



BRAINWARE UNIVERSITY

Term End Examination 2025-2026

Programme – M.Optomety-2025

Course Name – Advance Contact Lens Care

Course Code - MOP20107

(Semester II)

Full Marks : 60

Time : 2:30 Hours

[The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable.]

Group-A

(Multiple Choice Type Question)

1 x 15=15

1. Choose the correct alternative from the following :

- (i) What is the approximate increase in corneal temperature when wearing soft contact lenses?
 - a) 0.1°C
 - b) 0.5°C
 - c) 1.0°C
 - d) 2.0°C
- (ii) What is the estimated corneal oxygen requirement to prevent suppression of epithelial mitosis?
 - a) 0.05
 - b) 0.08
 - c) 0.131
 - d) 0.209
- (iii) What is the primary purpose of over-refraction in rigid contact lenses?
 - a) To determine the patient's corneal curvature
 - b) To measure the difference between ocular Rx and the sum of BVP of the trial lens and tear lens
 - c) To check the thickness of the contact lens
 - d) To determine the oxygen permeability of the lens
- (iv) What is the key advantage of third-generation silicone hydrogel lenses?
 - a) High lipid attraction
 - b) Hydrophilic monomers integrated into the matrix
 - c) Low oxygen permeability
 - d) High modulus for rigidity
- (v) What can cause decentration of a rigid gas permeable lens?
 - a) Improper BOZR selection
 - b) Lens flexure
 - c) Incorrect peripheral curve design
 - d) All of the These
- (vi) What is a potential complication of prism-ballasted contact lens designs?
 - a) Reduced oxygen transmissibility in thicker areas
 - b) Increased tear evaporation
 - c) More frequent lens dislodgement
 - d) Greater risk of microbial keratitis
- (vii) Which feature of fourth-generation silicone hydrogel lenses improves comfort?

- a) Surface roughness
c) Water gradient technology
- b) High lipid deposition
d) High modulus
- (viii) Which cleaning method is most effective for RGP lenses?
- a) Saline rinsing
c) Digital rubbing with surfactant cleaner
- b) Hydrogen peroxide soaking
d) Multipurpose solution only
- (ix) Which test is used to assess corneal irregularity before contact lens fitting?
- a) Keratometry
c) Schirmer's test
- b) Fluorescein break-up time (TBUT)
d) Topography
- (x) Which feature of a scleral lens provides the most stability?
- a) Large optic zone
c) High modulus material
- b) Increased central thickness
d) Haptic landing zone
- (xi) What does an excessive mid-peripheral pooling pattern indicate in an RGP fit?
- a) A too-flat fit
c) An ideal fit
- b) A too-steep fit
d) Poor centration
- (xii) Why is a fenestration hole sometimes added to a scleral lens?
- a) Increase oxygen permeability
c) Reduce lens weight
- b) Improve centration
d) Enhance tear exchange
- (xiii) What is the primary advantage of orthokeratology over daily wear lenses?
- a) Slows myopia progression
c) Provides permanent vision correction
- b) Increases comfort
d) Reduces dry eye symptoms
- (xiv) How much movement should an RGP lens exhibit on blink?
- a) 0 mm
c) 3-5 mm
- b) 1-2 mm
d) More than 5 mm
- (xv) What is a common visual complaint with simultaneous vision lenses in low light?
- a) Enhanced peripheral vision
c) Increased near vision clarity
- b) Ghosting or halos
d) Reduced blinking rate

Group-B

(Short Answer Type Questions)

3 x 5=15

2. Calculate the required convergence for -5.00D myopic person wearing contact lens. (3)
3. How does the water content of a soft contact lens affect its oxygen permeability? (3)
4. List the toric contact lens stabilization techniques. (3)
5. Mention different types of toric RGPs. (3)
6. What are the main steps involved in fitting an ocular prosthesis? (3)

OR

Discuss the challenges in fitting Rose K2 lenses for advanced keratoconus and the troubleshooting strategies to optimize lens performance. (3)

Group-C

(Long Answer Type Questions)

5 x 6=30

7. Elaborate on hydrogel contact lens care & maintenance system. (5)
8. Discuss the etiology, clinical presentation, and management of Contact Lens Peripheral Ulcer (CLPU). How does it differ from infectious corneal ulcers, and what preventive strategies should be recommended for contact lens wearers? (5)
9. A patient who has been wearing silicone hydrogel contact lenses presents with mild eye discomfort, redness, and a foreign body sensation. Upon slit-lamp examination with fluorescein staining, an arcuate epithelial break is observed in the superior cornea. (a) Analyze the possible causes of this condition and explain why it predominantly occurs in the superior cornea. (b) Evaluate the potential risks if left untreated and recommend an optimal management plan to prevent recurrence. (5)

10. Describe the different stages involved in the fitting of an impression scleral lens and explain (5) its significance in managing irregular corneas.
11. Give a note on the metabolic changes occurred in the closed-eye environment. (5)
12. "Approximately 90% of corneal astigmatism is neutralized by a spherical RGP lens" describe (5) this statement with an example.

OR

Assuming tear lens (TL) to be in air, $BOZR = 7.80$ mm, $n_{\text{Tear}} = 1.336$ calculate the power of (5) tear lens.

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