

Stevens Immunology-Serology Practice Test (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. Immunity can be defined as**
 - A. a specific population at risk for a disease**
 - B. the condition of being resistant to disease**
 - C. the study of medicines used to treat diseases**
 - D. the study of the noncellular portion of the blood**

- 2. A lack of C1-INH might result in which of the following conditions?**
 - A. Paroxysmal nocturnal hemoglobinuria**
 - B. Hereditary angioedema**
 - C. Hemolytic uremic syndrome**
 - D. Increased bacterial infections**

- 3. Which co-receptor is required for CD4 positive T cells to recognize antigen presented by HLA class II?**
 - A. CD2**
 - B. CD4**
 - C. CD3**
 - D. CD8**

- 4. Which type of assay uses a solid phase to capture an antigen with a subsequent labeled detector antibody?**
 - A. Competitive binding assay**
 - B. Sandwich (capture) enzyme assay**
 - C. Direct binding assay**
 - D. Chemiluminescent assay**

- 5. All of the following are associated with type I hypersensitivity except**
 - A. Activation of complement.**
 - B. Release of preformed mediators from mast cells.**
 - C. Cell-bound antibody bridged by antigen.**
 - D. An inherited tendency to respond to allergens.**

- 6. Which would be the best assay to measure a specific cytokine?**
- A. Blast formation**
 - B. T-cell proliferation**
 - C. Measurement of leukocyte chemotaxis**
 - D. ELISA testing**
- 7. Which is an example of a tumor-specific antigen?**
- A. Cea**
 - B. BCR/ABL fusion protein**
 - C. CA 125**
 - D. PSA**
- 8. Which of the following is considered to be a nonsuppurative complication of streptococcal infection?**
- A. Acute rheumatic fever**
 - B. Scarlet fever**
 - C. Impetigo**
 - D. Pharyngitis**
- 9. Which combination of markers is commonly elevated in both pregnancy and testicular germ cell tumors?**
- A. Both AFP and hCG**
 - B. AFP only**
 - C. hCG only**
 - D. Neither**
- 10. Hemolytic uremic syndrome is a condition that can be associated with which of the following?**
- A. It can be associated with deficiencies in Factor H.**
 - B. It is a common cause of renal failure in adults.**
 - C. It never affects the kidneys.**
 - D. It is caused by a deficiency of C1 esterase inhibitor.**

Answers

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

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Explanations

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1. Immunity can be defined as

- A. a specific population at risk for a disease
- B. the condition of being resistant to disease**
- C. the study of medicines used to treat diseases
- D. the study of the noncellular portion of the blood

Immunity is the body's ability to resist infection and disease, achieved through innate barriers and adaptive immune responses that recognize and eliminate pathogens. This makes immunity a statement about resistance to disease itself, not about who is at risk, what drugs treat diseases, or analyses of blood components. The other ideas describe epidemiology (who is at risk), pharmacology (drugs to treat disease), or serology/blood components, none of which define immunity. So the best description is the body's resistance to disease.

2. A lack of C1-INH might result in which of the following conditions?

- A. Paroxysmal nocturnal hemoglobinuria
- B. Hereditary angioedema**
- C. Hemolytic uremic syndrome
- D. Increased bacterial infections

Unregulated control of the kallikrein-kinin system because of C1-INH deficiency leads to bradykinin-driven swelling, causing hereditary angioedema. Without C1-INH, the complement and contact systems run unchecked, increasing bradykinin production and vascular permeability. This results in episodes of painless, non-itchy swelling of the skin and mucous membranes, which can involve the airway and gastrointestinal tract and may be life-threatening if the airway is affected. That's why a lack of C1-INH most directly yields hereditary angioedema. Paroxysmal nocturnal hemoglobinuria involves loss of protective surface proteins on red cells, not bradykinin-mediated edema; hemolytic uremic syndrome is a microangiopathy with hemolysis and kidney injury; and increased bacterial infections relate to immune deficiencies rather than C1-INH-related edema. Treatments aim to replace C1-INH or block bradykinin effects.

3. Which co-receptor is required for CD4 positive T cells to recognize antigen presented by HLA class II?

- A. CD2
- B. CD4**
- C. CD3
- D. CD8

CD4 acts as the co-receptor for CD4+ T cells recognizing antigens presented by MHC class II. It binds to non-polymorphic regions of MHC class II, stabilizing the TCR-peptide-MHC interaction and bringing the kinase Lck to the TCR-CD3 complex to initiate signaling. This co-receptor function is essential for proper activation of helper T cells by peptides shown on professional antigen-presenting cells. CD3 is part of the TCR signaling machinery but doesn't define MHC restriction; CD8 is the co-receptor for recognition of peptides presented by MHC class I, and CD2 is an adhesion molecule without the same role in MHC class II-restricted activation.

4. Which type of assay uses a solid phase to capture an antigen with a subsequent labeled detector antibody?

- A. Competitive binding assay**
- B. Sandwich (capture) enzyme assay**
- C. Direct binding assay**
- D. Chemiluminescent assay**

A sandwich assay uses a solid-phase antibody to capture the antigen, then a second, labeled detector antibody binds to a different epitope on that same antigen, forming a “sandwich.” The detector antibody carries a label (often an enzyme) that produces a measurable signal, allowing quantification of the antigen. This format requires two antibodies and high specificity, which is why it’s ideal for accurately detecting and measuring antigens in samples—the antigen is captured on the solid surface and then revealed by the labeled detector antibody. The other approaches don’t fit this setup. Competitive binding relies on antigen competing with a labeled component for a limited antibody, giving a signal inversely related to antigen amount and not a sandwich of two antibodies. Direct binding uses a single antibody to detect the antigen, with no second antibody forming a sandwich. Chemiluminescent describes the detection method (light produced), not the specific sandwich capture format.

5. All of the following are associated with type I hypersensitivity except

- A. Activation of complement.**
- B. Release of preformed mediators from mast cells.**
- C. Cell-bound antibody bridged by antigen.**
- D. An inherited tendency to respond to allergens.**

Type I hypersensitivity is driven by IgE antibodies bound to mast cells or basophils. When the allergen re-enters, it cross-links those surface-bound IgE molecules, triggering rapid degranulation and release of preformed mediators like histamine from the mast cells. This immediate release causes the symptoms of the reaction. The presence of a genetic tendency to react to common allergens (atopy) fits with this IgE-mediated pattern, as some individuals are predisposed to produce IgE responses to environmental allergens. Activation of complement is not a defining feature of type I hypersensitivity. The hallmark pathway relies on IgE cross-linking and mast cell degranulation rather than complement-mediated cytotoxicity or inflammation. While complement can be involved in other types of hypersensitivity, the classic immediate type is driven by mast cell mediators, not by complement activation.

6. Which would be the best assay to measure a specific cytokine?

- A. Blast formation**
- B. T-cell proliferation**
- C. Measurement of leukocyte chemotaxis**
- D. ELISA testing**

Direct quantification of a soluble cytokine in a sample requires an assay that specifically detects the molecule. ELISA uses antibodies that bind the target cytokine and produce a measurable signal proportional to its concentration, giving precise, quantitative results in fluids or culture supernatants. This specificity and sensitivity make it ideal for measuring a single cytokine. The other approaches assess cellular responses rather than the cytokine's actual amount: blast formation and T-cell proliferation look at how cells multiply in response to stimuli, not the cytokine's level; measuring leukocyte chemotaxis examines movement toward signals, which again reflects activity rather than exact concentration.

7. Which is an example of a tumor-specific antigen?

- A. Cea**
- B. BCR/ABL fusion protein**
- C. CA 125**
- D. PSA**

Tumor-specific antigens are abnormal proteins produced only by cancer cells due to genetic changes, creating targets that don't exist in normal tissues. The BCR/ABL fusion protein is the classic example: it arises from a cancer-specific chromosomal translocation (Philadelphia chromosome) and produces a novel protein not found in healthy cells. That uniqueness makes it a true tumor-specific antigen. In contrast, markers like CEA, CA125, and PSA can be elevated or present in some cancers but are also found in normal tissues or benign conditions, so they're considered tumor-associated or tissue-specific markers rather than tumor-specific antigens.

8. Which of the following is considered to be a nonsuppurative complication of streptococcal infection?

- A. Acute rheumatic fever**
- B. Scarlet fever**
- C. Impetigo**
- D. Pharyngitis**

The main idea is recognizing immune-mediated, nonsuppurative sequelae that can follow a streptococcal infection rather than the direct infection itself or a toxin effect. Acute rheumatic fever fits this best because it's an autoimmune response triggered by a streptococcal infection, weeks after the illness, that causes inflammation in the heart, joints, and sometimes the nervous system. It occurs without pus formation, distinguishing it from suppurative infections. Scarlet fever is a toxin-driven manifestation that accompanies the infection rather than representing a post-infectious complication. Impetigo is a localized pus-producing skin infection, which is a purulent process, not a nonsuppurative complication. Pharyngitis is the active throat infection itself, not a complication. So, acute rheumatic fever is the classic nonsuppurative, immune-mediated complication of streptococcal infection.

9. Which combination of markers is commonly elevated in both pregnancy and testicular germ cell tumors?

- A. Both AFP and hCG**
- B. AFP only**
- C. hCG only**
- D. Neither**

Markers AFP and hCG are tied to tissues that are active in pregnancy and can also be produced by germ cell tumor components. AFP comes from fetal liver and yolk sac, so it rises during pregnancy and can be produced by testicular yolk sac tumors or embryonal carcinoma. hCG is produced by placental trophoblasts, so it rises in early pregnancy and can be produced by tumor elements like choriocarcinoma (and sometimes by seminoma with syncytiotrophoblastic cells). When a testicular germ cell tumor contains both yolk sac (AFP-producing) and choriocarcinoma (hCG-producing) components, both markers can be elevated. Therefore, the combination of elevation of both AFP and hCG best matches what's seen in pregnancy and in such germ cell tumors.

10. Hemolytic uremic syndrome is a condition that can be associated with which of the following?

- A. It can be associated with deficiencies in Factor H.**
- B. It is a common cause of renal failure in adults.**
- C. It never affects the kidneys.**
- D. It is caused by a deficiency of C1 esterase inhibitor.**

Hemolytic uremic syndrome arises when the complement system is not properly regulated, especially the alternative pathway that protects host tissues. Factor H is a key regulator that keeps this pathway in check on cell surfaces. If Factor H is deficient or dysfunctional, unchecked complement activation can occur on the endothelial cells of the kidney, leading to endothelial injury, microvascular thrombi, hemolysis, and impaired kidney function—the hallmarks of HUS. That connection makes deficiencies in Factor H a recognized association with HUS. Deficiency of C1 esterase inhibitor, by contrast, causes hereditary angioedema rather than HUS. HUS is not a common cause of renal failure in adults, and by definition it involves the kidneys, so stating it never affects the kidneys isn't correct.

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://stevensimmunologyserology.examzify.com>

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

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