NBEO Systemic Disease Practice Exam (Sample)

Study Guide

Everything you need from our exam experts!

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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. Don't worry about getting everything right, 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, and take breaks to retain information better.

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.

7. Use Other Tools

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. **Are inflammatory or non-inflammatory causes of edema typically more associated with high protein levels and exudative edema?**
   - **A. Non-inflammatory**
   - **B. Inflammatory**
   - **C. Both**
   - **D. Neither**

2. **Which Autosomal Recessive condition is primarily associated with Eastern European Jews?**
   - **A. PKU**
   - **B. Sickle Cell Anemia**
   - **C. Stargardt Disease**
   - **D. Tay-Sachs disease**

3. **Scleromalacia perforans is specifically associated with which systemic condition?**
   - **A. Systemic Lupus Erythematosus**
   - **B. Rheumatoid Arthritis**
   - **C. Ankylosing Spondylitis**
   - **D. Psoriatic Arthritis**

4. **Which tumor is associated with bitemporal hemianopsia or junctional scotoma?**
   - **A. Astrocytoma**
   - **B. Brainstem glioma**
   - **C. Pituitary adenoma**
   - **D. Craniopharyngioma**

5. **What symptom is characterized by excessive thirst and is a common manifestation of diabetes?**
   - **A. Polyphagia**
   - **B. Polydipsia**
   - **C. Polyuria**
   - **D. Weight loss**

6. What is the mechanism underlying Type 1 hypersensitivity?

A. Antibody-mediated.

B. Cell-mediated.

C. Immune complex formation.

D. IgE-mediated degranulation.

7. Which of the following symptoms is NOT associated with a Pheochromocytoma?

A. Elevated blood pressure

B. Papilledema

C. Heart palpitations

D. Fatigue

8. Which two findings are found in Trachoma conjunctivitis but not Adult inclusion conjunctivitis?

A. Follicles and Papillae

B. Arlt lines and Herbert's pits

C. Punctate keratitis and Mydriasis

D. Corneal scarring and Conjunctival scarring

9. What is the main medication used to treat the chronic inflammation aspect of asthma?

A. Beta blockers

B. Steroids

C. NSAIDs

D. Mast cell stabilizers

10. Which virus has a known association with Cervical cancer?

A. HIV

B. Herpes Simplex Virus

C. Human Papilloma Virus (HPV)

D. Hepatitis B Virus

Answers

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

Explanations

1. Are inflammatory or non-inflammatory causes of edema typically more associated with high protein levels and exudative edema?

A. Non-inflammatory

B. Inflammatory

C. Both

D. Neither

Inflammatory causes of edema are typically associated with high protein levels and are categorized as exudative edema. This type of edema results from increased vascular permeability due to inflammation. When tissues are inflamed, the integrity of the vascular endothelium is compromised, allowing proteins, including albumin and other large molecules, to leak into the interstitial space along with fluid. This high protein content distinguishes exudative edema from transudative edema, which usually has lower protein levels and is more associated with non-inflammatory processes, such as heart failure or liver cirrhosis. In contrast, non-inflammatory causes of edema typically lead to the accumulation of a protein-poor fluid, resulting in transudative edema. This occurs in conditions where there is increased hydrostatic pressure or decreased oncotic pressure without accompanying inflammation. This distinction is crucial in clinical practice, as it helps to determine underlying causes of edema and guides treatment decisions. Thus, inflammatory causes are definitively linked to high protein levels and exudative edema.

2. Which Autosomal Recessive condition is primarily associated with Eastern European Jews?

A. PKU

B. Sickle Cell Anemia

C. Stargardt Disease

D. Tay-Sachs disease

Tay-Sachs disease is an autosomal recessive disorder that is most notably associated with Eastern European Jewish populations, particularly among Ashkenazi Jews. This condition results from a deficiency of the enzyme hexosaminidase A, leading to the accumulation of GM2 gangliosides in the nerve cells, which is particularly damaging in infants and can lead to severe neurological decline and ultimately death at a young age. The prevalence of Tay-Sachs in this population is due to a genetic founder effect, where specific mutations become common in a small population and remain prevalent due to limited gene flow from outside groups. Genetic screening programs have been established in high-risk populations to identify carriers of the Tay-Sachs mutation, helping to reduce the incidence of this tragic condition. Other options are less associated with the specific demographic of Eastern European Jews. For example, phenylketonuria (PKU) is more common in various populations worldwide, sickle cell anemia is primarily associated with African and Mediterranean ancestry, and Stargardt disease, a form of inherited macular degeneration, does not have the same strong association with any specific ethnic group. This context highlights why Tay-Sachs disease is the correct answer in relation to the given population.

3. Scleromalacia perforans is specifically associated with which systemic condition?

A. Systemic Lupus Erythematosus

B. Rheumatoid Arthritis

C. Ankylosing Spondylitis

D. Psoriatic Arthritis

Scleromalacia perforans is a serious ocular condition characterized by the thinning and perforation of the sclera, which is the white outer layer of the eyeball. This condition is most notably associated with rheumatoid arthritis, a systemic autoimmune disease that primarily affects joints but can have significant effects on other organs, including the eyes. In rheumatoid arthritis, the body's immune system mistakenly attacks its own tissues, leading to chronic inflammation. Over time, this inflammation can lead to various ocular complications, including scleromalacia perforans. The pathophysiology involves the degrading of the scleral tissues, leading to thinning and potential perforation, which may pose a risk for vision loss. Other systemic conditions listed, while they may have ocular manifestations, do not have a specific and strong association with scleromalacia perforans as does rheumatoid arthritis. For example, systemic lupus erythematosus and psoriatic arthritis can cause other eye problems but are not classically linked to scleral thinning and perforation in the same way. Ankylosing spondylitis is similarly associated with uveitis and other inflammatory responses but lacks the direct association with scleromalacia perforans. Understanding this relationship emphasizes the importance of recognizing ocular manifestations tied to

4. Which tumor is associated with bitemporal hemianopsia or junctional scotoma?

A. Astrocytoma

B. Brainstem glioma

C. Pituitary adenoma

D. Craniopharyngioma

Bitemporal hemianopsia or junctional scotoma is most commonly associated with a lesion in the area of the optic chiasm. Pituitary adenomas, which often arise from the pituitary gland located just below the optic chiasm, can lead to pressure on the optic chiasm as they enlarge. This pressure causes a characteristic visual field defect known as bitemporal hemianopsia, where patients lose vision in the outer (temporal) fields of both eyes. In addition to bitemporal hemianopsia, craniopharyngiomas also occur in the same region and can cause similar visual field defects, but the most classic association is with pituitary adenomas due to their prevalence and direct impact on the optic chiasm with growth. Astrocytomas and brainstem gliomas typically do not affect the optic chiasm in a manner that leads to these specific visual field defects, as they are located in different areas of the brain and have other symptom profiles.

5. What symptom is characterized by excessive thirst and is a common manifestation of diabetes?

A. Polyphagia

B. Polydipsia

C. Polyuria

D. Weight loss

Polydipsia refers to excessive thirst and is indeed a hallmark symptom of diabetes. In diabetes, the body experiences elevated blood glucose levels, which can lead to increased urination, known as polyuria. This loss of fluids causes dehydration, triggering the body's thirst mechanism, resulting in polydipsia. It is important for individuals who experience these symptoms to seek medical evaluation, as they can indicate not only diabetes but also other conditions related to fluid imbalance. While polyphagia refers to increased hunger, polyuria pertains to increased urination, and weight loss can be associated with diabetes, polydipsia specifically addresses the thirst complaint that arises from the physiological changes caused by high blood sugar levels.

6. What is the mechanism underlying Type 1 hypersensitivity?

A. Antibody-mediated.

B. Cell-mediated.

C. Immune complex formation.

D. IgE-mediated degranulation.

Type 1 hypersensitivity, also known as immediate hypersensitivity, is primarily characterized by an IgE-mediated response. The mechanism involves the sensitization phase, where an allergen triggers the production of specific IgE antibodies by plasma cells. These IgE antibodies bind to high-affinity IgE receptors on the surface of mast cells and basophils. Upon subsequent exposure to the same allergen, the cross-linking of the IgE antibodies bound to these cells leads to degranulation. During this process, mast cells release various mediators such as histamine, leukotrienes, and prostaglandins, which contribute to the acute inflammatory response. This cascade of events results in the classic symptoms associated with allergic reactions, such as bronchoconstriction, vasodilation, increased vascular permeability, and mucus secretion. The unique aspect of Type 1 hypersensitivity is its rapid onset, often occurring within minutes of allergen exposure due to the pre-formed IgE and the quick release of mediators from mast cells. Understanding this specific mechanism highlights why degranulation of IgE-sensitized mast cells is central to the pathophysiology of Type 1 hypersensitivity reactions.

7. Which of the following symptoms is NOT associated with a Pheochromocytoma?

A. Elevated blood pressure

B. Papilledema

C. Heart palpitations

D. Fatigue

Pheochromocytoma is a tumor of the adrenal glands that produces excessive catecholamines, leading to a variety of symptoms primarily associated with increased sympathetic nervous system activity. Common symptoms include elevated blood pressure, heart palpitations, and potentially papilledema due to secondary effects of chronic hypertension. Elevated blood pressure is a hallmark of pheochromocytomas, often presenting as episodes of paroxysmal hypertension. Heart palpitations also occur due to the increased levels of catecholamines, which can stimulate the heart and lead to arrhythmias. Papilledema can develop as a result of prolonged hypertension, affecting the blood flow to the optic nerve and causing swelling of the optic disc. Fatigue, while it is a common symptom in many conditions, is not specifically associated with pheochromocytoma. Instead, the more characteristic symptoms of this condition are tied to its effects on cardiovascular function and the fight-or-flight response, which do not prominently include fatigue. Thus, fatigue does not align with the classic clinical presentation expected in patients suffering from pheochromocytoma.

8. Which two findings are found in Trachoma conjunctivitis but not Adult inclusion conjunctivitis?

A. Follicles and Papillae

B. Arlt lines and Herbert's pits

C. Punctate keratitis and Mydriasis

D. Corneal scarring and Conjunctival scarring

In the context of Trachoma conjunctivitis, the presence of Arlt lines and Herbert's pits are distinctive findings that help differentiate it from Adult inclusion conjunctivitis. Arlt lines are fibrous bands that develop in the upper tarsal conjunctiva as a result of chronic inflammation and scarring associated with repeated episodes of Trachoma. These lines can help indicate long-standing disease and are not typical features seen in Adult inclusion conjunctivitis. Herbert's pits are small depressions that occur at the limbus, usually associated with healed limbal follicles in Trachoma, marking areas where follicular conjunctivitis has led to scarring after the resolution of inflammation. This specific finding is not observed in Adult inclusion conjunctivitis, which has a different pathophysiology and associated clinical findings. Recognizing these unique manifestations is crucial in diagnosing and managing the differing types of conjunctivitis, especially in settings where trachoma is endemic.

9. What is the main medication used to treat the chronic inflammation aspect of asthma?

A. Beta blockers

B. Steroids

C. NSAIDs

D. Mast cell stabilizers

The main medication used to treat the chronic inflammation aspect of asthma is steroids, specifically inhaled corticosteroids. These medications are highly effective in reducing inflammation in the airways, which is a central feature of asthma. Chronic inflammation leads to airway hyperresponsiveness and obstruction, and corticosteroids help to mitigate these effects by decreasing the release of inflammatory mediators, inhibiting the recruitment of inflammatory cells, and promoting repair mechanisms in the airway lining. Inhaled corticosteroids are considered the first-line treatment for long-term management of asthma and are often prescribed for individuals with persistent asthma. They aid in controlling symptoms, reducing the frequency of asthma attacks, and improving overall lung function. Other options, while they may have different roles in asthma management, do not primarily address the chronic inflammatory component. For instance, beta blockers are typically contraindicated in asthma patients as they can provoke bronchospasm. NSAIDs may cause exacerbation of asthma symptoms in allergy-prone individuals and are not used for asthma treatment. Mast cell stabilizers can provide some benefit but are generally considered less effective than corticosteroids for managing chronic inflammation.

10. Which virus has a known association with Cervical cancer?

A. HIV

B. Herpes Simplex Virus

C. Human Papilloma Virus (HPV)

D. Hepatitis B Virus

Human Papilloma Virus (HPV) is known to have a strong association with cervical cancer. This virus is a group of over 200 related viruses, some of which are categorized as high-risk types due to their potential to cause cancer. Specifically, HPV types 16 and 18 are responsible for the majority of cervical cancer cases. The virus leads to changes in the cervical cells, which can progress to precancerous lesions and, over time, invasive cervical cancer if left untreated. Cervical cancer is recognized as one of the few cancers that can be effectively prevented through vaccination against HPV. The introduction of HPV vaccines has significantly decreased the incidence of cervical cancer in populations that have adopted widespread vaccination programs. In contrast, while HIV and Herpes Simplex Virus can contribute to general health complications and can influence the course or progression of cervical cancer or other malignancies, they do not have the same direct causative link to cervical cancer as HPV does. Hepatitis B Virus is primarily associated with liver cancer rather than cervical cancer. Therefore, the direct connection between HPV and cervical cancer underscores its recognition as the primary viral etiology related to this type of cancer.

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://nbeosystematicdisease.examzify.com

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