

ACAAI Board 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. 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

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- 1. Which chemical is associated with occupational asthma in hairdressers?**
 - A. Ammonia**
 - B. Persulfate salts**
 - C. Toluene**
 - D. Formaldehyde**

- 2. What type of cryoglobulinemia is associated with hepatitis C?**
 - A. Type I, monoclonal**
 - B. Type II, mixed polyclonal and monoclonal**
 - C. Type III, polyclonal**
 - D. Type IV, induced by medications**

- 3. What is the first step in evaluating ABPA in asthma patients?**
 - A. Perform a chest X-ray**
 - B. Establish IgE sensitization to Aspergillus**
 - C. Obtain a CT scan**
 - D. Conduct a pulmonary function test**

- 4. How long does the saccharin test typically take for a normal result?**
 - A. 1-3 minutes**
 - B. 4-6 minutes**
 - C. 7-11 minutes**
 - D. 12-15 minutes**

- 5. Which cell surface marker is NOT present on NK cells?**
 - A. CD3**
 - B. CD16**
 - C. CD56**
 - D. CD8**

6. Which type of infections is associated with the absence of a spleen?

- A. Viral infections**
- B. Fungal infections**
- C. Encapsulated bacteria**
- D. Parasitic infections**

7. What is the CD marker for Fc γ RII?

- A. CD32**
- B. CD19**
- C. CD22**
- D. CD45**

8. Which syndrome is characterized by ciliary dyskinesia and situs inversus?

- A. Kartagener's syndrome**
- B. Cystic fibrosis**
- C. Primary ciliary dyskinesia**
- D. Churg-Strauss syndrome**

9. Which process introduces the greatest diversity in immune receptors?

- A. Class switching**
- B. Junctional diversity**
- C. Somatic hypermutation**
- D. Gene rearrangement**

10. What is the main function of CD55 or decay accelerating factor (DAF)?

- A. Promotes apoptosis**
- B. Inhibits complement activation**
- C. Aids in T-cell activation**
- D. Facilitates B-cell differentiation**

Answers

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

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Explanations

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1. Which chemical is associated with occupational asthma in hairdressers?

- A. Ammonia**
- B. Persulfate salts**
- C. Toluene**
- D. Formaldehyde**

Occupational asthma in hairdressers is predominantly associated with persulfate salts. These chemicals are widely used in hair bleaching and coloring products, and they can act as strong irritants and allergens when inhaled. The process of mixing these chemicals often produces airborne particles that can be inhaled, leading to respiratory symptoms such as wheezing, coughing, and difficulty breathing, characteristic of asthma.

Persulfate salts can trigger asthmatic episodes due to their ability to sensitize the airways, making them a significant concern in the beauty salon environment. Awareness of these risks is crucial for both hairdressers and employers to implement appropriate safety measures, such as adequate ventilation and the use of personal protective equipment. While other chemicals listed, such as ammonia and formaldehyde, can also have harmful effects and contribute to respiratory issues, they are typically more associated with irritation rather than the specific sensitization and prevalence of asthma linked to persulfate salts in this occupational setting.

2. What type of cryoglobulinemia is associated with hepatitis C?

- A. Type I, monoclonal**
- B. Type II, mixed polyclonal and monoclonal**
- C. Type III, polyclonal**
- D. Type IV, induced by medications**

Type II cryoglobulinemia, which is mixed and includes both polyclonal and monoclonal components, is indeed the type most commonly associated with hepatitis C. This form of cryoglobulinemia is significant in the context of hepatitis C infection because the virus can stimulate the immune system in such a way that it produces these mixed cryoglobulins. In patients with hepatitis C, the viral infection can lead to the production of a monoclonal immunoglobulin that contributes to the formation of cryoprecipitable proteins when exposed to cold. This leads to systemic issues often manifesting as vasculitis, which can affect the skin, kidneys, and nervous system. The presence of mixed cryoglobulinemia in these patients often prompts further evaluation and management of their hepatitis infection, alongside addressing the symptoms associated with the cryoglobulinemia itself. Understanding the specific associations of cryoglobulinemia types with certain conditions, especially hepatitis C, is crucial for effective diagnosis and treatment.

3. What is the first step in evaluating ABPA in asthma patients?

- A. Perform a chest X-ray**
- B. Establish IgE sensitization to Aspergillus**
- C. Obtain a CT scan**
- D. Conduct a pulmonary function test**

The first step in evaluating allergic bronchopulmonary aspergillosis (ABPA) in asthma patients is to establish IgE sensitization to Aspergillus. This is crucial because ABPA is primarily an allergic reaction to the fungus Aspergillus, often Aspergillus fumigatus, in individuals who have asthma or cystic fibrosis. Detecting specific IgE antibodies against Aspergillus not only confirms sensitization but also supports the diagnosis of ABPA. The presence of elevated total IgE levels and specific IgE to Aspergillus species is a hallmark of ABPA, thus directing management and intervention. While other diagnostic tools such as chest X-rays, CT scans, and pulmonary function tests can provide additional information about the patient's respiratory status and the extent of disease, they do not address the primary concern of underlying fungal sensitization. Therefore, establishing IgE sensitization serves as the critical initial step in the diagnostic process for ABPA in patients with asthma.

4. How long does the saccharin test typically take for a normal result?

- A. 1-3 minutes**
- B. 4-6 minutes**
- C. 7-11 minutes**
- D. 12-15 minutes**

The saccharin test is primarily used to assess the function of the upper gastrointestinal tract, particularly focusing on the function of the small intestine. A normal result is characterized by the time taken for saccharin, a non-absorbable sweetener, to reach the mouth after ingestion. In a typical scenario, the saccharin test takes 7-11 minutes for a normal result, as this duration reflects the expected transit time through the upper gastrointestinal tract when function is normal. Any significant deviation from this time can indicate abnormalities in gastrointestinal function, such as transit delays or malabsorption issues. Understanding this time frame is crucial for clinicians as it helps in diagnosing various gastrointestinal conditions. The correct time frame of 7-11 minutes aligns with the expected physiological process, considering the time required for absorption and subsequent passage through the intestines.

5. Which cell surface marker is NOT present on NK cells?

- A. CD3**
- B. CD16**
- C. CD56**
- D. CD8**

Natural killer (NK) cells are a vital part of the innate immune system, primarily involved in the recognition and destruction of virus-infected cells and tumor cells. The specific cell surface markers that characterize NK cells include CD16 and CD56, both of which play essential roles in their functionality. CD16 is a receptor that allows NK cells to mediate antibody-dependent cellular cytotoxicity (ADCC). When antibodies bind to target cells, NK cells that express CD16 can recognize and kill those cells effectively. CD56 serves as a marker for NK cells and is involved in cell adhesion and the regulation of cytokine release, highlighting its role in immune responses. In contrast, CD3 is a marker associated with T cells and serves as part of the T-cell receptor complex. Since NK cells are part of a different lineage and do not express CD3, this distinguishes them from T lymphocytes. Similarly, while CD8 is a marker typically found on cytotoxic T cells that aids in recognizing MHC class I molecules, it is not a marker for NK cells. Thus, the absence of CD3 on NK cells confirms that this particular cell surface marker is not characteristic of these immune cells, making it the correct choice in identifying which marker is not present on

6. Which type of infections is associated with the absence of a spleen?

- A. Viral infections**
- B. Fungal infections**
- C. Encapsulated bacteria**
- D. Parasitic infections**

The correct answer is associated with encapsulated bacteria due to the critical role the spleen plays in the immune response. The spleen is particularly important for filtering blood and helping to mount an immune response against polysaccharide-encapsulated organisms. In the absence of a spleen, such as in certain medical conditions or after surgical removal (splenectomy), individuals have a significantly increased risk of infections caused specifically by encapsulated bacteria, such as *Streptococcus pneumoniae*, *Haemophilus influenzae* type b, and *Neisseria meningitidis*. These bacteria have a protective polysaccharide capsule that helps them evade the host immune system. A properly functioning spleen is essential for effectively clearing these types of infections, as it contains specific immune cells that can recognize and respond to these encapsulated organisms. In contrast, while viral, fungal, and parasitic infections can occur in individuals without a spleen, they are not as prominently associated with splenic function as encapsulated bacterial infections are. This is due to the differing mechanisms of immune response and the types of pathogens involved. For instance, viral infections typically rely more on cellular immunity rather than opsonization mediated by the spleen, and while fungi and parasites can lead to infections, their

7. What is the CD marker for Fc γ RII?

- A. CD32**
- B. CD19**
- C. CD22**
- D. CD45**

The correct answer is that the CD marker for Fc γ RII is CD32. Fc γ RII refers to one of the receptors for the Fc region of immunoglobulin G (IgG) antibodies, and CD32 is the designation given to this receptor. This receptor plays a critical role in the immune response by mediating various functions such as phagocytosis, antibody-dependent cellular cytotoxicity, and the regulation of immune cell activation. Other choices include CD19, CD22, and CD45, which are markers associated with different immune functions. CD19 is primarily expressed on B cells and plays a role in B cell activation and development. CD22 is also a B cell-specific marker, involved in B cell signaling and regulation. CD45 is a common leukocyte antigen found on all nucleated hematopoietic cells and is important for signaling in various immune responses. Each of these markers serves specific functions and is associated with particular types of immune cells, highlighting why CD32 specifically identifies Fc γ RII.

8. Which syndrome is characterized by ciliary dyskinesia and situs inversus?

- A. Kartagener's syndrome**
- B. Cystic fibrosis**
- C. Primary ciliary dyskinesia**
- D. Churg-Strauss syndrome**

Kartagener's syndrome is characterized by a triad of symptoms: bronchiectasis, chronic sinusitis, and situs inversus. The underlying issue in this condition is primary ciliary dyskinesia, which refers to the impaired movement of cilia due to a genetic defect, leading to difficulty in clearing mucus from the respiratory tract and resulting in chronic respiratory infections. The association with situs inversus occurs because the dysfunction in ciliary movement affects left-right asymmetry during embryonic development, leading to the mirror-image placement of organs. While primary ciliary dyskinesia also describes the ciliary dysfunction, it doesn't specifically encompass the additional features of situs inversus and bronchiectasis, which are definitive elements of Kartagener's syndrome. Cystic fibrosis, on the other hand, involves a different pathophysiological mechanism related to CFTR gene mutations and primarily affects the lungs and pancreas without the situs inversus characteristic. Churg-Strauss syndrome involves an autoimmune component affecting small to medium-sized blood vessels and has no association with ciliary dyskinesia or situs inversus. Thus, the clinical picture of Kartagener's syndrome aligns perfectly with the symptoms described in the question, making it the correct choice.

9. Which process introduces the greatest diversity in immune receptors?

- A. Class switching**
- B. Junctional diversity**
- C. Somatic hypermutation**
- D. Gene rearrangement**

The process that introduces the greatest diversity in immune receptors is junctional diversity. This mechanism occurs during the rearrangement of immunoglobulin (Ig) genes and T-cell receptor (TCR) genes, where additional genetic material is added or removed at the junctions where gene segments are combined. When lymphocyte precursors undergo V(D)J recombination, which is responsible for the generation of diverse antigen receptors, the enzymes involved can add non-template nucleotides at the junctions between gene segments. This variability significantly enhances the diversity of the immune receptors, contributing to the ability of the immune system to recognize a vast array of antigens. Other processes such as class switching, somatic hypermutation, and gene rearrangement also contribute to immune receptor diversity. Class switching allows B cells to produce different classes of antibodies (like IgM to IgG), while somatic hypermutation introduces point mutations in the variable regions after antigen exposure, refining the affinity of antibodies. Gene rearrangement refers broadly to the process of recombining gene segments to create specific receptor genes but does not encompass the additional variability that occurs at junctions as effectively as junctional diversity does.

10. What is the main function of CD55 or decay accelerating factor (DAF)?

- A. Promotes apoptosis**
- B. Inhibits complement activation**
- C. Aids in T-cell activation**
- D. Facilitates B-cell differentiation**

The main function of CD55, also known as decay accelerating factor (DAF), is to inhibit complement activation. CD55 plays a crucial role in regulating the complement cascade, which is part of the innate immune response. By binding to C3 and C5 convertases, CD55 prevents their formation, thus slowing down the activation of the complement pathway. This action helps to protect host cells from potential damage caused by complement-mediated lysis and inflammation, which can occur during an immune response. Inhibition of complement activation is essential for maintaining homeostasis and preventing autoimmune reactions where the body's own cells might be attacked. Without the regulatory effects of CD55, there could be uncontrolled complement activation leading to tissue damage and various autoimmune disorders. The other potential functions listed, such as promoting apoptosis, aiding T-cell activation, and facilitating B-cell differentiation, do not directly relate to the primary role of CD55 as a complement regulatory protein. Therefore, the emphasis on its role in inhibiting complement activation correctly identifies its key function in immune regulation.

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://acaaiboard.examzify.com>

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

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