



BRAINWARE UNIVERSITY

Term End Examination 2024-2025

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

Course Name – Visual Optics-I

Course Code - BOPTOC301

(Semester III)

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) A 40 year old person is using a spectacle for distance with +2.00/-0.50X90 Degree. Identify the type of refractive error is present?
 - a) Hypermetropia with Compound Astigmatism
 - b) Hypermetropia with Mixed Astigmatism
 - c) Simple Hyperopic Astigmatism
 - d) Presbyopia
- (ii) Decide the condition where Crystalline Lens is absent from its original position in human eye is known as
 - a) Anisokonia
 - b) Aphakia
 - c) Ametropia
 - d) Myopia
- (iii) 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
- (iv) Tell the structure where destructive interference takes place?
 - a) Lens
 - b) Cornea
 - c) Iris
 - d) Retina
- (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) Decide the best treatment option for Aphakic patient
 - a) Spectacles
 - b) Contact Lens
 - c) IOL
 - d) Refractive Surgeries
- (vii) Human eye has a near point i.e distance of distinct vision at about 25cm. For a normal eye Select which of the following statement is true?
 - a) The image formed on the retina is virtual, erect and diminished
 - b) The image formed on the retina is real, inverted and diminished

- c) The image formed on the retina is real, inverted and magnified
d) The image formed on the retina is virtual, erect and magnified
- (viii) Near sightedness can be rewrite as
a) Myopia
b) Hypermetropia
c) Astigmatism
d) Presbyopia
- (ix) A person is suffering from the defect Astigmatism. Justify the reason
a) Distance of the eye lens from retina is increased
b) Distance of the eye lens from retina is decreased
c) The cornea is not Spherical
d) Power of accommodation of eye is decreased
- (x) Select the option which is not correct about Myopia
a) The vision may be corrected with the help of concave lens
b) It is also known as near sightedness
c) In the affected eye, the image of a distant object is formed beyond the retina
d) The affected person can not see beyond few meters.
- (xi) Write down the name of ability of eye lens to change the focal length for clear vision is known as
a) Persistent of vision
b) Clear vision
c) Accommodation
d) Vergence
- (xii) In Gullstrand schematic eye, calculate the position of anterior focal point in comparison to anterior cornea?
a) 14.7 mm
b) 15.7 mm
c) 17.7 mm
d) None of these
- (xiii) The vergence power of a lens is dependent on
a) Its dispersive power
b) Vergence power of each surface
c) Thickness of the lens
d) The wavelength of the light
- (xiv) Which component of the eye has a maximum refractive index?
a) The anterior surface of lens
b) Center of the lens
c) The posterior surface of lens
d) All are wrong
- (xv) Spasm of accommodation mimics
a) Myopia
b) Hypermetropia
c) Presbyopia
d) Amblyopia

Group-B

(Short Answer Type Questions)

3 x 5 = 15

2. Explain how the human eye works as an optical instrument. (3)
3. Explain the term minimum angle of resolution. (3)
4. Write a short note on Chromatic aberration. (3)
5. Describe with-the-rule astigmatism with an example. (3)
6. If one follow-up patient comes to your clinic and has previously been diagnosed with myopia. But now progression is very high. Discuss etiological factors behind this condition. (3)

OR

One 10 years old patient came to your clinic and complained that while watching any distance object he feels blurry. How you will manage this case. (3)

Group-C

(Long Answer Type Questions)

5 x 6 = 30

7. Explain the management of Aphakia. (5)
8. Classify astigmatism depends on etiology. (5)
9. 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 (5)

case?

10. Discuss the Purkinje shift. (5)
11. One 15 years patient came to your clinic for follow-up checkup after 6 months. You found that there is -2.00 Dsph increase of refractive error. What type of refractive error it is. What type of clinical signs you will get. (5)
12. One 11 years old patient came to your clinic with her parents and her parents complained that while sleeping she does not close her eye properly. What type of clinical features you will suspect for this patient. (5)

OR

A 16-year-old male patient, his parents believe that he is having blurring of near vision. (5)
How will you proceed with the further evaluation?

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