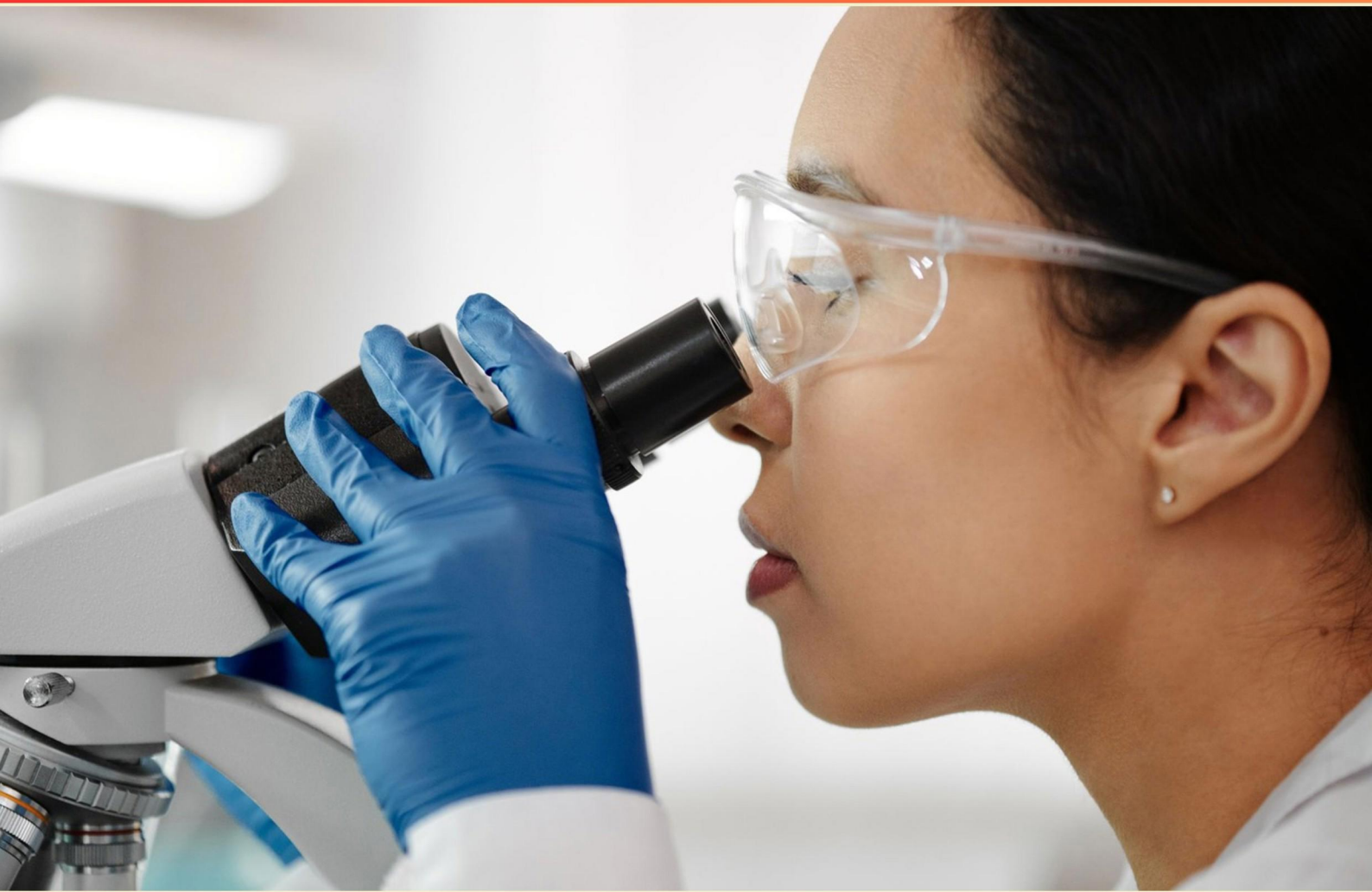


IMMUNE SYSTEM PRACTICE TEST (SAMPLE)

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.

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. Where are most plasma proteins located?**
 - A. Spleen
 - B. Kidney
 - C. Liver
 - D. Lymph nodes
- 2. What are chemical signaling molecules used in the immune response for communication among immune cells?**
 - A. Cytokines
 - B. Antibodies
 - C. Hormones
 - D. Chemokines
- 3. Which organ produces most plasma proteins?**
 - A. Liver
 - B. Spleen
 - C. Kidneys
 - D. Lymph nodes
- 4. Which T cell derivatives are similar in function to Memory B cells?**
 - A. Memory T cells
 - B. Cytotoxic T cells
 - C. Helper T cells
 - D. Suppressor T cells
- 5. Which innate immune cells destroy virus-infected cells or tumor cells without prior exposure?**
 - A. Dendritic cells
 - B. Macrophages
 - C. Natural killer cells
 - D. B cells

- 6. In the cell-mediated response chain, which cells produce interleukins?**
- A. Cytotoxic T cells
 - B. Helper T cells
 - C. Macrophages
 - D. B cells
- 7. Which term describes long-lived B cells that do not release antibodies during an immediate invasion?**
- A. Agglutination
 - B. Opsonization
 - C. Lysis by complement proteins
 - D. Memory cells
- 8. How are B cells activated?**
- A. Phagocytosis
 - B. Response to antigens
 - C. Antigen presentation
 - D. Cytokine release
- 9. Which term describes a covalent bond that stabilizes the antibody by linking polypeptide chains?**
- A. Heavy Chain
 - B. Light Chain
 - C. Constant Region
 - D. Disulfide Bridge
- 10. Which cells are responsible for antibody production in the adaptive immune system?**
- A. B cells
 - B. T cells
 - C. NK cells
 - D. Monocytes

Answers

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

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Explanations

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1. Where are most plasma proteins located?

- A. Spleen
- B. Kidney
- C. Liver
- D. Lymph nodes

The main idea here is where the body makes most of its plasma proteins. The liver is the primary source. Hepatocytes produce albumin, which makes up about the majority of the total plasma proteins and is crucial for maintaining oncotic pressure that keeps fluid inside blood vessels. The liver also synthesizes many clotting factors (such as fibrinogen and others) and a range of transport and defense proteins. Because these proteins circulate in plasma and uphold essential functions like fluid balance and coagulation, most plasma proteins originate from the liver. The other tissues listed have important roles in immune function and filtration, but they are not the main sites of plasma protein production.

2. What are chemical signaling molecules used in the immune response for communication among immune cells?

- A. Cytokines
- B. Antibodies
- C. Hormones
- D. Chemokines

Immune cells communicate with one another through signaling molecules called cytokines. These proteins are released by various immune cells in response to infection or injury and travel to target cells by binding to specific receptors. The result is coordinated actions across the immune system—activating cells, promoting or limiting inflammation, guiding cell growth and differentiation, and helping recruit cells to sites of infection. Cytokines include many different types, such as interleukins, interferons, and tumor necrosis factors. Chemokines are a subset of cytokines whose main job is to direct cell movement toward areas of infection (chemotaxis), so they're still part of the broader cytokine family. Antibodies, while crucial for recognizing and neutralizing pathogens, are not the signaling messages used for communication between immune cells. Hormones act as endocrine signals in the body and are not the primary means of immune-cell communication.

3. Which organ produces most plasma proteins?

- A. Liver
- B. Spleen
- C. Kidneys
- D. Lymph nodes

The body relies on the liver to make the majority of circulating plasma proteins. Hepatocytes synthesize albumin, which is the most abundant plasma protein and helps maintain the blood's oncotic pressure, keeping fluid in the vessels. The liver also produces many clotting factors—such as fibrinogen and prothrombin—and a range of other plasma proteins like transferrin and ceruloplasmin that carry substances or have regulatory roles. While some proteins (like immunoglobulins) come from immune cells elsewhere in the body, the liver remains the main source of most plasma proteins. Other organs listed mainly handle immune function, filtration, or hormone production and do not serve as the primary producers of plasma proteins. That's why the liver is the best answer.

4. Which T cell derivatives are similar in function to Memory B cells?

- A. Memory T cells
- B. Cytotoxic T cells
- C. Helper T cells
- D. Suppressor T cells

Immunological memory rests in long-lived memory cells that respond rapidly upon re-exposure. The T cell side has its own memory population, memory T cells, which persist after the initial encounter and can quickly proliferate and become active effector cells again when the same antigen is encountered. This mirrors memory B cells in that both maintain a faster, more robust response on re-exposure, but for the cellular arm of the immune system. Cytotoxic T cells are primarily the immediate effectors that kill infected cells during the first wave of a response, rather than the long-term memory responders. Helper T cells coordinate and assist other immune cells during the response but are not defined by the memory function in the same way. Suppressor (regulatory) T cells regulate or dampen immune responses to prevent overactivity, not maintain memory. Thus, memory T cells best fit the role of a T cell derivative with a function similar to memory B cells.

5. Which innate immune cells destroy virus-infected cells or tumor cells without prior exposure?

- A. Dendritic cells
- B. Macrophages
- C. Natural killer cells
- D. B cells

Natural killer cells provide rapid, non-specific killing of virus-infected or transformed cells. They act without prior exposure or sensitization, unlike cells of the adaptive immune system. NK cells survey for signs of abnormal cells, particularly reduced expression of MHC class I or the presence of stress-induced ligands. When activating cues outweigh inhibitory signals, they unleash cytotoxic granules containing perforin and granzymes to induce apoptosis in the target cell. They can also be boosted by cytokines released during infection, enabling a quick response. This combination of rapid action and lack of prior exposure is what makes NK cells the correct choice for destroying virus-infected or tumor cells without prior encounter. Dendritic cells are primarily antigen-presenting cells that prime adaptive immunity, macrophages are phagocytes, and B cells are adaptive immune cells that produce antibodies.

6. In the cell-mediated response chain, which cells produce interleukins?

- A. Cytotoxic T cells
- B. Helper T cells
- C. Macrophages
- D. B cells

Interleukins are signaling molecules that help coordinate the immune response. In the cell-mediated pathway, the helper T cells (CD4+ T cells) are the main producers of these interleukins. They release interleukins like IL-2, which drives the proliferation and activation of cytotoxic T cells, enabling them to recognize and destroy infected cells. Helper T cells also direct other aspects of the response by signaling to macrophages and supporting the overall activation of T cell responses. While other cells can produce cytokines, the hallmark source of interleukins that orchestrates the cell-mediated chain is the helper T cell.

7. Which term describes long-lived B cells that do not release antibodies during an immediate invasion?

- A. Agglutination
- B. Opsonization
- C. Lysis by complement proteins

D. Memory cells

Memory B cells are long-lived B cells that persist after an infection and do not secrete antibodies during the initial invasion. After the first exposure, some B cells become plasma cells that produce antibodies, while others become memory cells that stay in reserve. If the same antigen shows up again, these memory B cells respond quickly and differentiate into antibody-secreting plasma cells, producing a faster and stronger secondary antibody response. The other terms describe immediate effector processes: agglutination is antibody-induced clumping of antigens, opsonization is marking pathogens for phagocytosis, and lysis by complement proteins involves the destruction of targets by the complement system.

8. How are B cells activated?

- A. Phagocytosis
- B. Response to antigens**
- C. Antigen presentation
- D. Cytokine release

B cells are activated when their B cell receptor binds a specific antigen. This binding sends intracellular signals that drive the B cell to proliferate and differentiate into antibody-secreting plasma cells and memory B cells. In most cases, full activation also involves helper T cells: after the B cell internalizes and presents antigen on MHC II, a T helper cell provides additional signals (such as CD40L and cytokines) that boost the response, promote class switching, and increase affinity through germinal center reactions. Phagocytosis is a function of other immune cells, not the trigger for B cell activation. Antigen presentation happens after activation as a way for B cells to communicate with T cells, not the initial event that starts activation. Cytokine release is part of the downstream response, not the initial trigger. The key idea is that recognition of the antigen by the B cell receptor starts the activation process.

9. Which term describes a covalent bond that stabilizes the antibody by linking polypeptide chains?

- A. Heavy Chain
- B. Light Chain
- C. Constant Region

D. Disulfide Bridge

Disulfide bridges are covalent links that hold an antibody together by connecting its polypeptide chains. In antibodies, cysteine residues form these -S-S- bonds, which connect the heavy chains to one another and attach the light chains to the heavy chains. These covalent bonds are stronger than the noncovalent interactions that help fold proteins, so they lock the antibody into its stable, Y-shaped structure necessary for binding antigens. The other terms describe parts of the molecule rather than bonds: a heavy chain or a light chain are the protein polypeptides themselves, while the constant region is a portion of the antibody that defines class and effector functions, not a type of bond.

10. Which cells are responsible for antibody production in the adaptive immune system?

A. B cells

B. T cells

C. NK cells

D. Monocytes

Antibody production is carried out by B cells, which differentiate into plasma cells that secrete antibodies specific to the encountered antigen. This is the humoral branch of the adaptive immune response. B cells recognize antigens through their B cell receptors and, with help from helper T cells, proliferate and can undergo changes that tailor the antibodies they produce. The antibodies circulate in blood and extracellular fluids, neutralizing pathogens and tagging them for attack by other parts of the immune system. Other cell types have different roles. T cells drive cell-mediated immunity and help coordinate responses, but they do not secrete antibodies. NK cells act as rapid innate responders that kill infected or abnormal cells without antibodies. Monocytes become macrophages or dendritic cells, which engulf pathogens and present antigens, aiding the immune response, but they don't produce antibodies.

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://immunesystem.examzify.com>

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

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