

CERTIFIED OPHTHALMIC MEDICAL TECHNOLOGIST (COMT) PRACTICE EXAM (SAMPLE)

STUDY GUIDE



SAMPLE STUDY GUIDE WITH LIMITED QUESTIONS

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THE FULL VERSION STUDY GUIDE**

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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. Cleaning which filter on the keratometer improves mire imagery?**
 - A. The infrared filter
 - B. The daylight blue filter
 - C. The polarizing filter
 - D. The UV filter
- 2. Which of the following metals is NOT commonly used in the composition of stainless steel instruments?**
 - A. Molybdenum
 - B. Aluminum
 - C. Nickel
 - D. Chromium
- 3. What wavelength does the IOL Master use to measure axial length?**
 - A. 600 nm (visible light)
 - B. 780 nm (infrared)
 - C. 850 nm (near-infrared)
 - D. 940 nm (infrared)
- 4. Which of the following is a characteristic of Horner's Syndrome?**
 - A. Miosis
 - B. Diplopia
 - C. Exophthalmos
 - D. Photophobia
- 5. Which dye is commonly used in eye angiography?**
 - A. Indocyanine green
 - B. Sodium fluorescein
 - C. Brilliant blue
 - D. Fluorescein isothiocyanate

- 6. When should you stop increasing the amount of prism in the prism and alternate cover test?**
- A. When the patient feels comfortable
 - B. When a reversal in movement direction is observed
 - C. After using a standard amount of prism
 - D. When the patient becomes fatigued
- 7. Why is the concept of a null point important in visual acuity testing for patients with nystagmus?**
- A. It reduces the required test distance
 - B. It allows optimal viewing angles
 - C. It helps in eliminating distractions
 - D. It facilitates accurate binocularity testing
- 8. What retinal finding can be caused by the drug Plaquenil, used to treat rheumatoid arthritis?**
- A. Macular degeneration
 - B. Bull's eye maculopathy
 - C. Retinal hemorrhage
 - D. Optic neuritis
- 9. What condition results from sickle-shaped cells occluding a peripheral vessel in the retina?**
- A. Neovascularization
 - B. Retinal detachment
 - C. Optic neuropathy
 - D. Vitreous hemorrhage
- 10. Which instrument is commonly used for kinetic perimetry?**
- A. Tangent screen
 - B. Digital camera
 - C. Visual acuity chart
 - D. Optical coherence tomographer

Answers

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

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Explanations

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1. Cleaning which filter on the keratometer improves mire imagery?

- A. The infrared filter
- B. The daylight blue filter**
- C. The polarizing filter
- D. The UV filter

Cleaning the daylight blue filter on the keratometer is essential for improving mire imagery. The daylight blue filter is designed to eliminate unwanted reflections and enhance contrast in the mire patterns used during keratometry readings. When this filter is clean, it allows for clearer visual cues, which helps in accurately assessing the corneal curvature necessary for contact lens fitting or surgical planning. Proper visibility of the mire pattern is crucial, as it enables the technician or clinician to take precise measurements of the eye's surface. This improved clarity also aids in reducing artifacts that can occur due to dust or smudges on the filter, which could lead to misinterpretation of the measurements. In contrast, while other filters like the infrared, polarizing, and UV filters serve specific functions, they do not play a significant role in enhancing the visibility of mire patterns, thus making the use of the clean daylight blue filter the most relevant for this purpose.

2. Which of the following metals is NOT commonly used in the composition of stainless steel instruments?

- A. Molybdenum
- B. Aluminum**
- C. Nickel
- D. Chromium

Stainless steel is an alloy predominantly composed of iron, along with varying amounts of other metals that enhance its properties. In the case of stainless steel instruments, nickel, chromium, and molybdenum are commonly included because they contribute to the alloy's resistance to corrosion and overall strength. Nickel improves the ductility and toughness of stainless steel, while chromium adds to its corrosion resistance and helps form a protective oxide layer on the surface. Molybdenum is included for its ability to enhance strength at high temperatures and further improve corrosion resistance, particularly against chloride environments. Aluminum, however, is not typically found in stainless steel compositions. While it is a well-known metal used in other alloys such as aluminum alloys – due to its lightweight and corrosion-resistant properties – it does not contribute to the formation or enhancement of stainless steel. As a result, aluminum is not commonly used in the production of stainless steel instruments, whereas the other metals listed play significant roles in defining the characteristics and usability of stainless steel.

3. What wavelength does the IOL Master use to measure axial length?

- A. 600 nm (visible light)
- B. 780 nm (infrared)**
- C. 850 nm (near-infrared)
- D. 940 nm (infrared)

The IOL Master utilizes a wavelength of 780 nm, which falls into the near-infrared spectrum. This specific wavelength is chosen for several reasons. Near-infrared light is less absorbed by biological tissues than visible light, allowing for more accurate and non-invasive measurements of the eye's internal structures, such as the axial length. This characteristic is essential in providing precise calculations needed for intraocular lens (IOL) implantation. In contrast, visible light at 600 nm is more easily absorbed, potentially leading to inaccurate readings. Wavelengths like 850 nm and 940 nm, while also in the infrared range, do not match the optimal measurement properties established for the IOL Master. Using a specific wavelength that is best suited for the anatomical and optical properties of the eye ensures the accuracy and reliability of the axial length measurement critical for successful cataract surgery and lens implantation.

4. Which of the following is a characteristic of Horner's Syndrome?

- A. Miosis
- B. Diplopia
- C. Exophthalmos
- D. Photophobia

Horner's Syndrome is characterized by a triad of symptoms resulting from damage to the sympathetic nerves supplying the eye and surrounding structures. One of the hallmark features is miosis, which is the constriction of the pupil in the affected eye. In the case of Horner's Syndrome, this occurs due to the loss of sympathetic innervation, leading to an imbalance between sympathetic and parasympathetic stimulation. The other symptoms associated with this syndrome include ptosis (drooping of the upper eyelid) and anhidrosis (lack of sweating) on the affected side of the face. While diplopia (double vision) and photophobia (sensitivity to light) can result from other eye conditions, they are not direct characteristics of Horner's Syndrome. Exophthalmos, or protrusion of the eyeball, is also not associated with Horner's; in fact, in this syndrome, there may be a slight ptosis or retraction of the eye instead, depending on the specific case. Therefore, miosis remains the key identifying feature of Horner's Syndrome.

5. Which dye is commonly used in eye angiography?

- A. Indocyanine green
- B. Sodium fluorescein
- C. Brilliant blue
- D. Fluorescein isothiocyanate

Sodium fluorescein is the dye commonly used in eye angiography due to its specific properties that allow for effective visualization of the blood vessels in the retina and choroid. When injected into the bloodstream, it fluoresces under blue light, making it easier for physicians to capture detailed images of the ocular circulation. This ability to highlight the vascular structures is crucial for diagnosing various retinal conditions, such as diabetic retinopathy, age-related macular degeneration, and other vascular disorders. Indocyanine green is also used in certain specialized forms of angiography but is primarily employed for imaging the choroidal circulation, not the retinal vasculature that sodium fluorescein targets. Brilliant blue is not typically used in eye angiography; rather, it is a dye utilized in aiding surgical procedures within the eye, such as retinal surgery. Fluorescein isothiocyanate may be involved in other types of biological assays or imaging processes but is not the standard dye used in ocular angiography. The specific characteristics of sodium fluorescein, including its safety profile and the clarity of images it produces, solidify its place as the dye of choice for eye angiographic studies.

6. When should you stop increasing the amount of prism in the prism and alternate cover test?

- A. When the patient feels comfortable
- B. When a reversal in movement direction is observed**
- C. After using a standard amount of prism
- D. When the patient becomes fatigued

The appropriate time to stop increasing the amount of prism during the prism and alternate cover test is when a reversal in movement direction is observed. This reversal indicates that you have reached the point at which the visual system can no longer compensate for the strabismus. When the direction of eye movement changes from converging to diverging (or vice versa), it signifies the breaking point of fusion and helps determine the amount of deviation or heterotropia that is present. This is crucial for an accurate assessment of the eye alignment and for planning any potential treatment options. While assessing patient comfort, fatigue, or a standard amount of prism are considerations during testing, they do not provide the same diagnostic information as observing the reversal. The critical aspect is to determine the precise moment of visual system failure, which is effectively indicated by the reversal in eye movement direction. Conducting the test with this knowledge ensures a more accurate understanding of the patient's strabismus and helps to tailor any necessary interventions.

7. Why is the concept of a null point important in visual acuity testing for patients with nystagmus?

- A. It reduces the required test distance
- B. It allows optimal viewing angles
- C. It helps in eliminating distractions
- D. It facilitates accurate binocularity testing**

The importance of the null point in visual acuity testing for patients with nystagmus primarily lies in its influence on the ability to achieve optimal visual performance. Nystagmus is characterized by involuntary, repetitive eye movements, which can be horizontal, vertical, or rotational. These movements can lead to blurred vision and difficulties in maintaining a steady gaze. The null point refers to the specific position of the eye or head at which the nystagmus is minimized or goes away, allowing the patient to achieve the best possible visual acuity. During testing, positioning the patient so that their gaze aligns with the null point can greatly enhance their ability to see clearly. Therefore, when evaluating visual acuity, it is critical to identify this null point, as it directly influences the accuracy of the test results. Finding the null point facilitates the testing process by ensuring that the patient can utilize their best vision during the examination, which is essential for obtaining reliable measures of visual acuity. This consideration is crucial for providing appropriate assessments and adjusting visual aids or treatments as needed.

8. What retinal finding can be caused by the drug Plaquenil, used to treat rheumatoid arthritis?

- A. Macular degeneration
- B. Bull's eye maculopathy**
- C. Retinal hemorrhage
- D. Optic neuritis

Bull's eye maculopathy is a characteristic retinal finding associated with the use of Plaquenil (hydroxychloroquine), which is commonly prescribed for conditions like rheumatoid arthritis and lupus. This condition is known to cause specific changes in the macula, resulting in a distinct pattern of parafoveal retinal pigmentary changes. These changes typically manifest as a 'bull's eye' appearance due to the loss of retinal pigment epithelium (RPE) and the accumulation of pigment at the fovea. This finding is a direct consequence of the drug's toxicity to the retinal cells, particularly after prolonged exposure or at higher doses. Early detection of bull's eye maculopathy is crucial since it can lead to permanent vision loss if not monitored and managed properly. Regular eye examinations, including visual field tests and optical coherence tomography (OCT), are important for patients on hydroxychloroquine to monitor for this potential adverse effect, highlighting the significance of understanding this specific retinal finding in clinical practice.

9. What condition results from sickle-shaped cells occluding a peripheral vessel in the retina?

- A. Neovascularization**
- B. Retinal detachment
- C. Optic neuropathy
- D. Vitreous hemorrhage

The condition that arises from sickle-shaped cells occluding a peripheral vessel in the retina is neovascularization. When sickle cells obstruct the blood flow in retinal vessels, it leads to ischemia (a deficiency of blood supply) in the surrounding retinal tissue. This ischemia triggers a response in which the retina attempts to compensate for the lack of oxygen by promoting the growth of new, abnormal blood vessels, a process known as neovascularization. These newly formed vessels can be fragile and prone to leakage, leading to further complications. Neovascularization in the retina is often associated with diseases that cause chronic ischemia, such as sickle cell disease. It is important to manage these conditions effectively to prevent potential vision loss resulting from complications associated with neovascularization, including complications like retinal hemorrhage. The other conditions listed, such as retinal detachment, optic neuropathy, and vitreous hemorrhage, may occur as secondary effects or in different contexts but are not directly caused by the occlusion of a peripheral vessel by sickle cells.

10. Which instrument is commonly used for kinetic perimetry?

- A. Tangent screen**
- B. Digital camera
- C. Visual acuity chart
- D. Optical coherence tomographer

Kinetic perimetry is a method used to map the visual field by assessing the sensitivity of vision at various points within that field. The tangent screen is a device specifically designed for this purpose. It consists of a flat surface where visual stimuli can be presented at different locations and distances from the fixation point. The patient is typically instructed to indicate when they can see a moving target on the screen, allowing a clinician to determine the extent and sensitivity of the visual field. While the digital camera, visual acuity chart, and optical coherence tomographer are important tools in ophthalmology and optometry, they serve different functions. A digital camera captures images of the fundus or eye structures, a visual acuity chart measures the sharpness of vision, and the optical coherence tomographer provides detailed images of the retina and its layers. These instruments do not measure visual field sensitivity in the way that kinetic perimetry aims to. Hence, the tangent screen is recognized as the commonly used instrument for conducting kinetic perimetry tests.

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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://comtmedicaltechnologist.examzify.com>

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

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