

I-B.OPTOM. SEM.-I : Summer-2022
SUBJECT : DISPENSING OPTICS - I

Day : Saturday
Date : 9-7-2022

S-828-2022

Time : —
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 with the **first 30 minutes** of starting of the examination. This sheet with Section - A only will be collected by the Supervisor.

Seat No. : _____

SECTION - A

Q.1 Fill in the blanks (10)

- i) Coma aberrations are observed in _____ type of lenses.
- ii) Minus cylinder form of $+ 3.50 \text{ DS} / + 4.50 \text{ DC} \times 20^0$ is _____.
- iii) Full form of GCD is _____.
- iv) Minimum blank size is calculated by _____.
- v) Refractive index and Abbe value of Polycarbonate is _____ and _____.
- vi) _____ type of temple is recommended in children.
- vii) Base to base prism arrangement is seen in _____ type of lens.
- viii) Focimeter measures _____ power of lens.
- ix) The distances measured below the optical axis are taken as _____.
- x) In spherocylindrical lens _____ meridian has highest power.

Q.2 A) State True or False : (05)

- i) Flexible, lightweight material in metal frame is Titanium.
- ii) Carborandom has grain size of 0.0003 mm.
- iii) Saddle bridge is a type of metal bridge .
- iv) Refractive index and abbe value are inversely proportional to each other.
- v) Concavo-convex means minus meniscus lens.

Q.2 B) Match the following. (05)

| | Material | | Refractive Index |
|------|------------------|----|------------------|
| i) | Crown glass | a) | 1.66 |
| ii) | Polycarbonate | b) | 1.53 |
| iii) | CR ₃₉ | c) | 1.586 |
| iv) | Trivex | d) | 1.498 |
| v) | Flint glass | e) | 1.523 |

Marks obtained : _____

Signature of the Invigilator : _____

Signature of the Examiner : _____

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

Day : Saturday
Date : 9/7/2022

S-828-2022

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

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 should be completed with 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 3 long questions and **ANY TWO** questions have to be answered on the separate sheet.
- 4) **Section C** has 6 short questions and **ANY FIVE** questions have to be answered on the separate answer sheet.
- 5) Draw neat labeled diagrams **WHEREVER** necessary.

SECTION – B

- Q.3** Attempt **ANY TWO** of the following. **(20)**
- i) Explain in detail about frame measurement systems.
 - ii) Define Toric Transposition. Explain various steps involved in it. Solve following examples :
 - a) $-6.00 \text{ DS} / +2.00 \text{ DC} \times 90^\circ \text{ BC} = +6.00 \text{ D}$
 - b) $+4.00 \text{ DS} / -7.00 \text{ DC} \times 130^\circ \text{ BC} = +4.00 \text{ D}$
 - iii) Define Mirror. Explain its types and image formation through mirror when object is placed at various distances.

SECTION – C

- Q.4** Attempt **ANY FIVE** of the following. **(30)**
- i) Explain construction and working of Geneva lens measure.
 - ii) What is effectivity and effective power? Explain with example.
 - iii) Write down various faults seen in ophthalmic lenses.
 - iv) Define vergence. Calculate vergence of + 10.00 D lens, if the real object is kept at 10 cm away from lens. Is the image formed real, virtual, erect, inverted, magnified or minified?
 - v) Write a full note on batch process of ophthalmic glass.
 - vi) Explain various types of plastic lens materials with its properties.

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