I – B.OPTOMETRY SEM. – I : SUMMER - 2022

SUBJECT : BASIC OPTICS

3-827-2022

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

Seat No. _____ Date : Friday 08-07-2022

SECTION – A

Q.1 **A)** Fill in the blanks : **(10)**

1) Refractive index is defined as _____.

2) Brewster's angle for glass is _____.

3) Barrel distortion is seen in lens _____.

4) Magnification is defined as _____.

5) Fibre optics is based on phenomenon of _____.

6) Range of visible spectrum is _____.

7) Spherical Aberration can be controlled by using _____ lens design.

8) Viscosity is defined as _____.

9) _____ is used to measure back vertex power.

10) Effective power of plus lens _____ when vertex distance is increased.

B) State True or False : **(10)**

1) Space before refraction is known as object space.

2) In case of convex lens prism is arranged apex to apex.

P.T.O.

3) Coma is an off axis aberration.

4) Wavelength of UVA is 380 to 480 mm.

5) Interference is bending of light around the edge of an object.

6) Argon laser is an example of photo ablative laser.

7) Holography is based on diffraction of light.

8) Lumen is unit of light.

9) Astronomical telescope consists of a plus objective lens and minus eyepiece lens.

10) Refractive Index is directly proportional to thickness of lens.

Marks Obtained : _____ Signature of the Invigilator : _____

Signature of the Examiner :_____

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

Day : Friday
Date : 8/7/2022

S-827-2022

Time : 10:00 AM-01:00 PM
Max. Marks : 70

N.B.

1) There are **THREE** section 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 should be completed within the first 30 minutes of starting of the examination. 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 **SEPARATE** answer sheet.
4) Section – C has short questions and any **FIVE** questions have to be answered on **SEPARATE** answer sheet.
5) Draw neat and labelled diagrams **WHEREVER** necessary.

SECTION – B

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

1) Define Aberration. Write in detail about Chromatic aberration with its correction.

2) Draw a neat labelled diagram of Newton's Ring Experimental set up. Explain how you can measure wavelength of light using Newton's Ring.

3) Define vergence. The light of position A has vergence of +10.00 D. What is the vergence at point B, which is 5 cm upstream from Position A and at point C which is 30 cm upstream from Position A.

SECTION – C

Q.3 Write short note on **ANY FIVE** of the following: **(30)**

1) Write a short note on coaxial homo centric system.

2) Write short note on reduced vergence giving an example.

3) Explain and derive the reflection co-efficient of mirror with diagram.

4) Compare astronomical telescope with Galilean Telescope.

5) Explain the construction of Lummer-Brodhun Photometer.

6) Explain cardinal points in thin lenses.

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