent a characteristic of the test itself that changes fundamentally. The prevalence of disease is a population characteristic and does not change as a result of altering diagnostic cut points; rather, it remains influenced by broader epidemiological factors.

6. What disorder is most consistent with a hemoglobin concentration of 18.5 g/dL in a 57-year-old man?

A. Agnogenic myeloid metaplasia

B. Chronic obstructive pulmonary disease

C. Hereditary hemochromatosis

D. Hypersplenism

A hemoglobin concentration of 18.5 g/dL in a 57-year-old man suggests a state of erythrocytosis, which can occur due to various underlying conditions. Chronic obstructive pulmonary disease (COPD) is a well-known cause of secondary erythrocytosis. In COPD, long-term hypoxia results from impaired lung function and reduced oxygenation of the blood. The body compensates for low oxygen levels by producing more red blood cells, which leads to an increase in hemoglobin concentration. In the context of this patient's elevated hemoglobin level, COPD is a plausible explanation because it directly relates to oxygen deficiency and the resultant physiological response of hyperproduction of erythrocytes. This is particularly relevant in older adults with a smoking history or exposure to pollutants that could contribute to chronic lung disease. Other conditions listed may cause changes in blood components but are less directly linked to the specific level of elevated hemoglobin concentration. For example, conditions like agnogenic myeloid metaplasia (now known as primary myelofibrosis) and hereditary hemochromatosis can also lead to increased hemoglobin but are typically associated with other hematologic abnormalities or clinical features that may not solely present as elevated hem

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7. What finding is most characteristic of central retinal artery occlusion?

A. Pale fundus with a cherry red spot

B. Optic disc edema

C. Retinal edema and cotton wool spots

D. Flame-shaped retinal hemorrhages

The finding most characteristic of central retinal artery occlusion is a pale fundus with a cherry red spot. In this condition, there is an obstruction of blood flow through the central retinal artery, leading to ischemia (lack of oxygen) in the surrounding retinal tissue, which appears pale or white because of the lack of blood supply. The cherry red spot occurs at the fovea, which is the area in the center of the retina that is thinner and has a higher concentration of photoreceptors. Since the foveal area is devoid of the underlying retinal pigment epithelium and choroidal blood supply remains intact, there appears a contrasting red spot against the pale surrounding retina. This classic clinical finding is crucial for diagnosing central retinal artery occlusion and differentiating it from other retinal pathologies. Other findings like optic disc edema, retinal edema with cotton wool spots, or flame-shaped retinal hemorrhages may suggest different retinal conditions such as retinal vein occlusion or other forms of retinopathy, but they are not hallmark signs of central retinal artery occlusion.

8. What is the main treatment approach for chondrosarcoma?

A. Chemotherapy

B. Radiation therapy

C. Surgical resection

D. Medication

Chondrosarcoma is a type of cancer that primarily affects the cartilage, and the main treatment approach for this condition is surgical resection. The rationale behind this is that chondrosarcomas tend to be resistant to both chemotherapy and radiation therapy, making these treatments less effective for this particular type of tumor. Surgical resection aims to completely remove the tumor along with a margin of healthy tissue to minimize the risk of recurrence. In many cases, the tumors can be large and may invade surrounding tissues, requiring careful planning for surgical intervention. The goal is to achieve clear margins, which is essential for reducing the chances of cancer returning after the surgery. Depending on the size and location of the tumor, this can involve complex surgical techniques. Chemotherapy is generally not effective against chondrosarcoma, particularly in high-grade tumors. Similarly, radiation therapy is not typically a primary treatment but may be used in cases where complete surgical resection is not possible or if there is a significant risk of recurrence after surgery. Medications may play a role in managing symptoms or treating pain but are not a primary treatment modality for the cancer itself. Thus, surgical resection remains the cornerstone of management for patients diagnosed with chondrosarcoma.

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9. What is the main limitation to the internal validity of a study assessing cough medication effectiveness in children?

A. Lack of blinding

B. Limited number of participants

C. Marginal statistical significance

D. Short duration of study

The main limitation to the internal validity of a study assessing cough medication effectiveness in children is the lack of blinding. Blinding in a clinical study is essential as it helps to reduce bias in the results. When participants or investigators know which intervention is being administered, it can introduce expectation effects or observer bias, leading to a distortion of the true effectiveness of the treatment being studied. Without blinding, the participants may have heightened expectations of the treatment's effectiveness if they know they are receiving the cough medication, which could influence their reporting of symptoms. Similarly, the researchers' knowledge of the treatment assignment could affect their assessment of outcomes. This could artificially inflate the perceived efficacy of the medication or skew the results in a particular direction. Ultimately, ensuring that both participants and investigators are unaware of treatment assignments increases the reliability of the findings and helps establish a clearer cause-and-effect relationship, which is crucial for the study's internal validity.

10. In terms of immune response mechanisms, how does mucosal immunity primarily utilize B lymphocytes?

A. Producing IgM upon initial exposure

B. Activating macrophages for phagocytosis

C. Generating IgA-producing cells for mucosal sites

D. Transferring antibodies through vascular circulation

Mucosal immunity primarily relies on B lymphocytes to produce Immunoglobulin A (IgA), which plays a crucial role in the defense of mucosal surfaces. When B cells are activated in mucosal tissues, they undergo class switching to produce IgA, a key antibody for neutralizing pathogens at mucosal surfaces, including those in the gastrointestinal, respiratory, and urogenital tracts. IgA is particularly significant because it exists in two forms: serum IgA and secretory IgA (sIgA). The secretory form is produced by plasma cells in mucosal tissues and is transported across epithelial cells into mucosal secretions, such as saliva, tears, and intestinal secretions. This localized production and secretion help to provide a first line of defense against pathogens at these entry points, preventing their adherence and invasion. The other answer choices do not accurately reflect the primary role of B lymphocytes in mucosal immunity. While B cells can produce IgM during the initial immune response, this is not specific to mucosal immunity. Activating macrophages is primarily a function of T lymphocytes and other factors rather than B cells. Similarly, while antibodies can circulate in vascular systems, the specific mechanism emphasized in mucosal immunity involves the production and

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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://nbmeform26.examzify.com

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

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