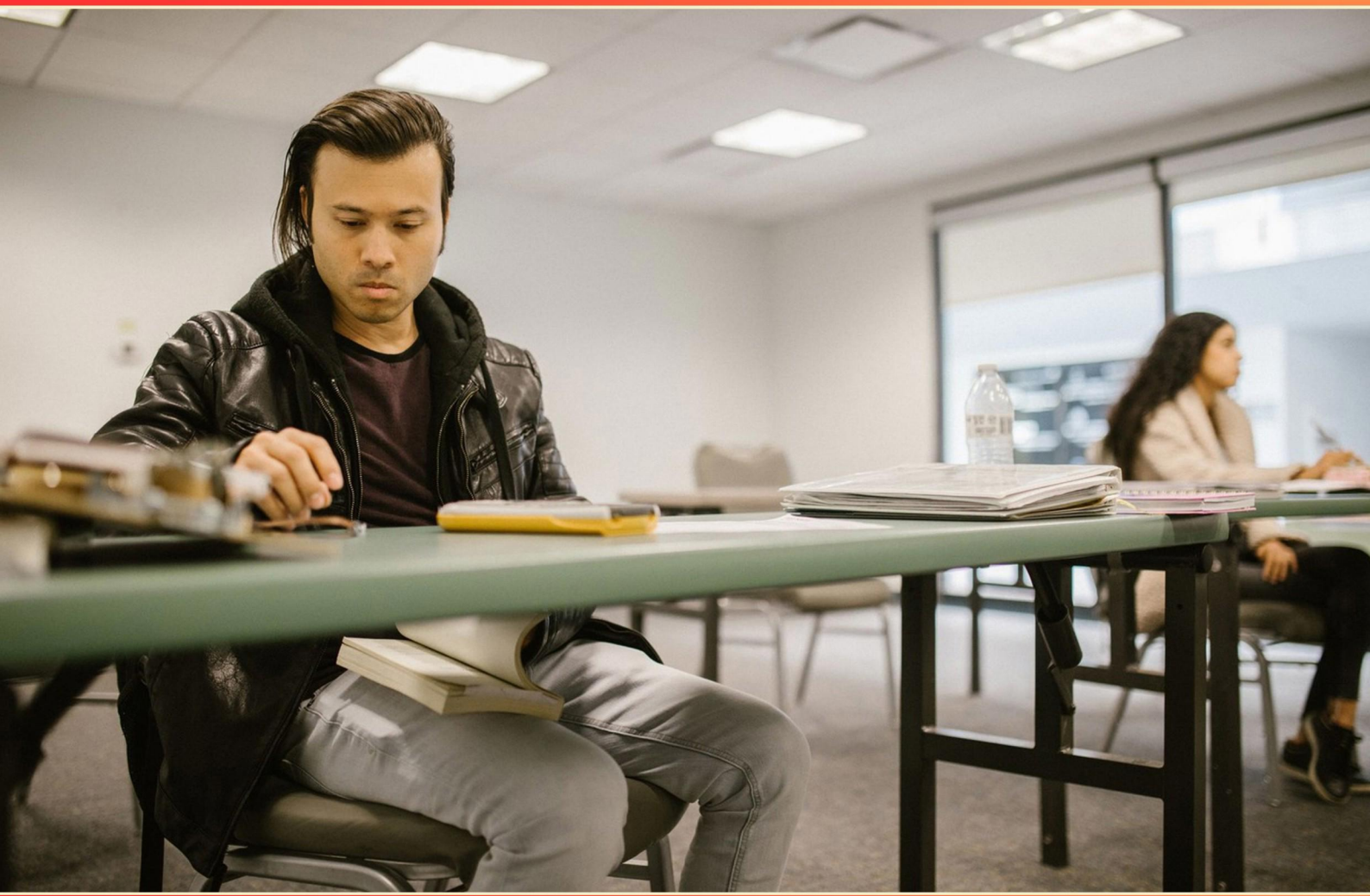
NBME FORM 29 PRACTICE TEST (SAMPLE)

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.

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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 phenomenon explains the presence of both 45,X and 46,XX karyotypes in a patient with Turner syndrome?

A. Genetic recombination

B. Loss of heterozygosity

C. Postfertilization nondisjunction

D. Translocation

2. What condition is characterized by pulmonary edema, high blood pressure, and peripheral cyanosis in a patient presenting with congestive heart failure?

A. Hypovolemic shock

B. Cardiogenic shock

C. Septic shock

D. Obstructive shock

3. Which complication is most commonly associated with a diagnosis of acute pancreatitis?

A. Gallstone obstruction

B. Pneumonia

C. Chronic renal failure

D. Diabetes

4. In a patient with chronic renal failure and type 2 diabetes, which laboratory finding is most likely to increase?

A. Calcium

B. Phosphate

C. Parathyroid hormone

D. Hemoglobin

5. A 20-year-old with a long face and large testes has expanded CGG repeats in the FMR1 gene. What is the most likely effect of these repeats on FMR1 mRNA transcription?

A. Alteration of mRNA splicing

B. Decreased transcription

C. Enhancement of mRNA degradation

D. Incorporation of CGG repeats into mRNA

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6. What type of murmur is typically associated with aortic stenosis?

A. Holosystolic murmur

B. Crescendo-decrescendo systolic murmur

C. Diastolic murmur

D. Continuous murmur

7. A 28-year-old woman presents with heavy menstrual bleeding and a family history of prolonged bleeding. What is the most likely cause of her bleeding disorder?

A. Decreased platelet glycoprotein IIb/IIIa

B. Increased antiplatelet antibodies

C. Decreased platelet adhesion

D. Increased platelet sequestration in the spleen

8. An antibody inactivating inhibin in female animals would most likely lead to what change in hormone levels?

A. Increased serum follicle-stimulating hormone concentration

B. Decreased serum gonadotropin-releasing hormone concentration

C. Increased serum estrogen concentration

D. Decreased serum luteinizing hormone concentration

9. Which of the following diseases is characterized by a monoclonal spike of immunoglobulin without signs of more severe diseases?

A. Multiple myeloma

B. Monoclonal gammopathy of uncertain significance

C. Chronic lymphocytic leukemia

D. Myelodysplastic syndromes

10. Which area of the kidney is most susceptible to anoxic injury during oxygen deprivation?

A. Bowman capsule

B. Distal convoluted tubule

C. Proximal tubule

D. Efferent arteriole

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Answers

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

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Explanations

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1. What phenomenon explains the presence of both 45,X and 46,XX karyotypes in a patient with Turner syndrome?

A. Genetic recombination

B. Loss of heterozygosity

C. Postfertilization nondisjunction

D. Translocation

The phenomenon seen in Turner syndrome, where both 45,X and 46,XX karyotypes coexist in a patient, can be primarily attributed to postfertilization nondisjunction. This occurs when there is an error during cell division after fertilization, leading to loss of one sex chromosome in some of the daughter cells. In the context of Turner syndrome, the presence of 45,X indicates that in certain cells, one X chromosome is missing due to this nondisjunction event. Meanwhile, some cells may retain the complete set, leading to the 46,XX configuration. This mosaicism is not due to a failure in the initial separation of chromosomes during meiosis in the parents (which would lead to a single karyotype) but rather happens during later cell division in the developing embryo. This process is crucial in understanding the range of phenotypic expressions observed in Turner syndrome, as the proportion of 45,X versus 46,XX cells can influence the severity of clinical manifestations.

2. What condition is characterized by pulmonary edema, high blood pressure, and peripheral cyanosis in a patient presenting with congestive heart failure?

A. Hypovolemic shock

B. Cardiogenic shock

C. Septic shock

D. Obstructive shock

The condition characterized by pulmonary edema, high blood pressure, and peripheral cyanosis in a patient presenting with congestive heart failure is indeed cardiogenic shock. In cardiogenic shock, the heart's ability to pump blood effectively is compromised, which can lead to fluid accumulation in the lungs, resulting in pulmonary edema. This accumulation is typically associated with heart failure, where the heart struggles to maintain sufficient cardiac output, leading to backpressure in the pulmonary vasculature. High blood pressure may be observed initially due to compensatory mechanisms in response to decreased cardiac output, where the body attempts to maintain perfusion through activation of the sympathetic nervous system and the renin-angiotensin-aldosterone system. Peripheral cyanosis occurs due to inadequate systemic perfusion and oxygenation, as the body diverts blood to vital organs at the expense of peripheral tissues, especially when the cardiac output is severely compromised. The presence of these symptoms aligns with the description of congestive heart failure, distinguishing it from the other types of shock. Hypovolemic shock, for instance, typically involves low blood volume rather than high blood pressure, while septic shock is marked by an infection and often presents with hypotension instead of high blood pressure. Obstructive shock involves a

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3. Which complication is most commonly associated with a diagnosis of acute pancreatitis?

A. Gallstone obstruction

B. Pneumonia

C. Chronic renal failure

D. Diabetes

Acute pancreatitis is often precipitated by gallstones, which can obstruct the common bile duct and lead to increased pressure within the pancreatic duct. This obstruction can result in the backing up of digestive enzymes, causing inflammation and damage to the pancreatic tissue. As the condition progresses, it can lead to complications such as necrosis, abscess formation, and systemic inflammatory responses. Gallstone obstruction stands out as a key complication because it is one of the most common causes of acute pancreatitis, particularly in cases where the inflamed pancreas is associated with bile duct obstruction. This relationship underscores the importance of managing gallstones in patients presenting with acute pancreatitis to prevent further complications and recurrent episodes. Other options, although they represent potential complications or associations with acute pancreatitis, such as pneumonia, chronic renal failure, and diabetes, are not as directly correlated or common as gallstone obstruction in the acute setting of pancreatitis. Therefore, gallstone obstruction is recognized as the primary complication associated with acute pancreatitis due to its pathophysiological link.

4. In a patient with chronic renal failure and type 2 diabetes, which laboratory finding is most likely to increase?

A. Calcium

B. Phosphate

C. Parathyroid hormone

D. Hemoglobin

In patients with chronic renal failure, there is a marked impairment in the kidneys' ability to excrete phosphate. Normally, the kidneys help regulate phosphate levels by excreting excess amounts. As renal function declines, phosphate retention occurs, leading to elevated serum phosphate levels. This is exacerbated in patients with diabetes, where metabolic disturbances can further affect kidney function. The increase in phosphate levels can result from several factors, including reduced glomerular filtration rate (GFR), which is a hallmark of chronic renal failure. As phosphate accumulates, it can lead to secondary changes such as hyperparathyroidism, as the parathyroid glands respond to relatively low calcium levels and elevate parathyroid hormone production to increase calcium and decrease phosphate levels in the body. This situation often leads to complications like vascular calcifications and bone disease due to shifting mineral balance. Therefore, in the context of chronic renal failure combined with type 2 diabetes, the most likely laboratory finding to be increased is phosphate.

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5. A 20-year-old with a long face and large testes has expanded CGG repeats in the FMR1 gene. What is the most likely effect of these repeats on FMR1 mRNA transcription?

A. Alteration of mRNA splicing

B. Decreased transcription

C. Enhancement of mRNA degradation

D. Incorporation of CGG repeats into mRNA

The presence of expanded CGG repeats in the FMR1 gene is characteristic of Fragile X syndrome. In this condition, the long repeats lead to hypermethylation of the promoter region of the FMR1 gene, which inhibits gene transcription. As a result, the overall production of FMR1 mRNA decreases significantly. This decrease in transcription is a crucial aspect of the pathophysiology of Fragile X syndrome, as it leads to insufficient production of the fragile X mental retardation protein (FMRP), which is essential for normal neural development and synaptic function. In this case, the large number of CGG repeats serves to effectively silence the gene, rather than modifying splicing or causing other changes to mRNA. This altered expression ultimately contributes to the symptoms observed in individuals with the disorder, including developmental delays and characteristic physical features.

6. What type of murmur is typically associated with aortic stenosis?

A. Holosystolic murmur

B. Crescendo-decrescendo systolic murmur

C. Diastolic murmur

D. Continuous murmur

Aortic stenosis is characterized by a characteristic heart murmur known as a crescendo-decrescendo systolic murmur. This type of murmur is produced by the turbulent flow of blood through the narrowed aortic valve during systole. As the left ventricle ejects blood into the aorta, the sound initially increases in intensity (crescendo) as the flow accelerates, reaches its peak, and then decreases in intensity (decrescendo) as the blood flow rate slows down in the later stages of ejection. This creates a distinct pattern that is easily identifiable when listening to the heart with a stethoscope. The classic location for auscultation of this murmur is at the right second intercostal space, which is the typical area where the aortic valve can be best heard. The timing and quality of the murmur, along with associated signs such as a weak or delayed carotid pulse, help to clarify aortic stenosis when diagnosed clinically. This cascade of sound dynamics is crucial in differentiating between various types of heart murmurs. Understanding these attributes of the aortic stenosis murmur can greatly aid in diagnosing this condition in a clinical setting.

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7. A 28-year-old woman presents with heavy menstrual bleeding and a family history of prolonged bleeding. What is the most likely cause of her bleeding disorder?

A. Decreased platelet glycoprotein IIb/IIIa

B. Increased antiplatelet antibodies

C. Decreased platelet adhesion

D. Increased platelet sequestration in the spleen

The presentation of heavy menstrual bleeding and a family history of prolonged bleeding suggests an underlying bleeding disorder, particularly one that affects platelet function or levels. In this context, decreased platelet adhesion is a significant factor. Decreased platelet adhesion often points to a condition like von Willebrand's disease, which is characterized by a deficiency or dysfunction of von Willebrand factor (vWF). This factor is crucial for normal platelet function, particularly in the adhesion process where platelets must stick to the damaged vascular endothelium to form a clot. If there is inadequate adhesion, bleeding can occur, notably in situations like heavy menstrual periods. This understanding aligns with the woman's symptoms and family history; since bleeding disorders can often be hereditary, familial conditions like von Willebrand's disease could explain her bleeding tendency. Recognizing that decreased platelet adhesion is a central mechanism in several bleeding disorders provides clarity on why this is the most likely cause of her symptoms.

8. An antibody inactivating inhibin in female animals would most likely lead to what change in hormone levels?

A. Increased serum follicle-stimulating hormone concentration

B. Decreased serum gonadotropin-releasing hormone concentration

C. Increased serum estrogen concentration

D. Decreased serum luteinizing hormone concentration

Inhibin is a hormone produced by the ovaries that primarily functions to inhibit the secretion of follicle-stimulating hormone (FSH) from the anterior pituitary gland. When inhibin levels are reduced, whether through antibody-mediated inactivation or other means, FSH secretion is no longer inhibited, leading to an increase in its concentration in the serum. In the context of female reproductive physiology, when there is an increase in serum follicle-stimulating hormone due to the inactivation of inhibin, the stimulation of ovarian follicles may lead to higher production of estrogen as well. However, the primary and immediate effect of antagonizing inhibin is the rise in FSH levels. Therefore, the most direct consequence of inactivating inhibin is an increased concentration of serum follicle-stimulating hormone, as the usual inhibitory feedback is disrupted, allowing for greater secretion from the pituitary.

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9. Which of the following diseases is characterized by a monoclonal spike of immunoglobulin without signs of more severe diseases?

A. Multiple myeloma

B. Monoclonal gammopathy of uncertain significance

C. Chronic lymphocytic leukemia

D. Myelodysplastic syndromes

Monoclonal gammopathy of uncertain significance (MGUS) is a condition characterized by the presence of a monoclonal spike of immunoglobulin in the serum, which can be detected through electrophoresis. The critical aspect of MGUS is that it is generally asymptomatic and does not present with the more severe complications or criteria that are seen in diseases like multiple myeloma. In MGUS, the levels of monoclonal protein are typically lower than in multiple myeloma, and there are no signs of end-organ damage or related complications that would suggest a more serious underlying condition. Patients with MGUS may have normal blood counts and organ function, a stark contrast to multiple myeloma, where patients often exhibit anemia, bone lesions, renal impairment, and other systemic symptoms. This differentiates MGUS from other conditions listed. While multiple myeloma is directly associated with significant morbidity and has a clear set of diagnostic criteria that involve more severe features, chronic lymphocytic leukemia and myelodysplastic syndromes present with distinct symptoms and laboratory findings indicative of more aggressive hematological diseases. Thus, the defining characteristic of MGUS is the benign nature of the monoclonal protein spike without the complications associated with more severe diseases.

10. Which area of the kidney is most susceptible to anoxic injury during oxygen deprivation?

A. Bowman capsule

B. Distal convoluted tubule

C. Proximal tubule

D. Efferent arteriole

The proximal tubule is the area of the kidney most susceptible to anoxic injury during oxygen deprivation. This susceptibility can be attributed to several factors. Firstly, the proximal tubule is highly metabolically active; it is responsible for the reabsorption of a significant amount of filtered water, sodium, bicarbonate, glucose, and other solutes. This high metabolic activity leads to a greater demand for oxygen, making these cells particularly vulnerable in situations where there is reduced oxygen availability. Moreover, the proximal tubule has a dense network of mitochondria to support its energy needs, and when oxygen levels drop, the inability to carry out oxidative phosphorylation effectively impairs ATP production. This can lead to cellular injury and ultimately cell death if the hypoxic conditions persist. In contrast, structures such as the Bowman capsule and the efferent arteriole are less metabolically active and do not rely on oxygen to the same extent as the proximal tubule, rendering them less susceptible to anoxic injury. The distal convoluted tubule also has lower energy requirements compared to the proximal tubule, focusing more on specific ion exchanges rather than the broad reabsorption tasks handled in the proximal region. Therefore, in scenarios of oxygen deprivation, the proximal tubule stands out as

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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://nbmeform29.examzify.com

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

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