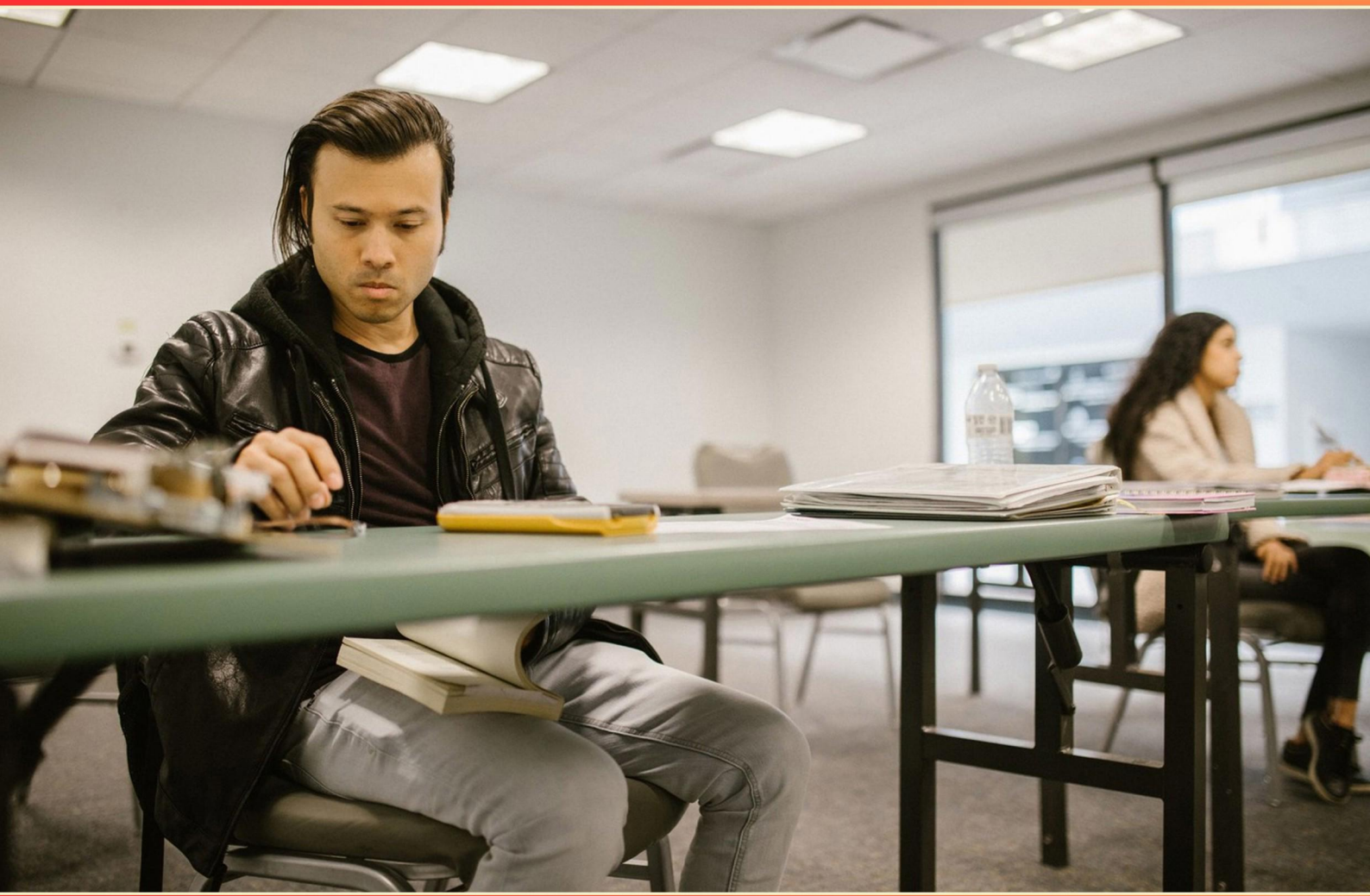
NBME FORM 29 PRACTICE TEST (SAMPLE)

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. **In patients with polyposis, what is the primary risk related to the observed colonic malignancies over time?**

   A. Increased dietary factors

   B. Genetic mutations

   C. Time-limited follow-up

   D. Age-related factors

2. **In a newborn presenting with vomiting and convulsions shortly after delivery, which organism is most commonly responsible?**

   A. Haemophilus influenzae

   B. Neisseria meningitidis

   C. Staphylococcus aureus

   D. Escherichia coli

3. **In a patient presenting with hyperthyroidism and an enlarged thyroid gland, the condition is most likely due to antibodies against which receptor?**

   A. Thyroid-releasing hormone receptor

   B. Thyroid-stimulating hormone receptor

   C. T4 receptor protein

   D. Triiodothyronine receptor

4. **In opioid intoxication, which finding is typically expected in a patient's vitals?**

   A. Normal pupils

   B. Increased pulse

   C. Constricted pupils

   D. Normal Glasgow Coma Score

5. **In a patient with a history of angina pectoris experiencing worsening chest pain, what will the administration of a monoclonal antibody against platelet IIb/IIIa receptors prevent?**

   A. Adenosine binding to platelets

   B. ADP binding to platelets

   C. Fibrinogen binding to platelets

   D. Thrombin binding to platelets

6. Which region of the brain is most likely the site of a mass in a patient with galactorrhea and bitemporal hemianopsia?

A. Hypothalamus

B. Midbrain

C. Pituitary gland

D. Pons

7. Which amino acid is targeted by diisopropyl fluorophosphate in the inhibition of acetylcholinesterase?

A. Cysteine

B. Histidine

C. Serine

D. Tyrosine

8. What diagnosis is suggested by flow cytometry showing a large population of T lymphocytes and a relative absence of IgM in a child with recurrent infections?

A. Adenosine deaminase deficiency

B. Hyper-IgM syndrome

C. IgA deficiency

D. X-linked agammaglobulinemia

9. A 25-year-old man has been fasting in the desert for a week. Which liver enzyme is most likely upregulated during this time?

A. Glucose 6-phosphatase

B. Pyruvate kinase

C. Phosphofructokinase

D. Hexokinase

10. What is the most likely diagnosis for a patient experiencing severe, unilateral headaches accompanied by nasal congestion and tearing?

A. Alcohol-induced vasodilation

B. Allergic rhinitis

C. Cluster headache

D. Temporal arteritis

Answers

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

Explanations

1. In patients with polyposis, what is the primary risk related to the observed colonic malignancies over time?

A. Increased dietary factors

B. Genetic mutations

C. Time-limited follow-up

D. Age-related factors

In patients with polyposis, particularly conditions like Familial Adenomatous Polyposis (FAP), there is a significant risk of developing colorectal cancer if the polyps are not managed appropriately. The primary risk related to the observed colonic malignancies over time is indeed linked to time-limited follow-up. This is because polyps can progress to cancer over time, and without regular surveillance and timely intervention, there can be a delay in detecting cancerous changes in the colon. Regular screening and monitoring are crucial to identify polyps early and manage them before they develop into malignancies. Patients with polyposis require ongoing surveillance to prevent the development of colorectal cancer, as the risk increases significantly with duration and number of polyps present. The other considerations, such as increased dietary factors or genetic mutations, may contribute to the risk landscape, but they do not directly address the critical nature of ongoing monitoring and timely intervention that is essential in managing the progression of colonic malignancies in polyposis cases. Age-related factors are also relevant, but they primarily influence the risk as patients grow older, rather than the fundamental need for consistent follow-up in those with existing polyps.

2. In a newborn presenting with vomiting and convulsions shortly after delivery, which organism is most commonly responsible?

A. Haemophilus influenzae

B. Neisseria meningitidis

C. Staphylococcus aureus

D. Escherichia coli

In a newborn presenting with symptoms such as vomiting and convulsions soon after birth, the most common organism responsible for these clinical manifestations, especially in the context of early onset infections, is Escherichia coli. E. coli can lead to serious infections in neonates, particularly when there is a predisposing factor such as prematurity, maternal chorioamnionitis, or prolonged rupture of membranes. This organism is a common cause of early-onset sepsis in newborns, which can present with signs like poor feeding, vomiting, and neurological symptoms such as convulsions due to sepsis or meningitis. The presence of these symptoms shortly after delivery indicates that the organism likely came from the maternal genital tract or through the birth canal. E. coli strains can be especially virulent due to their ability to produce endotoxins and other virulence factors that can lead to rapid clinical deterioration in newborns. Understanding the infectious risks and the typical pathogens involved in early-onset sepsis is crucial for prompt diagnosis and treatment, making E. coli a key organism to consider in these scenarios.

3. In a patient presenting with hyperthyroidism and an enlarged thyroid gland, the condition is most likely due to antibodies against which receptor?

A. Thyroid-releasing hormone receptor

B. Thyroid-stimulating hormone receptor

C. T4 receptor protein

D. Triiodothyronine receptor

In a patient presenting with hyperthyroidism accompanied by an enlarged thyroid gland, the condition is typically due to the presence of antibodies that stimulate the thyroid-stimulating hormone (TSH) receptor. This scenario is most commonly associated with Graves' disease, an autoimmune disorder where these antibodies mimic the action of TSH, leading to the overproduction of thyroid hormones (T3 and T4) and consequent thyroid gland enlargement or goiter. The stimulation of the TSH receptor by these antibodies causes the thyroid gland to produce excessive amounts of thyroid hormones, resulting in hyperthyroidism. This overactivity of the thyroid is characterized by symptoms such as weight loss, heat intolerance, palpitations, and anxiety, among others. The enlargement of the thyroid gland is due to the increased follicular cell activity and proliferation in response to the persistent stimulation by the antibodies. In contrast, the other receptors mentioned do not play a direct role in the pathophysiology of hyperthyroidism linked to Graves' disease. Thyroid-releasing hormone receptor is involved in the regulation of TSH secretion from the pituitary but does not directly cause hyperthyroidism. The T4 and triiodothyronine receptors are involved in cellular responses to thyroid hormones but do not med

4. In opioid intoxication, which finding is typically expected in a patient's vitals?

A. Normal pupils

B. Increased pulse

C. Constricted pupils

D. Normal Glasgow Coma Score

In opioid intoxication, constricted pupils, often referred to as "miosis," is a classic and expected finding. Opioids bind to specific receptors in the brain and spinal cord, leading to various effects, one of which is the stimulation of the parasympathetic nervous system. This stimulation results in the constriction of the pupils, presenting as pinpoint pupils in nearly all cases of opioid overdose. The vital signs in opioid intoxication may also include respiratory depression, bradycardia (slowed heart rate), and alterations in consciousness depending on the severity of the intoxication. However, the characteristic response regarding pupils stands out distinctly in this context. Normal pupils would suggest an absence of opioid influence, while an increased pulse is contrary to the effects typically produced by opioids, which tend to decrease heart rate. Similarly, a normal Glasgow Coma Score would indicate alertness and could imply that the patient is not experiencing significant opioid effects, which is inconsistent with the intoxication state expected in this scenario. Thus, the presence of constricted pupils is the hallmark sign of opioid intoxication and is crucial for identifying this condition clinically.

5. In a patient with a history of angina pectoris experiencing worsening chest pain, what will the administration of a monoclonal antibody against platelet IIb/IIIa receptors prevent?

A. Adenosine binding to platelets

B. ADP binding to platelets

C. Fibrinogen binding to platelets

D. Thrombin binding to platelets

The administration of a monoclonal antibody against platelet IIb/IIIa receptors will prevent fibrinogen binding to platelets. This is because the IIb/IIIa receptor is a crucial component of the platelet activation process. When platelets are activated, they undergo a change that allows them to bind fibrinogen, forming a bridge between adjacent platelets, which is essential for platelet aggregation and the formation of a stable blood clot. By targeting and inhibiting the IIb/IIIa receptor, the monoclonal antibody effectively blocks the ability of fibrinogen to bind to platelets. This action decreases platelet aggregation, which is particularly important in a patient with angina pectoris, where thrombus formation can worsen ischemia and lead to more severe chest pain or even myocardial infarction. Understanding the context of how IIb/IIIa receptors function within the hemostatic process highlights the rationale for using such therapies in conditions characterized by excessive platelet activity.

6. Which region of the brain is most likely the site of a mass in a patient with galactorrhea and bitemporal hemianopsia?

A. Hypothalamus

B. Midbrain

C. Pituitary gland

D. Pons

In this scenario, the presence of galactorrhea (the abnormal discharge of milk from the breasts) and bitemporal hemianopsia (loss of vision in the outer half of the visual field in both eyes) strongly suggests the involvement of the pituitary gland, specifically in relation to a pituitary adenoma. The pituitary gland is located in the sella turcica at the base of the skull, just below the optic chiasm. A growth or mass in this gland can exert pressure on the optic chiasm, leading to the characteristic bitemporal hemianopsia as the optic nerve fibers carrying visual information from the outer fields of vision are compressed. Additionally, galactorrhea can occur due to hyperprolactinemia, which is often caused by prolactin-secreting adenomas. Thus, a tumor in the pituitary gland could directly lead to both symptoms—pressing on the optic chiasm to cause visual field defects and secreting excess prolactin leading to galactorrhea. The other regions of the brain mentioned either do not typically relate to these specific symptoms or are not commonly sites for masses that would induce them in this context. Therefore, the pituitary

7. Which amino acid is targeted by diisopropyl fluorophosphate in the inhibition of acetylcholinesterase?

A. Cysteine

B. Histidine

C. Serine

D. Tyrosine

Diisopropyl fluorophosphate (DFP) is a potent organophosphate that irreversibly inhibits the enzyme acetylcholinesterase by specifically targeting a serine residue in the enzyme's active site. The active site of acetylcholinesterase has a catalytic triad, which includes serine, histidine, and aspartate. Serine plays a crucial role in the enzymatic reaction that hydrolyzes acetylcholine, leading to the termination of its action at the neuromuscular junction and synapses in the central nervous system. When DFP interacts with acetylcholinesterase, it forms a stable bond with the hydroxyl group of the serine residue, thus preventing the enzyme from functioning effectively. This inhibition leads to an accumulation of acetylcholine, causing prolonged stimulation of the postsynaptic receptors, which can lead to symptoms such as muscle twitching, paralysis, and potentially respiratory failure if left untreated. Understanding the mechanism of DFP's action highlights the critical role of serine in enzymatic activity and the importance of acetylcholinesterase in neurotransmission.

8. What diagnosis is suggested by flow cytometry showing a large population of T lymphocytes and a relative absence of IgM in a child with recurrent infections?

A. Adenosine deaminase deficiency

B. Hyper-IgM syndrome

C. IgA deficiency

D. X-linked agammaglobulinemia

The scenario describes a child with recurrent infections, characterized by a flow cytometry result indicating a large population of T lymphocytes and a relative absence of IgM. This is indicative of X-linked agammaglobulinemia, a condition caused by a mutation in the BTK gene that leads to the failure of B cell development. In X-linked agammaglobulinemia, the immature B cells in the bone marrow do not mature into functional B cells, resulting in a profound deficiency of immunoglobulins, including IgM, IgG, and IgA. The presence of T lymphocytes is normal; however, the critical defect lies in the absent or severely reduced number of circulating B cells and their resultant antibody production capability. Recurrent infections typically arise due to the inability to produce adequate antibodies to respond to pathogens, particularly encapsulated bacteria. The lack of IgM, which is the first antibody produced in response to an infection, further supports this diagnosis. Other conditions listed, such as adenosine deaminase deficiency, hyper-IgM syndrome, and IgA deficiency, have distinguishing features that do not align with the finding of a large population of T lymphocytes coupled with a marked deficiency of IgM. For example

9. A 25-year-old man has been fasting in the desert for a week. Which liver enzyme is most likely upregulated during this time?

A. Glucose 6-phosphatase

B. Pyruvate kinase

C. Phosphofructokinase

D. Hexokinase

During fasting, the body's primary goal is to maintain adequate blood glucose levels to provide energy, especially for the brain and red blood cells, which rely heavily on glucose as their energy source. The liver plays a crucial role in gluconeogenesis (the production of glucose from non-carbohydrate substrates) and glycogenolysis (the breakdown of glycogen to release glucose). Glucose 6-phosphatase is a key enzyme involved in the final step of gluconeogenesis and glycogenolysis, where it hydrolyzes glucose-6-phosphate to free glucose, allowing glucose to be released into the bloodstream. During fasting, this enzyme's activity increases significantly to promote the conversion of stored glycogen to glucose, thereby ensuring adequate glucose levels in the blood. The other enzymes listed have different roles in carbohydrate metabolism. Pyruvate kinase, phosphofructokinase, and hexokinase are more active during the fed state, where glucose is plentiful, and their role in glycolysis and glucose utilization does not align with the metabolic demands of a fasting state. Thus, during fasting, the upregulation of glucose 6-phosphatase is crucial for maintaining blood glucose levels, making it the most likely enzyme to be upregulated in

10. What is the most likely diagnosis for a patient experiencing severe, unilateral headaches accompanied by nasal congestion and tearing?

A. Alcohol-induced vasodilation

B. Allergic rhinitis

C. Cluster headache

D. Temporal arteritis

The symptoms described—severe, unilateral headaches along with nasal congestion and tearing—are characteristic of a cluster headache. Cluster headaches are known for their sudden onset and can be extremely painful, often described as a burning or piercing sensation. They typically occur in clusters, leading to a pattern of episodes that can happen at the same time every day over a period of weeks or months, followed by remission. The accompanying symptoms of nasal congestion and tearing are particularly notable, as they can occur due to the involvement of the trigeminal nerve during a cluster headache attack. This can lead to autonomic symptoms such as lacrimation (tearing) and rhinorrhea (runny nose), which further aligns with the presentation of cluster headaches. While the other conditions listed may involve headaches or nasal symptoms, they do not match the specific combination and intensity of symptoms associated with cluster headaches. For example, allergic rhinitis primarily leads to nasal symptoms and does not usually cause severe unilateral headaches. Alcohol-induced vasodilation could potentially trigger headaches but wouldn't typically present with nasal congestion and tearing. Temporal arteritis would more often present with a different type of headache, possibly with more systemic features, such as jaw claudication or vision changes, rather than the acute, sudden onset

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!