



BRAINWARE UNIVERSITY

Term End Examination 2025-2026

Programme – B.Optomtry-2021/B.Optomtry-2022/B.Optomtry-2023/B.Optomtry-2024

Course Name – Visual Optics-I

Course Code - BOPTOC301

(Semester III)

Library
Brainware University
398, Ramkrishnapur Road, Barasat
Kolkata, West Bengal-700125

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) Name the lens which can be used as Magnifying glass?
 - a) Convex Lens
 - b) Concave Lens
 - c) Concave Mirror
 - d) Convex Mirror
- (ii) Select the amount of Latent Hypermetropia can be present in human eye
 - a) 1D
 - b) 2D
 - c) 3D
 - d) 4D
- (iii) Decide the condition where Crystalline Lens is absent from its original position in human eye is known as
 - a) Anisokenia
 - b) Aphakia
 - c) Ametropia
 - d) Myopia
- (iv) Tell the type and focal length of a lens having power of +2.50D?
 - a) Concave Lens, 40 cm
 - b) Convex Lens, 100 cm
 - c) Concave Lens, 100 cm
 - d) Convex Lens, 40 cm
- (v) Write the condition in which Foster Fuch's spot is seen
 - a) Latent Hypermetropia
 - b) Anisometropia with Strabismus
 - c) Pathological Myopia
 - d) Astigmatism
- (vi) Identify the condition in which light produces image that focus in front of the retina?
 - a) Presbyopia
 - b) Hyperopia
 - c) Hypertropia
 - d) Myopia
- (vii) Write the condition: Excessive curvature of crystalline lens leads to
 - a) Hypermetropia
 - b) Colour Blindness
 - c) Cataract
 - d) Myopia
- (viii) Write the refractive index of Cornea in Gullstrand schematic eye?

- a) 1.376
c) 1.406
- (ix) Aniseikonia means
a) The difference in axial length in the two eyes
c) The differences in the size of the pupil in the two eyes
- (x) Regular astigmatism means
a) Two meridians are perpendicular
c) Asymptomatic Astigmatism
- (xi) A child is presented with difficulty in seeing the blackboard in School. His teachers say that he frequently squeezes his eyes. Select the most probable cause is
a) Hypermetropia
c) Presbyopia
- (xii) Illustrate hypermetropia, when accommodation is at rest
a) When parallel light rays coming from infinity focus in front of the retina
c) When parallel light rays coming from infinity focus on the retina
- (xiii) Landolt's C-chart is an example of
a) Detection acuity test
c) Recognition acuity test
- (xiv) 6/6 means
a) Emmetropic person is reading from 6 meter/
patient is reading from 6 meter
c) Emmetropic person is reading 6 lines from 6 meter
- (xv) Retinoscopy can be used for assessing
a) Accommodative status
c) Fusional Status
- b) 1.386
d) 1.336
- b) The differences in the curvature of the cornea in the two eyes
d) The differences in the size of the image formed by the two eyes
- b) The two meridians are parallel
d) Astigmatism after cataract surgery
- b) Myopia
d) None of these
- b) When parallel light rays coming from infinity focus behind the retina
d) None of these
- b) Resolution acuity test
d) Pseudo chromatic acuity test
- b) Patient is reading from 6 meter/emmetropic person is reading from 6 meter
d) Patient is reading reading from 6 lines from 6 meter
- b) Convergence status
d) Stereoscopic status

Group-B

(Short Answer Type Questions)

3 x 5=15

2. Explain against-the-rule astigmatism. (3)
3. Write a short note on the barrel and pin cushion distortion. (3)
4. Write a short note on Snellen's Vision Chart (3)
5. Discuss various axes and angles of the eye. (3)
6. One 12 years old patient came to your clinic with his parents. His parents complained that most of the time their child copied wrong from the blackboard of his school. This is his first eye checkup. Explain how you will assess this case and what is your possible diagnosis. (3)

OR

One patient came to your clinic with a complaint of blurring of vision. He is unable to read 6/60 letter on snellen chart. How you will check the visual acuity of this patient. (3)

Group-C

(Long Answer Type Questions)

5 x 6=30

7. Describe the optics of aphakia. (5)
8. A young male aged 17 years, having mild asthenopic symptoms was presented to clinic. On examination distance visual acuity was found nearly normal, How do you manage such case? (5)

9. Explain the procedure of measurement of distance visual acuity. (5)
10. Write down the clinical features of Aphakia. (5)
11. Explain Donder's' Reduced Eye. (5)
12. During refraction, an eye attains visual acuity of 6/6 with a correcting lens of +3.00 DSph. On reducing the correction to +2.00 DSph, visual acuity remains at 6/6. However, acuity diminishes on further reducing the refractive correction. (5)

OR

Find the size of image of an object whose height is 10 metre and situated at 800 metre from the eye with an axial length of 21 mm and R.I. is $\frac{4}{3}$. (5)

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