

OPTOMETRY ADMISSION TEST (OAT) PRACTICE (SAMPLE)

STUDY GUIDE



**SAMPLE STUDY GUIDE
WITH LIMITED QUESTIONS**

**VISIT US ONLINE FOR
THE FULL VERSION STUDY GUIDE**

<https://optometryadmissiontest.examzify.com>



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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. What is the primary function of endorphins in the endocrine system?**
 - A. They stimulate bone and muscle growth
 - B. They enhance pain perception
 - C. They inhibit the perception of pain
 - D. They stimulate milk secretion
- 2. Which chemical principles are emphasized in the OAT chemistry section?**
 - A. Stoichiometry, chemical reactions, and thermodynamics
 - B. Organic chemistry and analytical techniques
 - C. Electrochemistry and kinetics
 - D. Biochemistry and molecular biology
- 3. What is a helpful strategy when solving physics problems for the OAT?**
 - A. Ignoring units of measurement
 - B. Drawing diagrams to visualize problems
 - C. Relying solely on memorized formulas
 - D. Starting with the most difficult problems
- 4. Which gland produces both T4 and T3 hormones?**
 - A. The adrenal gland
 - B. The hypothalamus
 - C. The thyroid gland
 - D. The parathyroid gland
- 5. Which hormone is responsible for decreasing the blood calcium level?**
 - A. Calcitonin
 - B. Parathyroid hormone
 - C. Glucagon
 - D. Insulin
- 6. What does the term allosteric regulation refer to?**
 - A. The inhibition of enzymes by substrate competition
 - B. The binding of an effector molecule at an allosteric site
 - C. The irreversible modification of active sites
 - D. The synthesis of proteins in response to hormones

7. In terms of test format, what does using practice tests help to achieve?

- A. Helps create new questions
- B. Improves familiarity with the test format
- C. Eliminates the need for studying
- D. Only helps with reasoning questions

8. What is the average score range for the OAT?

- A. 150 to 250
- B. 200 to 300
- C. 200 to 400
- D. 250 to 350

9. What function do direct hormones serve in the body?

- A. Stimulate other glands
- B. Regulate neurotransmitter release
- C. Stimulate organs directly
- D. Enhance immune response

10. Which stage precedes the M phase in the cell cycle?

- A. G1 phase
- B. S phase
- C. G2 phase
- D. Interphase

Answers

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

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Explanations

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1. What is the primary function of endorphins in the endocrine system?

- A. They stimulate bone and muscle growth
- B. They enhance pain perception
- C. They inhibit the perception of pain**
- D. They stimulate milk secretion

Endorphins play a crucial role in the endocrine system primarily by inhibiting the perception of pain. These peptides are produced by the central nervous system and the pituitary gland and function as natural pain relievers. When endorphins bind to specific receptors in the brain, they can block the transmission of pain signals and produce positive feelings, often referred to as a "runner's high." This is particularly significant in the context of stress or trauma, as endorphins can help individuals endure pain and discomfort during challenging situations. The other options pertain to functions that are not associated with endorphins. For example, muscle and bone growth is primarily regulated by hormones like growth hormone and insulin-like growth factor, rather than endorphins. Enhancing pain perception contradicts the primary function of endorphins, which is to decrease the sensation of pain. Lastly, milk secretion is primarily stimulated by prolactin, a hormone produced by the pituitary gland, rather than by endorphins. Therefore, the main role of endorphins as natural pain inhibitors is clearly articulated in the correct choice.

2. Which chemical principles are emphasized in the OAT chemistry section?

- A. Stoichiometry, chemical reactions, and thermodynamics**
- B. Organic chemistry and analytical techniques
- C. Electrochemistry and kinetics
- D. Biochemistry and molecular biology

The chemical principles emphasized in the OAT chemistry section include stoichiometry, chemical reactions, and thermodynamics. These concepts form foundational aspects of chemistry that are crucial for understanding various processes and calculations involved in both inorganic and organic chemistry. Stoichiometry deals with the quantitative relationships between reactants and products in chemical reactions, enabling students to predict the amounts of substances consumed and produced. Understanding chemical reactions involves recognizing different types of reactions, balancing equations, and knowing the principles governing how reactions occur, including energy changes and the conservation of mass. Thermodynamics provides insight into the energy transformations that occur in chemical reactions, focusing on concepts like enthalpy, entropy, and free energy. Mastery of these topics allows students to evaluate reaction feasibility and understand the conditions under which reactions proceed. While the other options mention important areas of chemistry, such as organic chemistry, analytical techniques, electrochemistry, kinetics, biochemistry, and molecular biology, the OAT places a stronger emphasis on the broad chemical principles represented in the first choice. Understanding these principles is essential for success on the exam and in future studies within the field of optometry, where these concepts can apply to various biological systems and processes.

3. What is a helpful strategy when solving physics problems for the OAT?

- A. Ignoring units of measurement
- B. Drawing diagrams to visualize problems**
- C. Relying solely on memorized formulas
- D. Starting with the most difficult problems

Drawing diagrams to visualize problems is an incredibly helpful strategy in solving physics problems, especially in a high-stakes exam like the OAT. Visual representation can clarify the relationships between different components of a problem, making it easier to understand complex scenarios. When you create a diagram, you can identify key forces, angles, and relevant figures that influence the situation being analyzed. This approach aids in breaking down problems into more manageable parts and allows for a clearer application of relevant physics principles. Many physics concepts are inherently spatial, and visualizing them can simplify the analytical process. Moreover, diagrams can help prevent errors by ensuring that important information is not overlooked. Utilizing this strategy enhances comprehension and improves problem-solving efficiency, enabling you to approach questions with greater confidence and accuracy. Overall, drawing diagrams can facilitate a deeper understanding of the physical concepts involved, a crucial skill for excelling on the OAT.

4. Which gland produces both T4 and T3 hormones?

- A. The adrenal gland
- B. The hypothalamus
- C. The thyroid gland**
- D. The parathyroid gland

The thyroid gland is responsible for producing both thyroxine (T4) and triiodothyronine (T3) hormones. These hormones play a crucial role in regulating metabolism, growth, and development in the body. The synthesis of T4 and T3 occurs through the uptake of iodine from the diet, which is essential for their production. The gland itself is located in the neck and is butterfly-shaped, straddling the trachea. T4 is primarily released into the bloodstream and serves as a prohormone, with T3 being the more active form that influences metabolic processes. The balance and secretion of these hormones are also regulated by thyroid-stimulating hormone (TSH) produced by the pituitary gland, which highlights the interconnectedness of the endocrine system. The other glands mentioned in the choices, such as the adrenal gland, hypothalamus, and parathyroid gland, have different functions. The adrenal gland is involved in producing hormones related to stress response, the hypothalamus regulates bodily functions through hormone secretion but does not produce T3 or T4, and the parathyroid gland is primarily responsible for regulating calcium levels in the blood. Understanding the specific roles of these glands clarifies why the thyroid gland

5. Which hormone is responsible for decreasing the blood calcium level?

- A. Calcitonin**
- B. Parathyroid hormone
- C. Glucagon
- D. Insulin

Calcitonin is the hormone responsible for decreasing blood calcium levels. It is produced by the parafollicular cells (C cells) of the thyroid gland and plays a crucial role in calcium homeostasis. When blood calcium levels rise, calcitonin is released into the bloodstream, where it acts primarily to inhibit osteoclast activity in the bones. Osteoclasts are the cells responsible for bone resorption, so when their activity is reduced, less calcium is released into the bloodstream from the bones. Additionally, calcitonin promotes the excretion of calcium in the kidneys, further contributing to a decrease in blood calcium levels. In contrast, parathyroid hormone increases blood calcium levels by promoting bone resorption, enhancing intestinal absorption of calcium, and reducing calcium excretion in the kidneys. Glucagon and insulin are hormones that primarily regulate glucose metabolism and do not directly influence calcium levels in the body. Thus, among the options provided, calcitonin is uniquely positioned to lower blood calcium levels effectively.

6. What does the term allosteric regulation refer to?

- A. The inhibition of enzymes by substrate competition
- B. The binding of an effector molecule at an allosteric site**
- C. The irreversible modification of active sites
- D. The synthesis of proteins in response to hormones

Allosteric regulation refers to the process wherein the regulation of an enzyme occurs through the binding of an effector molecule at a site other than the enzyme's active site, known as the allosteric site. When an effector molecule binds to this site, it induces a conformational change in the enzyme, ultimately affecting the enzyme's activity. This can lead to either an increase (positive allosteric regulation) or a decrease (negative allosteric regulation) in the enzyme's catalytic activity. The importance of this mechanism lies in its ability to finely tune enzyme activity in response to the needs of the cell, allowing a more sophisticated level of regulation compared to simple competitive inhibition, where the substrate directly competes with the enzyme for the active site. Allosteric regulation can integrate multiple signals and provide a means for metabolic pathways to adapt dynamically to changing conditions.

7. In terms of test format, what does using practice tests help to achieve?

- A. Helps create new questions
- B. Improves familiarity with the test format**
- C. Eliminates the need for studying
- D. Only helps with reasoning questions

Using practice tests significantly enhances familiarity with the test format, which is crucial for effective test-taking. When students engage with practice tests, they become accustomed to the types of questions that will appear, the structure of the exam, and the timing associated with each section. This familiarity can reduce anxiety on the actual test day, enabling students to manage their time more effectively and approach each question with confidence. This experience also aids in understanding the pacing required for each section. By simulating the testing environment, students can practice how to allocate their time and develop strategies to tackle various question formats. Moreover, repeatedly encountering similar questions allows for deeper recognition of important concepts and formats that may appear in the actual exam. Familiarity with the test format can lead to improved performance because students are more prepared to face the challenges of the exam without the additional stress of the unknown. While practice tests do not create new questions or eliminate the need for studying, and they do apply to all types of questions rather than only reasoning ones, their primary purpose is to enhance comfort and efficiency with the overall test structure.

8. What is the average score range for the OAT?

- A. 150 to 250
- B. 200 to 300
- C. 200 to 400**
- D. 250 to 350

The average score range for the OAT is typically between 200 to 400. This scoring spectrum reflects the overall performance of test-takers, with 200 serving as the mean score and 400 representing the upper threshold of the scoring scale. Understanding the scoring system is crucial for aspiring optometrists, as it provides a benchmark for evaluating one's performance against peers. The OAT is designed to assess a range of skills necessary for success in optometry school, and a score within this average range indicates satisfactory proficiency in these skills. Other answer choices do not accurately reflect the established scoring system of the OAT, making them less relevant to understanding how scores are typically calculated and interpreted within the context of optometry admissions.

9. What function do direct hormones serve in the body?

- A. Stimulate other glands
- B. Regulate neurotransmitter release
- C. Stimulate organs directly**
- D. Enhance immune response

Direct hormones play a crucial role by acting directly on target organs to elicit physiological responses. Unlike tropic hormones, which primarily stimulate the activity of other glands to release hormones, direct hormones bind directly to their respective receptors and promote immediate effects in specific tissues or organs. For instance, hormones like insulin act directly on muscle and fat cells to facilitate glucose uptake, while growth hormone directly influences growth in tissues. This mechanism allows the body to respond promptly to internal and external stimuli, facilitating immediate bodily functions such as metabolism regulation, growth, and other critical processes without the intermediary step of stimulating other glands.

10. Which stage precedes the M phase in the cell cycle?

- A. G1 phase
- B. S phase
- C. G2 phase
- D. Interphase

The M phase, or mitotic phase, is the stage in the cell cycle where cell division occurs, resulting in the formation of two daughter cells. The stage that directly precedes the M phase is the G2 phase. During the G2 phase, the cell has completed DNA replication (which occurs in the S phase) and is preparing for mitosis. In this phase, the cell undergoes further growth and produces proteins necessary for mitosis. It also performs a series of checks to ensure that the DNA has been accurately replicated and that the cell is ready to divide. If the cell is not ready, it can halt the cycle at this checkpoint to prevent errors in cell division. Understanding the order of the cell cycle is critical, as it highlights the transitions and processes that must occur for healthy cell division. The G2 phase is essential for a cell's preparation for M phase, which ensures that mitosis can occur efficiently and correctly.

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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://optometryadmissiontest.examzify.com>

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

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