

OptoPrep National Board of Examiners in Optometry (NBEEO) 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. Which of the following is a precursor to steroid hormones such as testosterone?**
 - A. Sphingolipids**
 - B. Phospholipids**
 - C. Triglycerides**
 - D. Cholesterol**

- 2. What describes the typical positioning of the upper and lower eyelids in relation to the limbus?**
 - A. Upper lid about 1mm lower, lower lid about 2mm above the limbus**
 - B. Upper lid about 2mm lower, lower lid about 1mm above the limbus**
 - C. Upper lid about 2mm lower, lower lid about 1mm lower**
 - D. Upper lid about 1mm lower, lower lid about 2mm lower**

- 3. What direction does the apex of the ciliary body point?**
 - A. Anteriorly**
 - B. Posteriorly**
 - C. Superiorly**
 - D. Inferiorly**

- 4. What is the visual acuity of the construction worker with plaster in his eye?**
 - A. 20/20**
 - B. 20/30**
 - C. 20/50**
 - D. 20/100**

- 5. What is the most appropriate diagnosis for a 32-year-old male experiencing pain and an epithelial defect after previous corneal abrasion?**
 - A. Corneal ulcer (microbial keratitis)**
 - B. Corneal abrasion**
 - C. Epithelial basement membrane dystrophy**
 - D. Recurrent corneal erosion**

- 6. How is the temporal modulation transfer function expected to change in early glaucoma?**
- A. Decreased sensitivity to moderate and high temporal frequencies**
 - B. Decreased sensitivity to moderate frequencies only**
 - C. Decreased sensitivity to low temporal frequencies only**
 - D. Decreased sensitivity to low and moderate frequencies**
- 7. A common cause of epiphora in infants is due to a small membrane covering which structure?**
- A. The lacrimal gland**
 - B. The canaliculus**
 - C. The valve of Hasner**
 - D. The puncta**
- 8. What slit lamp finding might explain decreased visual acuity with a large myopic shift in an elderly patient?**
- A. Bilateral corneal arcus**
 - B. Bilateral limbal girdle of Vogt**
 - C. Bilateral 3+ nuclear sclerosis of the lens**
 - D. Bilateral crocodile shagreen**
- 9. Dacryoadenitis refers to inflammation of which ocular structure?**
- A. The puncta**
 - B. The lacrimal gland**
 - C. The nasolacrimal sac**
 - D. The lacrimal sac**
- 10. Long-term corticosteroid use can lead to which type of cataract?**
- A. Nuclear sclerotic**
 - B. Posterior subcapsular**
 - C. Cortical**
 - D. Anterior subcapsular**

Answers

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

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Explanations

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1. Which of the following is a precursor to steroid hormones such as testosterone?

- A. Sphingolipids**
- B. Phospholipids**
- C. Triglycerides**
- D. Cholesterol**

Cholesterol serves as the primary precursor for the synthesis of steroid hormones, including testosterone. This process begins with cholesterol being converted into pregnenolone, which is then transformed into various steroid hormones through a series of enzymatic reactions. Understanding the role of cholesterol in hormone production is crucial, particularly in the study of endocrinology and the physiological effects of steroids. The steroidogenic pathway demonstrates how cholesterol is essential not only for the production of sex hormones but also for adrenal hormones, highlighting its significance in human physiology. In contrast, sphingolipids, phospholipids, and triglycerides have distinct roles in cellular structure and energy storage or signaling but do not contribute directly to the synthesis of steroid hormones.

2. What describes the typical positioning of the upper and lower eyelids in relation to the limbus?

- A. Upper lid about 1mm lower, lower lid about 2mm above the limbus**
- B. Upper lid about 2mm lower, lower lid about 1mm above the limbus**
- C. Upper lid about 2mm lower, lower lid about 1mm lower**
- D. Upper lid about 1mm lower, lower lid about 2mm lower**

The typical positioning of the upper and lower eyelids in relation to the limbus is characterized by the upper lid resting a little lower than the limbus and the lower lid resting slightly above it. The upper lid generally sits around 2mm lower than the limbus, while the lower lid is positioned approximately 1mm above the limbus. This alignment is important for proper ocular protection and comfort. The positioning reflects the natural anatomy and function of the eyelids, which are designed to cover the cornea when the eyes are closed and facilitate tear distribution when open. This balance helps maintain ocular surface health and ensures that the visual axis is unobstructed. Therefore, option B accurately describes this typical relationship between the eyelids and the limbus.

3. What direction does the apex of the ciliary body point?

- A. Anteriorly
- B. Posteriorly**
- C. Superiorly
- D. Inferiorly

The apex of the ciliary body points posteriorly. This orientation is significant due to the anatomical role that the ciliary body plays in the eye. The ciliary body consists of the ciliary muscle and the ciliary processes, and its positioning is essential for its function in lens accommodation and the production of aqueous humor. The posterior direction of the apex allows the ciliary body to effectively support the lens and promote its ability to change shape during the accommodation process. This is vital for adjusting focus for near and far vision. Additionally, the ciliary processes, which extend into the posterior chamber of the eye, are involved in the secretion of aqueous humor, contributing to intraocular pressure maintenance and nourishing the avascular structures of the eye. This anatomical positioning of the apex highlights the functional relationship between eye structures, demonstrating how the orientation of the ciliary body is closely associated with its physiological roles in vision.

4. What is the visual acuity of the construction worker with plaster in his eye?

- A. 20/20
- B. 20/30
- C. 20/50**
- D. 20/100

In the case of the construction worker who has plaster in his eye, the visual acuity is likely to be significantly affected due to the foreign body presence. The presence of a foreign object can cause a range of issues including irritation, abrasion, and inflammation, all of which can lead to reduced visual clarity. The value of 20/50 suggests that the worker can see at 20 feet what a person with normal vision can see at 50 feet. This level of visual acuity indicates a moderate impairment, which is consistent with the ocular trauma and the presence of a foreign body such as plaster in the eye. In situations like these, visual acuity may not be perfect and can vary based on the extent of damage or the immediate effects of the foreign object. Therefore, 20/50 is an appropriate representation of the likely visual capacity for a person suffering from such a condition, as it shows that while they can still see, their vision is significantly compromised.

5. What is the most appropriate diagnosis for a 32-year-old male experiencing pain and an epithelial defect after previous corneal abrasion?

- A. Corneal ulcer (microbial keratitis)**
- B. Corneal abrasion**
- C. Epithelial basement membrane dystrophy**
- D. Recurrent corneal erosion**

The diagnosis of recurrent corneal erosion is fitting in this scenario because the patient has a prior history of corneal abrasion, which can lead to recurrent episodes of pain and epithelial defects. Recurrent corneal erosion occurs when the epithelium does not adhere properly to the underlying basement membrane after an injury, such as an abrasion. This condition often presents with sudden onset pain and discomfort, especially upon awakening, as the eyelid may rub against the non-adherent epithelium during sleep. In this case, the 32-year-old male's symptoms align with the characteristics of recurrent corneal erosion. The persistent nature of the epithelial defect, following an earlier injury to the cornea, suggests that the healing process did not occur optimally, leading to subsequent episodes of erosion. While other conditions, such as corneal ulcers or ongoing abrasions, may present with similar signs, the specific history of a previous abrasion and the recurrent nature of the symptoms guide the diagnosis toward recurrent corneal erosion. Epithelial basement membrane dystrophy could also cause recurrent episodes but is differentiated by its more chronic presentation and absence of a clear prior traumatic incident.

6. How is the temporal modulation transfer function expected to change in early glaucoma?

- A. Decreased sensitivity to moderate and high temporal frequencies**
- B. Decreased sensitivity to moderate frequencies only**
- C. Decreased sensitivity to low temporal frequencies only**
- D. Decreased sensitivity to low and moderate frequencies**

In early glaucoma, the temporal modulation transfer function (TMTF) typically shows decreased sensitivity to both moderate and high temporal frequencies. This is significant because glaucoma affects the retinal nerve fibers, leading to compromised visual processing, especially in dynamic situations where temporal resolution is critical. As the disease progresses, patients may have more difficulty detecting flicker and rapidly changing visual stimuli, reflecting the loss of ganglion cells and the integrity of the visual pathways. Increased sensitivity loss at moderate and high temporal frequencies indicates that the visual system is struggling to resolve quick changes in stimuli, which is crucial for activities such as reading or tracking moving objects. This shift in sensitivity underscores the importance of incorporating dynamic visual tasks in the assessment of patients suspected of having glaucoma, as it can reveal early functional deficits that may not be apparent through standard static visual acuity testing or structural assessments. Thus, the correct answer highlights the multifaceted impact of glaucoma on visual processing as it affects higher temporal frequency processing and reflects a fundamental aspect of how the disease influences visual perception.

7. A common cause of epiphora in infants is due to a small membrane covering which structure?

- A. The lacrimal gland**
- B. The canaliculus**
- C. The valve of Hasner**
- D. The puncta**

Epiphora, or excessive tearing, in infants frequently arises due to a condition known as nasolacrimal duct obstruction. This obstruction often results from a membrane that fails to dissolve properly, leading to a blockage at the valve of Hasner, which is located at the opening of the nasolacrimal duct into the nasal cavity. This small membrane typically persists due to developmental factors, preventing tears from draining from the eye properly into the nose, hence causing excessive tearing. When the nasolacrimal duct is obstructed, the tears collect in the conjunctival sac, leading to epiphora. In contrast, the lacrimal gland is responsible for producing tears, while the canaliculus and puncta both play roles in the drainage of the tears into the nasolacrimal system. However, obstructions associated with those structures are less common as causes of epiphora compared to the blockage formed at the valve of Hasner in infants. This makes the valve of Hasner the most significant point of obstruction leading to epiphora in this age group.

8. What slit lamp finding might explain decreased visual acuity with a large myopic shift in an elderly patient?

- A. Bilateral corneal arcus**
- B. Bilateral limbal girdle of Vogt**
- C. Bilateral 3+ nuclear sclerosis of the lens**
- D. Bilateral crocodile shagreen**

In elderly patients, a large myopic shift paired with decreased visual acuity can often be attributed to changes in the lens, particularly nuclear sclerosis. Nuclear sclerosis refers to the hardening and clouding of the central part of the lens as it ages. This condition leads to the yellowing and opacification of the lens, which can significantly impact the quality of vision. The relationship between nuclear sclerosis and a myopic shift lies in the changes in the lens's refractive properties as it becomes more rigid and less transparent. The increased density of the lens material leads to an alteration in the focusing power of the eye, potentially causing the shift towards myopia. Consequently, patients may experience difficulty seeing clearly at a distance, resulting in decreased visual acuity. In the context of the other options, bilateral corneal arcus, bilateral limbal girdle of Vogt, and bilateral crocodile shagreen typically do not lead to significant changes in refractive status or contribute to large myopic shifts in elderly individuals. These conditions are more about changes in corneal appearance rather than the refractive pathway through the eye, and do not intrinsically compromise the clarity of vision to the same extent that nuclear sclerosis does. Thus, nuclear sclerosis stands out as the most

9. Dacryoadenitis refers to inflammation of which ocular structure?

- A. The puncta**
- B. The lacrimal gland**
- C. The nasolacrimal sac**
- D. The lacrimal sac**

Dacryoadenitis specifically refers to inflammation of the lacrimal gland, which is responsible for producing tears. This condition can arise from various causes, including infections, autoimmune disorders, or other inflammatory processes. The lacrimal gland is crucial to the ocular system as it secretes tear fluid that provides moisture to the surface of the eye, facilitates visual clarity, and protects against infections. If the lacrimal gland becomes swollen and inflamed due to dacryoadenitis, it can lead to symptoms such as pain, swelling in the outer upper eyelid region, and potential impacts on tear production. It's essential to distinguish dacryoadenitis from conditions affecting other parts of the tear drainage system, such as puncta or the nasolacrimal sac, which are involved in the drainage of tears rather than their production. Understanding the specific anatomical structures involved is key in diagnosing and managing ocular conditions related to tear production and drainage.

10. Long-term corticosteroid use can lead to which type of cataract?

- A. Nuclear sclerotic**
- B. Posterior subcapsular**
- C. Cortical**
- D. Anterior subcapsular**

Long-term use of corticosteroids is most commonly associated with the development of posterior subcapsular cataracts. This type of cataract forms in the back part of the lens and can significantly impact vision by causing glare and difficulty seeing in bright light conditions. The mechanism by which corticosteroids contribute to this cataract formation involves the alteration of the lens's biochemical environment, leading to changes in lens protein and fiber structure. Posterior subcapsular cataracts typically develop more quickly than other types of cataracts, such as nuclear sclerotic or cortical cataracts, which can be associated with age or other factors. This type of cataract is particularly relevant to patients who require prolonged steroid therapy for conditions such as asthma, autoimmune diseases, or other inflammatory disorders, making awareness and monitoring important in these scenarios. Only specific patient populations, such as those on chronic corticosteroid therapy, are predominantly affected by this cataract type, highlighting the need for regular eye examinations in these patients.

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://optoprepnbeo.examzify.com>

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

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