

BACHELOR OF CLINICAL OPTOMETRY
I-B. Optometry Sem-I : WINTER- 2022
SUBJECT : BASIC OPTICS

Day : Tuesday

Time : 10:00 AM-01:00 PM

Date : 31-01-2023

W-827-2022

Max. Marks : **20**

N.B.

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 examination. The sheet with Section A only will be collected by the Supervisor.

Seat No. : _____

SECTION - A

Q.1 A) Fill in the blanks :

(20)

- 1) Duochrome test is based on _____ chromatic aberration.
- 2) The idea of quantum nature of light has emerged in an attempt to explain _____.
- 3) Barrel shape distortion is produced by _____ lens.
- 4) _____ Telescope has negative eyepiece.
- 5) Lumen is defined as _____.
- 6) The combination of red-green color gives rise to _____ secondary color.
- 7) A harmonic wave is mathematically described as _____.
- 8) Effectivity of plus lens _____ (increase / decrease) when taken away.
- 9) Lambert's law = _____.
- 10) Minus meniscus lens is also called as _____ lens.
- 11) Ratio of speed of light in vacuum to speed of light in medium is defined as _____.
- 12) _____ Instrument is used to measure surface power of a lens.
- 13) In Lloyd's single mirror the interference pattern is formed due to _____.
- 14) The primary colors for subtractive systems are _____.
- 15) Phase difference is measured in _____ and path difference is measured in _____.
- 16) In holography the two steps involve are _____ and _____.
- 17) Define viscosity _____.
- 18) Coma is _____ type of monochromatic aberration.
- 19) Critical angle is defined as _____.
- 20) There are _____ cardinal points in thin lens.

Marks obtained : _____

Signature of Invigilator : _____

Signature of the Examiner : _____

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Max. Marks **50**

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- 1) There are three sections as
Section – A = Objective Type questions - 20 marks.
Section – B = Long Answer questions - 20 marks.
Section – C = Short Answer questions - 30 marks.
- 2) **Section A** is given in **SEPARATE** sheet and has to be answered on same sheet. This sheet should be completed within the first 30 minutes of starting of the examination. This sheet with Section A only will be collected by Supervisor.
- 3) **Section B** has three long questions and **ANY TWO** questions have to be answered on separate answer sheet.
- 4) **Section C** has six short questions and **ANY FIVE** questions have to be answered on **SEPARATE** answer sheet.
- 5) Draw neat labelled diagram **WHENEVER** necessary.

SECTION – B

Q.2 Attempt **ANY TWO** of the following : **(20)**

- 1) What is interference in thin films? Explain the interference effect with the help of Lloyd's mirror?
- 2) Explain in detail emission and absorption spectra.
- 3) Write a note on principle of telescope and its designs.

SECTION – C

Q.3 Attempt **ANY FIVE** of the following : **(30)**

- 1) Explain the terms: a) Luminous flux b) Lumen c) Solid angle.
- 2) Define fibre optics and write about its applications.
- 3) What are monochromatic aberration and its types?
- 4) Describe surface tension and viscosity.
- 5) Write a note on wave theory of light.
- 6) A real object is placed at a distance of 20 cms from a + 5.00 D lens, where is the image formed and what is the nature of this image?
