

BACHELOR OF CLINICAL OPTOMETRY
I-B. Optometry Sem-II : WINTER- 2022
SUBJECT : OPHTHALMIC OPTICS (T)

Day : Saturday

Time : 10:00 AM-01:00 PM

Date : 10/12/2022

W-833-2022

Max. Marks : 20

Note : Section – A is given on a separate sheet and has to be answered on the same sheet. This sheet should be completed within the first 30 minutes of starting of the examinations. This sheet with Section – A only will be collected by Supervisor.

Seat No. _____

Date :

SECTION – A

Q.1 Fill in the blanks: **[10]**

- a) Emmetropia is defined as _____.
- b) Focal length of +8.00 Dsph is _____.
- c) During prism dispersion of white light _____ wavelength bend more and _____ wavelength bends less.
- d) Absence of crystalline lens is known as _____.
- e) _____ and _____ are two kinds of telescopes.
- f) The Emmetropisation is attained by child at age of _____.
- g) Higher range of magnification is possible in _____ telescopes.
- h) State full form of LASER _____.
- i) Meaning of VA of 6/60 is _____.
- j) Range of Accommodation is defined as _____.

Q.2 Match the following: **[05]**

Column A		Column B	
a)	Change in position of crystalline lens	i)	Longer axial length
b)	Object kept between lens and F(+lens)	ii)	Smaller image (minification)
c)	Minus lens	iii)	Virtual, erect image
d)	High Myopic eye	iv)	Convex lenses
e)	Terrestrial telescope eyepiece	v)	Dislocation and subluxation

P.T.O.

Q.3 State True or False. if stated false then give applicable reason: **[05]**

- a) Minus cylinder transposed form of $-2.50 / +0.75 \times 75$ is $-3.25 / -0.75 \times 165$.
- b) Absolute Hypermetropia can be overcome by accommodative effort.
- c) Myopia occurs when RI of nucleus of crystalline lens decreases.
- d) Holography, means of creating unique images without the use of a lens.
- e) Pinhole visual acuity can never be reduced from unaided visual acuity.

Signature of the Invigilator : _____

Signature of the Examiner : _____

Total Marks Obtained : _____

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Max. Marks : 50

N.B.:

- 1) There are three sections as
Section – A = Objective type questions - 20 marks.
Section – B = Long questions - 20 marks.
Section – C = Short questions - 30 marks.
- 2) Section A is given on a **SEPARATE** sheet and has to be answered on the same sheet. This sheet with Section – A only will be collected by the supervisor.
- 3) Section – B has three long questions and **ANY TWO** questions have to be answered on the separate answer sheet.
- 4) Section – C has six short questions and **ANY FIVE** questions have to answer on the separate answer sheet.
- 5) Draw neat and labeled diagram **WHEREVER** necessary.

SECTION – B

Q.4 Answer **ANY TWO** of the following: **[20]**

- a) Explain the phenomenon of image formation in an Astronomical telescope with a ray diagram. What are the changes seen in the image when compared to object when seen through it?
- b) Explain in detail about Gullstrand's schematic eye and Listing's reduced eye with all the important values.
- c) Brief all types of Astigmatism. What is the etiology for Astigmatism and its types?

SECTION – C

Q.5 Attempt **ANY FIVE** of the following: **[30]**

- a) Explain the cardinal points and their location changes happening in the eye with Aphakia.
- b) Define magnification. Write about different kinds of magnification along with their formulas.
- c) What is presbyopia? How does it occur? What do you do to correct it?
- d) Define Vergence. How do you differentiate between convergence and divergence? Explain with the help of diagram.
- e) What is Diopter? Which are the ways to measure and calculate power of lens, calculate the following powers:
 - i) If it produces a clear image at a distance of 40 cm away from a lens.
 - ii) If it produces a clear image at 90 cm away from the lens.
- f) What do you understand by the term coherence? What is the importance of LASERS in field of eye care?

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