

I. B. Optom. Sem - I: Summer - 2018
SUBJECT: DISPENSING OPTICS-I

Note: Section A is given on a SEPERATE 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.

S - 2018 - 3559

Day: Thursday
Date: 19.04.2018

Seat No: _____

SECTION-A

Q.1) _____ (10)

Fill in the blank:

- 1) Effectivity of concave lenses _____ as lenses is taken towards eye.
- 2) Formula to calculate back vertex power is _____.
- 3) _____ angle defines about the exact power or strength of prism.
- 4) Formula to calculate the base curve is _____ if spherical equivalent is negative.
- 5) Approximate power can be calculated from _____.
- 6) Eye size + Bridge = _____.
- 7) The manual method to mark the axis of cylindrical lens without Lensometer is with _____ scale.
- 8) Distances measured in the downward direction below optic axis are taken as _____.
- 9) The lens present inside Lensometer is high _____ powered lens and is called as _____ lens.
- 10) Commonly used Geneva lens measure is calibrated for _____ lens material.

Q.2) Match the following: _____ (05)

- | | |
|------------------|---------|
| 1) CR- 39 | a) 43 |
| 2) Polycarbonate | b) 58 |
| 3) Crown glass | c) 41 |
| 4) Trivex | d) 58.9 |
| 5) MR-8 | e) 30 |

Q.3) State True or False (if false give reason) _____ (05)

- 1) The approximate power of a lens with surface powers $F1 = + 2.75$, $F2 = - 1.75$ is $+ 1.00$.
- 2) Ophthalmic lens can never be made up of 1 plane surface combining with another curved surface.
- 3) Crown glass has highest scratch resistance compared to other lens materials.
- 4) Coma is a chromatic type of aberration.
- 5) In prism, light ray always bend towards apex.

Marks Obtained: _____

Signature of the Invigilator: _____

Signature of the Examiner: _____

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I -B.OPTOM. SEM – I : SUMMER - 2018

SUBJECT: DISPENSING OPTICS-I

Day: **Thursday**
Date: **19/04/2018**

S-2018-3559

Time: **02.00 PM TO 05.00 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 answer 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.
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SECTION-B

- Q.4** Write about any 2 in detail. **(20)**
- 1 Explain about spherical, cylindrical and toric surfaces and lenses in detail with examples.
 - 2) What is Prentice's rule? Explain the uses in dispensing optics with various examples.
 - 3) Write about monochromatic aberrations in detail.

SECTION- C

- Q.5** Attempt any **FIVE** of the following: **(30)**
- 1) Explain Sturm's Conoid with the help of diagram.
 - 2) What is Diopter? How is it calculated? Explain effectivity & effective power.
 - 3) Draw a well labeled diagram of spectacle frame. Also write one line description about each part.
 - 4) Write about sign conventions used in optics.
 - 5) What is simple transposition? Convert the following prescriptions in all other forms.
a) $+1.00 / +3.00 \times 75$
b) $+2.00 / -0.50 \times 95$
 - 6) Write about surfacing process of an ophthalmic lens in short.

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