



BRAINWARE UNIVERSITY

Term End Examination 2023-2024

Programme – B.Optomety-2021

Course Name – Myopia Control

Course Code - BOPTOE608A

(Semester VI)

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) Peripheral myopic defocus will be created by which of the following lens powers?
- a) -4.00 Dsph at the center, -6.00 Dsph at the periphery b) +1.00 Dsph at the center, -1.00 Dsph at the periphery
c) -1.00 Dsph at the center, +1.00 Dsph at the periphery d) -6.00 Dsph
- (ii) Which of the following statements is not true for the spherical equivalent?
- a) when CLC is on the retina, the spherical equivalent is zero. b) for the spherical equivalent to be zero, the cylinder power needs to be double of the spherical power and of the opposite sign.
c) to get the visual benefits of the spherical equivalent power, we need to turn any type of astigmatism into mixed astigmatism. d) spherical equivalent breaks the astigmatism and creates a single focus.
- (iii) Which of the following is a potential side effect of atropine eye drops used in myopia control?
- a) dry eye. b) increased IOP.
c) hypersensitive reactions. d) reduced pupil dilation.
- (iv) What is the purpose of a literature review in the research process?
- a) to summarize research findings and draw conclusions. b) to identify gaps in existing knowledge and justify the need for the study.
c) to recruit participants for the study. d) to manipulate variables and test hypotheses.
- (v) Which of the following is an example of a dependent variable?
- a) treatment received. b) test scores.
c) gender. d) age.
- (vi) Which type of corneal topography map displays the curvature of the cornea relative to a best-fit sphere?

- a) Tangential map
c) Axial map
- b) Sagittal map
d) Elevation map
- (vii) Sim K value of corneal topography gives
- a) Value of angle Kappa
c) Symmetry between both the cornea
- b) Keratometric value of central 3 mm corneal
d) Symmetry between both the pupil
- (viii) What is the primary purpose of cycloplegic refraction?
- a) To locate the far point of the eye perfectly
c) To dilate the pupil
- b) To assess the health of the retina
d) To determine the intraocular pressure
- (ix) Which one is true for extended keratometry?
- a) Add +1.25 Dsph lens and add +9.00 D to K reading
c) Add -1.00 Dsph lens and add +9.00 D to K reading
- b) Add +1.25 Dsph lens and add -6.00 D to K reading
d) Add -1.25 Dsph lens and add -6.00 D to K reading
- (x) How do ortho-K lenses reshape the cornea?
- a) By applying pressure to the cornea
c) By reshaping the corneal surface through controlled flattening
- b) By inducing corneal thinning
d) By increasing corneal curvature
- (xi) What is the term used to describe the temporary blurring of vision experienced during the initial adaptation period with ortho-K lenses?
- a) Ghosting
c) Halo effect
- b) Starburst
d) Ortho-K blur
- (xii) What is the term used to describe the phenomenon where vision gradually returns to its original state after discontinuing ortho-K lens wear?
- a) Ortho-K regression
c) Ortho-K rebound
- b) Ortho-K reversal
d) Ortho-K relapse
- (xiii) How do atropine eye drops help control myopia progression?
- a) By increasing corneal curvature
c) By improving tear production
- b) By reducing accommodation
d) By inducing corneal thinning
- (xiv) Which of the following myopia control options is suitable for individuals with high myopia?
- a) Orthokeratology (ortho-K)
c) Atropine eye drops
- b) Multifocal contact lenses
d) None of them
- (xv) Which of the following conditions may disrupt the process of emmetropization?
- a) High levels of outdoor activity
c) Low levels of ambient light
- b) Prolonged near work
d) Each of them

Group-B

(Short Answer Type Questions)

3 x 5=15

2. Discuss the importance of binocular vision assessment in myopia control clinic (3)
3. Write a short note on the randomized controlled trial (RCT). (3)
4. How does Zeiss MyoCare differ from traditional contact lenses in terms of myopia control effectiveness and comfort? (3)
5. How does orthokeratology reshape the cornea? (3)
6. Discuss the concept of relative peripheral retinal hyperopic defocus and how it is related to myopia progression. (3)

OR

Explain the clinical significance of "spherical equivalent = zero"

(3)

Group-C

(Long Answer Type Questions)

5 x 6=30

7. Discuss the principles and techniques used in corneal topography to map the shape and curvature of the cornea. (5)
8. Discuss the effectiveness of Orthokeratology in slowing down the progression of myopia in children and adolescents? (5)
9. List the test(s) you should perform to detect and plan myopia management. (5)
10. Compare the potential benefits of Orthokeratology to traditional eyeglasses or contact lenses for myopia control. (5)
11. Compare miyosmart vs myocare lenses for myopia control. (5)
12. What are the underlying principles behind Orthokeratology in managing myopia progression? (5)

OR

Explain the mechanism by which Ortho-K lenses reshape the cornea to correct myopia? (5)
