



BRAINWARE UNIVERSITY

Term End Examination 2024-2025

Programme – M.Optomtry-2024

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) Which factor contributes to the tear film becoming more acidic during sleep?
 - a) Increased pH buffering
 - b) CO₂ buildup
 - c) Enhanced tear production
 - d) Decreased mucin production
- (ii) 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
- (iii) Which tear function test specifically evaluates tear film stability?
 - a) Schirmer test
 - b) Fluorophotometry
 - c) Tear breakup time (TBUT)
 - d) Phenol-red thread test
- (iv) What does the watermelon seed principle explain in toric lenses?
 - a) How a lens remains stable on the cornea
 - b) How a lens can be expelled from under the eyelids
 - c) How a lens absorbs oxygen
 - d) How a lens interacts with the tear film
- (v) Which factor contributes to tear lens variability in rigid gas permeable lenses?
 - a) Lens flexure and movement
 - b) Water content of the material
 - c) Patient's tear production rate
 - d) Lens surface coating
- (vi) What is the function of the back optic zone radius (BOZR)?
 - a) Determines lens thickness
 - b) Controls oxygen permeability
 - c) Influences lens fit on the cornea
 - d) Defines the front curvature
- (vii) Among these giving option lens fitting method is used for presbyopia correction?

- a) Monovision
- b) Aspheric alignment
- c) Reverse geometry
- d) Spherical design
- (viii) What is the primary purpose of a reverse geometry RGP lens?
 - a) To enhance tear exchange
 - b) To correct presbyopia
 - c) To fit post-surgical corneas or orthokeratology patients
 - d) To increase oxygen permeability
- (ix) Why is modified monovision sometimes preferred over traditional monovision?
 - a) It prevents adaptation issues altogether
 - b) It provides better intermediate vision by using a multifocal lens in one eye
 - c) It eliminates the need for ocular dominance testing
 - d) It requires no adaptation period
- (x) Which condition is NOT a primary indication for scleral lenses?
 - a) Keratoconus
 - b) Pellucid marginal degeneration
 - c) Presbyopia
 - d) Ocular surface disease
- (xi) How long should a scleral lens be worn before evaluating the fit?
 - a) 5 minutes
 - b) 15 minutes
 - c) 30-60 minutes
 - d) 2 hours
- (xii) The ideal Rose K lens fluorescein pattern should show:
 - a) Central touch with excessive edge lift
 - b) Apical clearance with even peripheral clearance
 - c) Mid-peripheral bearing
 - d) Heavy peripheral pooling
- (xiii) Which of the following is a possible complication of a poorly fitting ocular prosthetic lens?
 - a) Increased intraocular pressure
 - b) Socket irritation and discharge
 - c) Sudden corneal edema
 - d) Progressive myopia
- (xiv) Why do some color contact lenses cause glare or halos at night?
 - a) The opaque pupil design does not expand with natural pupil dilation
 - b) The lenses increase tear evaporation
 - c) They have a higher oxygen permeability
 - d) They increase tear production
- (xv) Which RGP lens parameter affects tear film breakup time the most?
 - a) Lens thickness
 - b) Edge lift
 - c) Oxygen permeability
 - d) Base curve

Group-B

(Short Answer Type Questions)

3 x 5=15

2. Discuss about asymmetric approach of presbyopic vision correction with CL. (3)
3. Evaluate the fitting principles of Central Distance Zone lenses in multifocal contact lenses. (3)
4. How do factors like pupil size, lens centration, and patient lifestyle influence Central Distance design fitting success? (3)
5. Write down the effects of Hypoxia or Anoxia in terms of corneal metabolism. (3)
6. Discuss the challenges in fitting Rose K2 lenses for advanced keratoconus and the troubleshooting strategies to optimize lens performance. (3)

OR

Assess the legal and ethical concerns surrounding the sale and use of non-prescription colored contact lenses. (3)

Group-C

(Long Answer Type Questions)

5 x 6=30

7. Discuss the primary method of RGP lens manufacturing (5)
8. Elaborate the clinical factors that need to be considered in back surface design. (5)
9. 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)
10. 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)
11. What are the key factors to consider when fitting RGP contact lenses? How do adjustments in base curve, diameter, peripheral curve, and edge design affect lens fit and comfort? (5)
12. A 55-year-old presbyopic patient wearing multifocal contact lenses reports good near vision but struggles with intermediate tasks, such as using a computer, and experiences ghosting at night. What could be the potential reasons for these complaints? Suggest modifications or troubleshooting strategies to enhance their vision at all distances. (5)

OR

A patient wearing scleral lenses reports foggy vision and discomfort after a few hours of wear. (5)
What could be the potential causes, and how would you troubleshoot the issue?

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