Mehlman High Yield Practice Exam (Sample)

Study Guide

Everything you need from our exam experts!

Table of Contents

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. Which condition is most likely in a patient with hypercalcemia presenting with polyuria?

A. Central diabetes insipidus

B. Nephrogenic diabetes insipidus

C. SIADH

D. Hyperglycemia

2. Which pharyngeal pouch gives rise to the superior parathyroid glands?

A. First pharyngeal pouch

B. Second pharyngeal pouch

C. Fourth pharyngeal pouch

D. Third pharyngeal pouch

3. Which thyroid cancer is typically associated with a cold nodule on radionuclide uptake scanning?

A. Papillary

B. Anaplastic

C. Medullary

D. Follicular

4. Which statement about complement C3 levels is typical during a systemic lupus erythematosus flare?

A. C3 decreases during a flare

B. C3 increases during a flare

C. C3 remains unchanged during a flare

D. C3 fluctuates unpredictably during a flare

5. Centriacinar emphysema is most strongly associated with which risk factor?

A. Asthma

B. Smokers

C. Chronic bronchitis

D. Cystic fibrosis

6. Which diagnosis is most likely in a 32-year-old woman presenting with arthritis and low platelets?

A. SLE

B. Rheumatoid arthritis

C. Scleroderma

D. Psoriatic arthritis

7. In a patient with significant blood loss and oliguria, which diagnosis is most likely?

A. Acute tubular necrosis

B. Prerenal azotemia

C. Diffuse cortical necrosis

D. Glomerulonephritis

8. Cubital tunnel syndrome is caused by entrapment of which nerve at which location?

A. Median nerve entrapment at the carpal tunnel

B. Ulnar nerve entrapment at the elbow

C. Radial nerve entrapment at the forearm

D. Axillary nerve entrapment

9. Leg swelling plus pain plus shortness of breath most likely indicates which diagnosis?

A. Pulmonary embolism caused by deep venous thrombosis

B. Pneumonia

C. Myocardial infarction

D. Pneumothorax

10. Which disease is classically associated with a bamboo spine on X-ray?

A. Ankylosing spondylitis

B. Gout

C. Osteoarthritis

D. Rheumatoid arthritis

Answers

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

Explanations

1. Which condition is most likely in a patient with hypercalcemia presenting with polyuria?

A. Central diabetes insipidus

B. Nephrogenic diabetes insipidus

C. SIADH

D. Hyperglycemia

Hypercalcemia often causes polyuria by making the kidneys unresponsive to vasopressin, leading to nephrogenic diabetes insipidus. In this condition, the collecting ducts fail to concentrate urine because the ADH signal cannot effectively promote water reabsorption. Normally ADH binds V2 receptors in the collecting ducts, raising cAMP and driving aquaporin-2 channels to the membrane to reabsorb water. High calcium disrupts this signaling or the insertion of aquaporin-2, so water reabsorption falls and large volumes of dilute urine are produced. That fits the scenario of hypercalcemia with polyuria best. Central diabetes insipidus would involve insufficient ADH production rather than renal insensitivity. SIADH causes inappropriately concentrated urine with hyponatremia. Hyperglycemia can cause osmotic diuresis from glucose in the filtrate, but the combination with hypercalcemia most characteristically points to nephrogenic diabetes insipidus due to renal unresponsiveness to ADH.

2. Which pharyngeal pouch gives rise to the superior parathyroid glands?

A. First pharyngeal pouch

B. Second pharyngeal pouch

C. Fourth pharyngeal pouch

D. Third pharyngeal pouch

Focus on where parathyroid glands originate in development. Parathyroids arise from the dorsal parts of the pharyngeal pouches, but their final locations reflect different pouch origins. The dorsal portion of the third pharyngeal pouch forms the inferior parathyroid glands (and the thymus from its ventral part), while the dorsal portion of the fourth pharyngeal pouch forms the superior parathyroid glands (with the ventral portion giving rise to other structures of the thyroid region). Thus, the superior parathyroids come from the dorsal part of the fourth pharyngeal pouch.

3. Which thyroid cancer is typically associated with a cold nodule on radionuclide uptake scanning?

A. Papillary

B. Anaplastic

C. Medullary

D. Follicular

Radionuclide thyroid scans show which nodules trap iodine. Hot nodules take up tracer and are usually benign autonomously functioning tissue, while cold nodules do not take up much tracer and raise concern for nonfunctioning or malignant tissue. Follicular carcinoma is classically associated with a cold nodule because these cancers often arise from follicular cells but lack the iodine-trapping function of normal thyroid tissue, so the lesion appears cold on the scan. While other cancers can be cold as well, this pattern is the most characteristic and helps explain why a cold nodule points toward follicular carcinoma.

4. Which statement about complement C3 levels is typical during a systemic lupus erythematosus flare?

A. C3 decreases during a flare

B. C3 increases during a flare

C. C3 remains unchanged during a flare

D. C3 fluctuates unpredictably during a flare

During a systemic lupus erythematosus flare, immune complexes activate the classical complement pathway, which consumes C3. This leads to lower serum C3 levels, a pattern commonly seen with active disease and often accompanying lupus nephritis. As the flare abates and immune complex formation decreases, C3 can rise again. So, the typical finding is a decrease in C3 during a flare. The other possibilities don't fit the mechanism: an increase would imply less consumption or more production, unchanged levels ignore ongoing activation, and unpredictable fluctuation isn't characteristic of the disease's inflammatory-driven consumption.

5. Centriacinar emphysema is most strongly associated with which risk factor?

A. Asthma

B. Smokers

C. Chronic bronchitis

D. Cystic fibrosis

Emphysema subtypes reflect how and where alveolar walls are destroyed, and centriacinar emphysema specifically involves the central portions of the respiratory bronchioles with the upper lung zones most affected. This pattern is most strongly linked to exposure to cigarette smoke and other inhaled toxins, which drive inflammation and release of proteases that degrade elastic tissue in the airway walls. Smoking is the primary risk factor for developing centriacinar emphysema, making it the best choice among the options. Asthma and cystic fibrosis relate to other respiratory pathologies and do not define this histologic pattern, while chronic bronchitis describes mucus overproduction rather than the emphysema subtype; a related but different pattern, panacinar emphysema, is classically associated with alpha-1 antitrypsin deficiency.

6. Which diagnosis is most likely in a 32-year-old woman presenting with arthritis and low platelets?

A. SLE

B. Rheumatoid arthritis

C. Scleroderma

D. Psoriatic arthritis

Arthritis with low platelets points to an autoimmune process that can affect both joints and blood cells. Systemic lupus erythematosus commonly presents in young women with non-erosive, migratory arthritis and hematologic abnormalities, including immune-mediated thrombocytopenia. Autoantibodies target platelets, leading to a reduced platelet count, which fits the clinical picture here. In contrast, rheumatoid arthritis is mainly about erosive joint disease without typical thrombocytopenia; scleroderma emphasizes skin and vascular/collagen changes; psoriatic arthritis involves psoriasis and joint symptoms but not low platelets as a defining feature. Thus, the combination of arthritis and a low platelet count most aligns with SLE.

7. In a patient with significant blood loss and oliguria, which diagnosis is most likely?

A. Acute tubular necrosis

B. Prerenal azotemia

C. Diffuse cortical necrosis

D. Glomerulonephritis

When kidney injury follows significant blood loss, the key issue is ischemia from reduced renal perfusion. If the hypoperfusion is severe or prolonged, the tubular cells—especially in the proximal tubule and thick ascending limb—suffer energy depletion and injury, leading to acute tubular necrosis. This ischemic damage disrupts tubular reabsorption, causes tubular obstruction from sloughed cells, and reduces the kidney's ability to filter, producing oliguria. In this scenario, the persistent, marked drop in urine output after substantial blood loss fits with ischemic injury to the tubules, which is most consistent with acute tubular necrosis. Other possibilities involve different patterns: prerenal azotemia arises from decreased perfusion without intrinsic tubular injury and would typically improve with volume restoration; diffuse cortical necrosis and glomerulonephritis reflect other pathophysiologies (catastrophic cortical destruction or glomerular inflammation, respectively) not primarily driven by acute hypovolemia.

8. Cubital tunnel syndrome is caused by entrapment of which nerve at which location?

A. Median nerve entrapment at the carpal tunnel

B. Ulnar nerve entrapment at the elbow

C. Radial nerve entrapment at the forearm

D. Axillary nerve entrapment

Cubital tunnel syndrome happens when the ulnar nerve is compressed at the elbow, as it passes through the cubital tunnel behind the medial epicondyle. Repeated elbow flexion or pressure can irritate the nerve there, leading to numbness and tingling in the little finger and the medial half of the ring finger, along with weakness of the intrinsic hand muscles that can affect grip and finger movements. This elbow-level compression explains the specific pattern of symptoms, and it's distinct from other nerve entrapments: the median nerve at the carpal tunnel causes symptoms in the thumb through part of the ring finger and weakens the thenar muscles; the radial nerve in the forearm leads to forearm pain and problems with wrist and finger extension; and axillary nerve issues cause deltoid weakness and loss of shoulder abduction.

9. Leg swelling plus pain plus shortness of breath most likely indicates which diagnosis?

A. Pulmonary embolism caused by deep venous thrombosis

B. Pneumonia

C. Myocardial infarction

D. Pneumothorax

Leg swelling with chest pain and shortness of breath points to a clot that started in the leg and has traveled to the lungs. A deep venous thrombosis in the legs can dislodge and become a pulmonary embolism, which blocks parts of the pulmonary arteries and triggers acute shortness of breath and pleuritic chest pain. The leg swelling reflects the original DVT, while the respiratory symptoms come from the embolism obstructing blood flow in the lungs. This pattern—DVT signs plus acute pulmonary symptoms—is the classic clue for a pulmonary embolism due to deep venous thrombosis. Pneumonia would typically bring fever and a productive cough; myocardial infarction usually presents with pressure-like chest pain and often diaphoresis; pneumothorax causes sudden unilateral chest pain with decreased breath sounds, not the leg swelling.

10. Which disease is classically associated with a bamboo spine on X-ray?

A. Ankylosing spondylitis

B. Gout

C. Osteoarthritis

D. Rheumatoid arthritis

Bamboo spine on X-ray signals fusion of the spine from a chronic inflammatory disease, most classically seen in ankylosing spondylitis. In this condition, long-standing inflammation stimulates ossification of the spinal ligaments and formation of syndesmophytes that bridge adjacent vertebral bodies, creating a continuous, radiopaque column that resembles bamboo. This pattern reflects the typical course of ankylosing spondylitis and explains the restricted spinal mobility seen clinically. Gout involves urate crystal deposition and joint inflammation elsewhere, not this characteristic spinal fusion. Osteoarthritis shows degenerative changes like joint space narrowing and osteophytes without the uniform ligament ossification that produces the bamboo spine. Rheumatoid arthritis can affect the spine but does not produce the classic bamboo-like fusion pattern seen in ankylosing spondylitis.

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://mehlmanhighyield.examzify.com

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