

SOFT CONTACT LENSES – MATERIALS, MANUFACTURING, AND SCREENING PRACTICE TEST (SAMPLE)

STUDY GUIDE



**SAMPLE STUDY GUIDE
WITH LIMITED QUESTIONS**

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THE FULL VERSION STUDY GUIDE**

<https://softcontactsmatmanufacturing.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. During slit lamp examination, which conjunctival sign should you watch for?**
 - A. Injection
 - B. Chemosis
 - C. Pinguecula or pterygium
 - D. Conjunctivochalasis
- 2. Oxygen transmissibility can vary within the lens due to which factors?**
 - A. Diameter and thickness
 - B. Refractive index and color
 - C. Center thickness and edge thickness
 - D. Power and location on the lens
- 3. Which of the following are the three history considerations to include when fitting contact lenses?**
 - A. Motivation, Hygiene, Anticipated Compliance
 - B. Eye Color, Hair Color, Height
 - C. Age, Weight, Height
 - D. Occupation, Education, Language
- 4. FDA group 5 classification: Which description best fits Group 5?**
 - A. Silicone Hydrogels
 - B. Low Water Content, Ionic Polymer
 - C. High Water Content, Nonionic Polymer
 - D. High Water Content, Ionic Polymer
- 5. Which item is considered an ocular history question for contact lens wearers?**
 - A. Monocular Dilemma
 - B. Thyroid Imbalance
 - C. Sinusitis
 - D. Pregnancy

6. What are the cons of spin casting?

- A. Excellent Optical Quality, Low Cost
- B. Tendency to Decenter on the Eye (most likely to decenter temporally or superior temporally)
- C. High Oxygen Permeability
- D. Easy Demolding

7. What timing is advised for topical medications before wearing contact lenses?

- A. 5 minutes before wear
- B. Immediately after wear
- C. 15 minutes before wear
- D. 15 minutes after wear

8. Which option lists the four wearing schedules defined by the FDA?

- A. Daily wear, continuous wear, flexible wear, frequent wear
- B. Daily wear, extended wear, overnight wear, continuous wear
- C. Extended wear, overnight wear, continuous wear, flexible wear
- D. Daily wear, extended wear, continuous wear, flexible wear

9. Based on the stated improvement trends, how is wettability expected to change in SiHy lenses?

- A. Decrease
- B. Increase
- C. No change
- D. Fluctuate

10. Holden-Mertz extended wear Dk/t?

- A. 87×10^{-9}
- B. 125×10^{-9}
- C. 65-175
- D. 24×10^{-9}

Answers

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

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Explanations

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1. During slit lamp examination, which conjunctival sign should you watch for?

- A. Injection**
- B. Chemosis
- C. Pinguecula or pterygium
- D. Conjunctivochalasis

Conjunctival injection, the redness from dilated conjunctival vessels, is the sign to watch during a slit lamp exam. This vascular response directly reflects inflammation or irritation on the ocular surface and can change with treatment, making it the most informative indicator of active conjunctival status. Other signs describe structural changes rather than current inflammatory activity: chemose is swelling from fluid, pinguecula or pterygium are fixed degenerative lesions at the limbus, and conjunctivochalasis is loose conjunctiva forming folds. These may be visible, but they don't provide the immediate readout of inflammation that injection offers.

2. Oxygen transmissibility can vary within the lens due to which factors?

- A. Diameter and thickness
- B. Refractive index and color
- C. Center thickness and edge thickness
- D. Power and location on the lens**

Oxygen transmissibility, expressed as Dk/t , depends on the local thickness of the lens. The material's permeability (Dk) is fixed for a given lens, so any variation in transmissibility across the lens comes from how thick or thin the lens is in different zones. In a typical lens, thickness varies from the center to the edge, so the center thickness and edge thickness are the key factors that determine how much oxygen can reach the cornea in different regions. Thinner areas have higher Dk/t and allow more oxygen through, while thicker areas have lower Dk/t . Other properties like diameter, refractive index, or color don't by themselves change Dk/t within the lens, though the design can influence where thickness changes occur.

3. Which of the following are the three history considerations to include when fitting contact lenses?

- A. Motivation, Hygiene, Anticipated Compliance**
- B. Eye Color, Hair Color, Height
- C. Age, Weight, Height
- D. Occupation, Education, Language

When fitting contact lenses, you focus on three history areas: motivation to wear lenses, hygiene practices, and anticipated compliance with wear and care. Motivation shows whether the patient is genuinely committed to using lenses, which strongly influences whether they'll wear them consistently and return for follow-ups. Hygiene reflects how well the patient can handle and care for lenses—cleanliness and proper handling are essential to reduce infection and complications. Anticipated compliance looks at how likely the patient is to follow instructions on daily wear, cleaning routines, solution use, and replacement schedules, which is crucial for safety and long-term success. The other options don't directly impact fitting outcomes: eye color, hair color, and height aren't relevant to lens performance; age, weight, and height aren't specific fitting determinants; occupation, education, and language might affect communication or daily routines but aren't the core history factors used in fitting.

4. FDA group 5 classification: Which description best fits Group 5?

- A. Silicone Hydrogels
- B. Low Water Content, Ionic Polymer
- C. High Water Content, Nonionic Polymer
- D. High Water Content, Ionic Polymer

Group 5 refers to silicone hydrogel lens materials, which are defined by containing silicone in the polymer network to greatly boost oxygen permeability. This higher oxygen transmission (Dk) is the defining feature that sets silicone hydrogels apart from the traditional hydrogel groups, which are categorized mainly by water content and ionic character. While older groups describe low/high water content and ionic vs nonionic properties, Group 5 specifically captures the silicone-containing materials that deliver much higher oxygen availability to the cornea. That's why describing Group 5 as silicone hydrogels best fits the classification.

5. Which item is considered an ocular history question for contact lens wearers?

- A. Monocular Dilemma
- B. Thyroid Imbalance
- C. Sinusitis
- D. Pregnancy

Understanding ocular history for contact lens wearers involves focusing on issues that directly affect the eye and vision with lenses. A monocular dilemma—the situation of relying on a single seeing eye—is the key item because any lens-related complication or misuse could directly threaten vision in the only eye that sees. This makes it a critical ocular history question for lens fitting and safety. The other topics are more systemic or unrelated to the eye itself and, while they can influence comfort or tear film, they aren't central ocular history concerns for deciding on lens wear or predicting risk during use.

6. What are the cons of spin casting?

- A. Excellent Optical Quality, Low Cost
- B. Tendency to Decenter on the Eye (most likely to decenter temporally or superior temporally)
- C. High Oxygen Permeability
- D. Easy Demolding

Spin casting forms the lens by spinning a monomer in a mold, which makes the process fast and inexpensive. The main drawback you look for with this method is the tendency for the finished lens to decenter on the eye. The centrifugal flow during curing, combined with subtle mold misalignment and edge-thickening effects, can shift the optic zone off-center. Gravity and eyelid interactions during wear can further exaggerate this, often producing a decentration toward the temporal or superior-temporal region. This misalignment can degrade visual quality and comfort. The other statements describe benefits or material properties rather than a drawback of the process—excellent optical quality, low cost, high oxygen permeability, and easy demolding are not inherent cons of spin casting.

7. What timing is advised for topical medications before wearing contact lenses?

- A. 5 minutes before wear
- B. Immediately after wear
- C. 15 minutes before wear**
- D. 15 minutes after wear

The timing matters because soft contact lenses can intercept and slow down the delivery of the drug to the eye. If you put in the drop and immediately wear the lens, the lens and tear film can absorb some of the medication, reducing how much reaches the cornea and other ocular tissues. Waiting about 15 minutes after instilling the drop gives the medication time to diffuse through the tear film and into the eye, so the treatment is more effective before the lens is placed. This approach also helps prevent the lens from acting as a reservoir that can alter drug exposure or cause staining. So the best practice is to administer the topical medication first and insert the contact lens after roughly 15 minutes.

8. Which option lists the four wearing schedules defined by the FDA?

- A. Daily wear, continuous wear, flexible wear, frequent wear
- B. Daily wear, extended wear, overnight wear, continuous wear
- C. Extended wear, overnight wear, continuous wear, flexible wear
- D. Daily wear, extended wear, continuous wear, flexible wear**

The question tests how the FDA classifies soft contact lens wearing schedules. The FDA sets four defined schedules to guide how long lenses can be worn and under what conditions: daily wear, extended wear, continuous wear, and flexible wear. Daily wear means lenses are worn during waking hours and removed before sleep. Extended wear allows longer wear periods, potentially including sleep, but only with lenses approved for extended wear and under a clinician's guidance. Continuous wear is a schedule that permits wearing the lenses without removal for an extended consecutive period, again only if the lens and labeling permit it. Flexible wear gives clinicians the option to tailor the wearer's schedule to individual needs, blending daily and extended wear within safety limits. Other options introduce terms not defined as separate FDA schedules, such as overnight wear or frequent wear, or they mix in schedules in a way that doesn't align with the FDA's four-category framework. Therefore, the correct set is daily wear, extended wear, continuous wear, and flexible wear.

9. Based on the stated improvement trends, how is wettability expected to change in SiHy lenses?

- A. Decrease
- B. Increase**
- C. No change
- D. Fluctuate

Wettability is about how well tears spread across the lens surface. For silicone hydrogel lenses, the silicone portion makes the surface relatively hydrophobic, which can hinder tear spreading. To improve comfort, manufacturers frequently adopt surface-modifying treatments, hydrophilic coatings, or incorporate more hydrophilic components. When improvement trends are described, they imply the surface is becoming more hydrophilic, so tears spread more easily, forming a stable film and reducing friction during blinking. This shows up as higher wettability (better tear film coverage) over time.

10. Holden-Mertz extended wear Dk/t ?

- A. 87×10^{-9}
- B. 125×10^{-9}
- C. 65-175
- D. 24×10^{-9}

This question tests the minimum oxygen transmissibility per unit thickness (Dk/t) needed for extended wear to protect the cornea from edema. Holden and Mertz showed that to keep corneal swelling to a safe level during prolonged (overnight) wear, the lens must provide enough oxygen so that Dk/t reaches about 87×10^{-9} . In practical terms, this is the threshold below which the cornea starts to swell more when the eye is closed for long periods; staying at or above this value keeps swelling minimal. So 87×10^{-9} is the best answer because it represents the recognized minimum Dk/t to support extended wear. The other options don't fit as the standard threshold: 24×10^{-9} is far too low to prevent edema, a range like 65-175 $\times 10^{-9}$ isn't a specific minimum threshold, and 125×10^{-9} is higher than the minimum but not the commonly cited minimum needed to prevent edema.

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://softcontactsmatmanufacturing.examzify.com>

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

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