4.4





BRAINWARE UNIVERSITY

Term End Examination 2023 Programme – B.Optometry-2019/B.Optometry-2020/B.Optometry-2021 Course Name – Ocular Physiology Course Code - BOPTO202 (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

- Choose the correct alternative from the following :
- (i) Identify the correct type of photoreceptor cell which is more sensitive to light and responsible for night vision

a) Rods

b) cones

c) Bipolar cells

d) Ganglion Cells

(ii) R.I of aqueous humor is

a) 1.5

b) 1.336

c) 1.4

d) 1.46

(iii) Name the layer of the cornea is most affected by injury or disease

a) Epithelium

b) Bowman's layer

c) Stroma

- d) Descement's membrane
- (iv) Identify Which of the following is a condition characterized by the loss of flexibility of the crystalline lens and difficulty in accommodation.

a) Astigmatism

b) Myopia

c) Hyperopia

- d) Presbyopia
- (v) Name layer of the retina which contains the photoreceptor cells.

a) Outer nuclear layer

b) Inner nuclear layer

c) Ganglion cell layer

d) Inner plexiform layer

(vi) Types of collagen present in cornea

a) Type I

b) Type IV

c) Type VI

d) All of the above

(vii) Epithelium is

a) 20% of total corneal weight

b) 10% of total corneal weight

(viii)	 c) 5% of total corneal weight Identify Which type of cell is responsible for the pretina cells 	d) 15% of total corneal weight rocessing of visual information in the	
(ix)	a) Rods cellsc) Bipolar Cellsldentify Which of the following is a condition chair	b) Cones cells d) ganglion cells racterized by damage to the optic nerve	
(x)	 a) macular Degeneration c) Cataracts Identify Which of the following is responsible for (medial) visual field of both eyes to the contralate 		
(xi)	a) Optic Chiasmc) Optic RadiationIdentify Aqueous humor flows from the posterior through	b) Optic Tract d) Lateral Geniculate Nucleus chamber to the anterior chamber	
(xii)	a) Irisc) ZonulesIdentify which of the following conditions is charally humor and results in a bulging of the eye.	b) Ciliary body d) Pupil acterized by the accumulation of aqueous	
(xiii)	a) Cataractc) myopiaIdentify the liquefaction of the vitreous humor w	b) glaucoma d) Exophthalmos ith age can result in	
(xiv	a) Floaters and flashes of lightc) Retinal detachmentName the process by which the brain combines teye to create a perception of depth	b) Cataract d) Glaucoma he slightly different images from each	
(xv)	a) Binocular fusionc) Oculomotor disparityIdentify the type of color blindness is characterized and green hues	b) stereopsis d) Retinal disparity ed by an inability to distinguish between	
	a) Protanopia c) Tritanopia	b) Deuteranopia d) Achromatopsia	
	c) Intahopia	a) Aciliomatopsia	
	Group-B (Short Answer Type Questions)		
	(Shore Answer	ype questions,	3 x 5=15
 Explain the reason for crystalline lens transparency Define Fick's axes Write a short note on opponent colour theory Describe the functions of the extrinsic eye muscles. Write about blinking phenomenon. 			(3) (3) (3) (3)
	0	R	(2)
11	lustrate about the ideas of corneal hydration		(3)
	Gro i (Long Answer T	•	5 x 6=3
 7. Write about the factors causing long term changes in IOP 8. Write in details about aqueous humor dynamics with diagram 9. Write about the biochemical composition of the crystalline lens 			(5) (5) (5)

10. Describe the physical properties of of Tear film			
11. Draw the figure of visual cycle with proper leveling.			
12. Illustrate with a flow chart the pathway of glucose metabolism in the crystalline lens			
OR			
Discuss the mechanism of uveo-scleral and Trabecular meshwork drainage pathway.	(5)		
