

Certified Ophthalmic Technician (COT) 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. What does the swinging flashlight test primarily compare?
 - A. Direct response in both eyes
 - B. Direct response in the stimulated eye and consensual response in the other eye
 - C. Static visual acuity
 - D. Pupil size at rest

2. What kind of ultrasonic test provides data for calculating intraocular lens (IOL) power?
 - A. B-Scan
 - B. Pachymetry
 - C. A-Scan
 - D. Ultrasonography

3. A patient presents with eyelid swelling, double vision, and a bulging eye, with a CT scan revealing thickening of extraocular muscles. What is the probable diagnosis?
 - A. Diabetic retinopathy
 - B. Grave's disease
 - C. Thyroid eye disease
 - D. Allergic conjunctivitis

4. What is a common cause of decreased visual acuity that can often be corrected with glasses?
 - A. Cataracts
 - B. Refractive error
 - C. Macular degeneration
 - D. Glaucoma

5. Which procedure is most likely to produce a falsely elevated intraocular pressure reading?
- A. Goldmann tonometry
 - B. Air puff tonometry
 - C. Applanation tonometry
 - D. Indentation tonometry
6. What is typically observed during the arterial phase of fluorescein angiography?
- A. Choroidal staining
 - B. Dye filling the arteries
 - C. Capillary leakage
 - D. Increased retinal blood flow
7. Which type of stromal corneal dystrophy presents with a dense gray central opacity starting in Bowman's layer?
- A. Granular dystrophy
 - B. Lattice dystrophy
 - C. Macular dystrophy
 - D. Fuchs' dystrophy
8. Which statement about Snellen visual acuity is TRUE?
- A. It can only be used with standard symbols.
 - B. It contains an adjustment for changing the size of symbols on the screen.
 - C. It measures color perception only.
 - D. It is not reliable for determining visual impairment.
9. How is a properly applied eye dressing secured?
- A. With a single strip of gauze
 - B. Using parallel strips of surgical tape from the forehead to the cheekbone
 - C. With adhesive bandages only
 - D. Using a cloth mask around the head

10. Which mechanism do sympathomimetic agents use to dilate the pupil?
- A. Relaxing the sphincter muscle
 - B. Stimulating the ciliary body
 - C. Stimulating the radial muscle of the iris
 - D. Inhibiting parasympathetic activity

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Answers

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

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Explanations

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1. What does the swinging flashlight test primarily compare?

- A. Direct response in both eyes
- B. Direct response in the stimulated eye and consensual response in the other eye
- C. Static visual acuity
- D. Pupil size at rest

The swinging flashlight test primarily compares the direct response in the stimulated eye and the consensual response in the other eye. This test is designed to assess the function of the optic nerve and the pathways responsible for pupillary light reflex. When a light is swung back and forth between both eyes, the technician observes how each pupil reacts to the light stimulus. In a healthy system, exposure to light in one eye will cause that eye's pupil to constrict directly, while the other eye will constrict consensually. If there is a defect in the optic nerve of one eye, the affected eye will not constrict as strongly, demonstrating a relative afferent pupillary defect (RAPD). This indicates an issue with the sensory input of the optic nerve, allowing for assessment of potential underlying conditions. The other choices do not capture the primary function of the swinging flashlight test: - While the direct response in both eyes is observed, the critical aspect involves both direct and consensual responses. - Static visual acuity pertains to the sharpness or clarity of vision, whereas the swinging flashlight test focuses specifically on pupillary responses, not visual sharpness. - Pupil size at rest offers information about baseline conditions but does not provide insight into the dynamic responses affected by

2. What kind of ultrasonic test provides data for calculating intraocular lens (IOL) power?

- A. B-Scan
- B. Pachymetry
- C. A-Scan
- D. Ultrasonography

The A-scan ultrasound test is the method used to provide the necessary data for calculating intraocular lens (IOL) power. This form of ultrasonography emits pulses of sound waves into the eye and measures the time it takes for those waves to reflect back from various structures, such as the lens and the retina. This reflection provides critical information about the dimensions of the eye, specifically the axial length, which is essential for determining the appropriate power of an IOL to achieve optimal vision post-cataract surgery. The A-scan's ability to provide precise measurements of the eye's internal structures makes it indispensable for IOL calculations. In contrast, other tests listed, such as B-scan, which provides a two-dimensional cross-sectional image of the eye, and pachymetry, which measures the thickness of the cornea, do not directly supply the axial length needed for IOL calculations. Ultrasonography, while a broader term, does not specify the type of ultrasound relevant for IOL power determination and could pertain to various ultrasound applications beyond ophthalmology.

3. A patient presents with eyelid swelling, double vision, and a bulging eye, with a CT scan revealing thickening of extraocular muscles. What is the probable diagnosis?
- A. Diabetic retinopathy
 - B. Grave's disease
 - C. Thyroid eye disease
 - D. Allergic conjunctivitis

The presenting symptoms of eyelid swelling, double vision, and a bulging eye, along with the CT scan findings of thickening of the extraocular muscles, indicate thyroid eye disease, also known as Graves' ophthalmopathy. This condition is commonly associated with hyperthyroidism, specifically Graves' disease, where the body produces antibodies that stimulate thyroid hormone production and lead to changes in eye structure and function. In thyroid eye disease, inflammation and swelling of the extraocular muscles can result in muscle enlargement, which is visible on imaging studies such as CT scans. The symptoms of diplopia (double vision) arise due to the affected muscles not functioning normally, causing misalignment of the eyes. The bulging eye, or proptosis, is a result of the increased pressure in the orbit from the swollen muscles and associated tissues. While Graves' disease is often mentioned in the context of thyroid eye disease, the key aspect that leads us to the diagnosis of thyroid eye disease is the involvement of the extraocular muscles and the specific symptoms presented. Diabetic retinopathy primarily affects the retina and is less likely to cause the bulging and muscle thickening observed. Allergic conjunctivitis typically involves eye redness and itching, and it does not present with the muscle involvement

4. What is a common cause of decreased visual acuity that can often be corrected with glasses?
- A. Cataracts
 - B. Refractive error
 - C. Macular degeneration
 - D. Glaucoma

Decreased visual acuity is frequently caused by refractive errors, which occur when the shape of the eye prevents light from focusing directly on the retina. This can lead to blurred vision at various distances, depending on whether the individual has myopia (nearsightedness), hyperopia (farsightedness), or astigmatism. Corrective lenses, such as glasses or contact lenses, change the way light rays enter the eye, allowing for proper focus on the retina and significantly improving visual acuity. Conditions such as cataracts, macular degeneration, and glaucoma can also lead to decreased visual acuity, but they generally cannot be fully corrected with glasses alone. Instead, cataracts may require surgical intervention to replace the cloudy lens, while macular degeneration and glaucoma often require ongoing treatment and monitoring to manage vision loss. Understanding the specific nature of the visual impairment is essential for determining the appropriate corrective measures.

5. Which procedure is most likely to produce a falsely elevated intraocular pressure reading?

- A. Goldmann tonometry
- B. Air puff tonometry
- C. Applanation tonometry
- D. Indentation tonometry

Air puff tonometry, also known as non-contact tonometry, is most likely to produce a falsely elevated intraocular pressure reading due to the nature of the measurement technique. This method uses a rapid puff of air directed at the cornea, which causes a deformation of the corneal surface. The measurement is based on how the cornea responds to this air puff. Factors such as corneal thickness, rigidity, and the presence of any corneal abnormalities can significantly influence the results. In patients with thicker corneas, the air puff may result in higher pressure readings than what is actually present, leading to a false elevation in intraocular pressure. Additionally, this method can also be affected by the patient's level of cooperation and anxiety, which may further skew the results. These factors make air puff tonometry less reliable in accurately measuring intraocular pressure compared to other techniques, such as Goldmann tonometry or indentation tonometry, which provide a more direct and moderated assessment.

6. What is typically observed during the arterial phase of fluorescein angiography?

- A. Choroidal staining
- B. Dye filling the arteries
- C. Capillary leakage
- D. Increased retinal blood flow

During the arterial phase of fluorescein angiography, the primary observation is the filling of the retinal and choroidal arteries with the fluorescein dye. This phase occurs shortly after the dye is injected and indicates the normal function and perfusion of the blood vessels in the eye. The clear visualization of the arteries shows how the dye travels through the blood vessels, providing important information about the vascular structure and any potential abnormalities. In contrast, choroidal staining and capillary leakage are typically observed in later phases of the angiography. Increased retinal blood flow is a response that may occur due to pathological conditions, but during the arterial phase, the emphasis is specifically on the filling of the arteries rather than changes in flow dynamics. Understanding these phases helps in diagnosing various retinal conditions and analyzing blood flow issues effectively.

7. Which type of stromal corneal dystrophy presents with a dense gray central opacity starting in Bowman's layer?

- A. Granular dystrophy
- B. Lattice dystrophy
- C. Macular dystrophy
- D. Fuchs' dystrophy

The type of stromal corneal dystrophy that presents with a dense gray central opacity originating from Bowman's layer is macular dystrophy. This condition is characterized by the accumulation of mucopolysaccharides in the stroma, leading to a grayish, cloudy appearance of the cornea that often begins in the area of Bowman's layer. In the case of granular dystrophy, the opacities appear as discrete gray-white granules in the corneal stroma and do not primarily start in Bowman's layer; rather, they are more typically seen in the corneal stroma itself. Lattice dystrophy is distinguished by its characteristic lattice-like lines within the corneal stroma and is also different in terms of its presentation, which typically does not start in Bowman's layer. Fuchs' dystrophy primarily affects the corneal endothelium and typically results in edema and guttata formation rather than an opacity beginning in the central area of Bowman's layer. Thus, the defining feature of macular dystrophy being associated with dense gray opacities starting in Bowman's layer makes it the correct answer in this scenario.

8. Which statement about Snellen visual acuity is TRUE?

- A. It can only be used with standard symbols.
- B. It contains an adjustment for changing the size of symbols on the screen.
- C. It measures color perception only.
- D. It is not reliable for determining visual impairment.

The statement that Snellen visual acuity contains an adjustment for changing the size of symbols on the screen is true. The Snellen chart is designed to assess visual acuity by presenting letters or symbols at various sizes. The principle behind the chart is to measure how well a person can distinguish letters at a standardized distance, generally 20 feet in the United States. When using a digital Snellen chart, the size of the letters or symbols can indeed be adjusted to accommodate different viewing conditions or to more accurately assess a person's visual ability. This adaptability is crucial for ensuring that the test is accurate and relevant to each individual being tested, as it allows practitioners to ensure that the symbols presented match the size appropriate for the patient's potential acuity. The reliability of the test depends significantly on these adjustments, ensuring that it provides an effective measure of visual function.

9. How is a properly applied eye dressing secured?

- A. With a single strip of gauze
- B. Using parallel strips of surgical tape from the forehead to the cheekbone**
- C. With adhesive bandages only
- D. Using a cloth mask around the head

A properly applied eye dressing is secured using parallel strips of surgical tape from the forehead to the cheekbone. This method provides stability and ensures that the dressing remains in place without shifting. The use of surgical tape allows for a secure hold while also accommodating the contours of the face, which can help prevent irritation or discomfort. In contrast, using a single strip of gauze may not provide sufficient security or support, as it may not adequately cover the entire dressing area. Adhesive bandages alone might not adhere effectively to the skin in areas around the eye, where delicate skin and movement are factors. Wrapping a cloth mask around the head does not offer the required precision or support specific to eye dressings and can be cumbersome, potentially leading to complications if not applied properly. Hence, the method involving surgical tape is the most effective and appropriate technique for securing eye dressings.

10. Which mechanism do sympathomimetic agents use to dilate the pupil?

- A. Relaxing the sphincter muscle
- B. Stimulating the ciliary body
- C. Stimulating the radial muscle of the iris**
- D. Inhibiting parasympathetic activity

Sympathomimetic agents induce pupil dilation primarily by stimulating the radial muscle of the iris. When these agents are administered, they activate the alpha-adrenergic receptors present in the radial muscle, leading to contraction of this muscle. As the radial muscles contract, the pupil dilates, a process known as mydriasis. This is an important physiological response that occurs independently of the sphincter muscle, which would function to constrict the pupil, and is a different mechanism than directly stimulating ciliary body activity, which primarily affects accommodation and not pupil size. It also does not involve inhibiting parasympathetic activity as a direct mechanism for dilation; rather, it exerts its action through sympathetic pathways promoting dilation.

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://certifiedophthalmictechnician.examzify.com>

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

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