NBME FORM 16 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. **In DiGeorge syndrome, which electrolyte abnormality is typically present due to parathyroid aplasia?**

   A. Hypocalcemia

   B. Hyperkalemia

   C. Hypercalcemia

   D. Hypokalemia

2. **Which factor most increases the risk of aspiration pneumonia in an alcoholic with poor dentition?**

   A. Poor dentition

   B. Immunosuppression

   C. Recent antibiotic use

   D. Vaccination history

3. **In hereditary spherocytosis, which morphological finding is most characteristic on peripheral smear?**

   A. Spherocytes

   B. Target cells

   C. Acanthocytes

   D. Elliptocytes

4. **Lambert-Eaton syndrome is most strongly associated with which cancer?**

   A. Prostate cancer

   B. Breast cancer

   C. Small cell lung carcinoma

   D. Colon cancer

5. **Which molecule is required to transport long-chain fatty acids into mitochondria for beta-oxidation?**

   A. Carnitine

   B. NAD+

   C. FAD

   D. CoA

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6. Which histologic feature most closely indicates a high-grade tumor?

A. Increased N:C ratio

B. Low mitotic rate

C. Well differentiated

D. Organized glands

7. Which description best matches a tumor with a high nucleus-to-cytoplasm ratio and prominent nucleoli?

A. Low grade

B. Moderate grade

C. Benign

D. High grade

8. During surgical removal of an ovarian mass, which structure passing inferior to the ovary must be protected?

A. Ureter

B. Uterine artery

C. Round ligament of the uterus

D. Vaginal venous plexus

9. A 38-year-old woman with gastrinoma and multiple lipomas is started on a proton pump inhibitor. Which laboratory value should be monitored due to associated hyperparathyroidism in this syndrome?

A. Calcium

B. Gastrin

C. Prolactin

D. Thyroid-stimulating hormone

10. In a child with sudden progressive dyspnea, eosinophilia, and Charcot-Leyden crystals, which mediator is primarily involved in the pathogenesis of asthma?

A. Histamine

B. Acetylcholine

C. Leukotrienes

D. Prostaglandin E2

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Answers

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

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Explanations

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1. In DiGeorge syndrome, which electrolyte abnormality is typically present due to parathyroid aplasia?

A. Hypocalcemia

B. Hyperkalemia

C. Hypercalcemia

D. Hypokalemia

Parathyroid hormone is the main regulator of serum calcium. In DiGeorge syndrome, failure of development of the parathyroids (parathyroid aplasia) leads to severe PTH deficiency. Without PTH, the body can't efficiently mobilize calcium from bone, reabsorb calcium in the kidneys, or activate vitamin D to boost intestinal calcium absorption. The net result is low serum calcium, i.e., hypocalcemia, which can cause neuromuscular irritability, tetany, or even seizures in neonates. Hyperkalemia, hypokalemia, and hypercalcemia are not characteristic of parathyroid absence; the typical disturbance here is low calcium due to lack of PTH.

2. Which factor most increases the risk of aspiration pneumonia in an alcoholic with poor dentition?

A. Poor dentition

B. Immunosuppression

C. Recent antibiotic use

D. Vaccination history

The key idea is that aspiration pneumonia happens when contents from the oropharynx are inhaled into the lungs, and the specific bacteria you pick up to cause that pneumonia come from the mouth. In an alcoholic with poor dentition, the mouth is colonized by a lot of bacteria, especially anaerobes and oral streptococci. When swallowing is impaired or vomiting occurs, these oral microbes are aspirated and readily cause a pneumonia. So having poor dentition creates the reservoir of pathogens that makes aspiration pneumonia most likely in this setting. Immunosuppression would raise infection risk in general but doesn't specifically explain why aspiration pneumonia would occur more in this scenario. Recent antibiotic use can shift flora but isn't the factor that most directly increases the risk of aspiration. Vaccination history can protect against certain pneumonias and wouldn't increase risk.

3. In hereditary spherocytosis, which morphological finding is most characteristic on peripheral smear?

A. Spherocytes

B. Target cells

C. Acanthocytes

D. Elliptocytes

The key idea is that hereditary spherocytosis is defined by a membrane skeleton defect in red blood cells, which causes a loss of membrane surface area without a proportional loss of hemoglobin. This makes the cells become round and small, losing their central pallor, so the peripheral smear shows numerous spherocytes. These sphere-shaped cells are less deformable and get sequestered in the spleen, leading to hemolysis and a compensatory rise in reticulocytes and sometimes increased MCHC. While other morphologies like target cells, acanthocytes, or elliptocytes can appear in various other disorders (target cells with liver disease or thalassemia; acanthocytes with lipid disorders; elliptocytes with hereditary elliptocytosis), the presence of spherocytes is the most characteristic finding for hereditary spherocytosis.

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4. Lambert-Eaton syndrome is most strongly associated with which cancer?

A. Prostate cancer

B. Breast cancer

C. Small cell lung carcinoma

D. Colon cancer

Lambert-Eaton myasthenic syndrome is a paraneoplastic autoimmune disorder caused by antibodies against presynaptic voltage-gated calcium channels at the neuromuscular junction, leading to reduced acetylcholine release and proximal weakness with autonomic symptoms. It is most strongly linked to small cell lung carcinoma, because these tumors often express neuronal antigens that trigger this autoimmune response; a significant proportion of LEMS cases are associated with underlying SCLC, and identifying the cancer is a key part of management. Clinically, strength can temporarily improve with repeated use due to facilitation of transmitter release as calcium influx increases. Among the cancer options, small cell lung carcinoma is the classic association.

5. Which molecule is required to transport long-chain fatty acids into mitochondria for beta-oxidation?

A. Carnitine

B. NAD+

C. FAD

D. CoA

Long-chain fatty acids can't cross the inner mitochondrial membrane on their own, so they rely on the carnitine shuttle to enter the matrix for beta-oxidation. In the cytosol, the fatty acid is first activated to fatty acyl-CoA. Then CPT I transfers the acyl group to carnitine, forming acylcarnitine, which is shuttled across the inner membrane. Inside the matrix, CPT II transfers the acyl group back to CoA to reform fatty acyl-CoA for beta-oxidation. Thus, carnitine is the molecule that enables transport into the mitochondria. The other components play roles in the oxidation steps themselves or in initial activation, not in the transport across the mitochondrial membranes.

6. Which histologic feature most closely indicates a high-grade tumor?

A. Increased N:C ratio

B. Low mitotic rate

C. Well differentiated

D. Organized glands

A high-grade tumor is best signaled by a markedly increased nuclear-to-cytoplasmic (N:C) ratio. When cells become poorly differentiated, their nuclei enlarge and become more prominent while the cytoplasm shrinks, leading to larger, pleomorphic nuclei with hyperchromasia. This is a hallmark of anaplasia and rapid, abnormal proliferation, which underlies the aggressive nature of high-grade cancers. In contrast, features like a low mitotic rate, well-differentiated cells, or organized glandular architecture point to lower grade tumors, where the cells more closely resemble the normal tissue of origin. So the increased N:C ratio directly reflects the loss of differentiation and increased malignancy associated with high-grade disease.

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7. Which description best matches a tumor with a high nucleus-to-cytoplasm ratio and prominent nucleoli?

A. Low grade

B. Moderate grade

C. Benign

D. High grade

In tumor grading, a high nucleus-to-cytoplasm ratio and prominent nucleoli signal poor differentiation and aggressive behavior. When cells become less specialized, their nuclei enlarge relative to the cytoplasm, so the N:C ratio goes up. Prominent nucleoli indicate active ribosomal production and high transcriptional activity, which supports rapid cell growth. These features are hallmarks of high-grade tumors, which tend to be more invasive and have a higher likelihood of spreading compared with less differentiated forms. Benign tumors are usually well differentiated, with a lower N:C ratio, inconspicuous nucleoli, and orderly, noninvasive growth. A low- to moderate-grade tumor would show some degree of differentiation and mitotic activity but not the marked atypia seen in high-grade lesions.

8. During surgical removal of an ovarian mass, which structure passing inferior to the ovary must be protected?

A. Ureter

B. Uterine artery

C. Round ligament of the uterus

D. Vaginal venous plexus

The key idea is that the ureter runs very close to the ovary as it travels to the bladder. It courses in the retroperitoneum and passes under the ovarian vessels within the suspensory (infundibulopelvic) ligament as those vessels reach the ovary. Because an ovarian mass is manipulated and its vessels are ligated during removal, the ureter lies just inferior to the ovary and can be injured if not carefully protected. So protecting the ureter during the procedure is essential to avoid damaging this vital tube.

9. A 38-year-old woman with gastrinoma and multiple lipomas is started on a proton pump inhibitor. Which laboratory value should be monitored due to associated hyperparathyroidism in this syndrome?

A. Calcium

B. Gastrin

C. Prolactin

D. Thyroid-stimulating hormone

This is MEN1 (parathyroid, pancreatic, and pituitary tumors). The parathyroids are commonly affected in MEN1, leading to hyperparathyroidism and hypercalcemia. Monitoring calcium is essential because it reflects parathyroid disease activity and guides management, including potential surgical intervention. While gastrinoma activity is tracked by gastrin levels and pituitary issues by prolactin or TSH, the question specifically asks about the associated hyperparathyroidism, so calcium is the relevant lab to monitor.

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10. In a child with sudden progressive dyspnea, eosinophilia, and Charcot-Leyden crystals, which mediator is primarily involved in the pathogenesis of asthma?

A. Histamine

B. Acetylcholine

C. Leukotrienes

D. Prostaglandin E2

In asthma with eosinophilic inflammation, the key players are leukotrienes released by eosinophils and other inflammatory cells. Leukotrienes such as LTC4, LTD4, and LTE4 are powerful bronchoconstrictors that also promote mucus production and airway edema, driving the sustained airway narrowing that leads to progressive dyspnea. The presence of eosinophilia and Charcot-Leyden crystals supports this eosinophil-driven inflammatory pathway, making leukotrienes the primary mediators in the pathogenesis here. Histamine mediates mainly the immediate, early-phase bronchoconstriction but is not the principal driver of the ongoing airway hyperreactivity in this eosinophilic pattern. Acetylcholine causes bronchoconstriction via the parasympathetic system but isn't the central inflammatory mediator in asthma. Prostaglandin E2 has variable roles and is not the main driver in this eosinophil-rich scenario.

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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://nbmeform16.examzify.com

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

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