

II-B.OPTOM.SEM-IV : WINTER 2017 .

SUBJECT: OPTICS AND REFRACTION

Seat No _____

Day: Monday Time: —
Date: 27-11-17 Max. Marks: 20

W-2017-3476

NOTE: Section –A is given on a **separate** sheet and has to answer 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.

SECTION-A

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

- 1) _____ and _____ principle is used in Anti-reflection coating.
- 2) In drop ball test a metal ball is dropped from height of _____ and the lens should have minimum thickness of _____.
- 3) In bifocal wearers _____ effect can be eliminated by blinking while shifting visual axis from distance portion to near segment.
- 4) Any lenticular lens has two parts _____ and _____.
- 5) Photochromatic lenses become more dark in _____ weather.
- 6) Polycarbonate lenses have _____ abbe value.
- 7) Oblique Astigmatism can be reduced by use of _____ lens design.
- 8) The axis of polarization given in normal sunglasses is _____.
- 9) Welsh 4 Drop lens is given in _____ power.
- 10) Reversible spectacles are recommended for _____ patients.

P. T. O.

B) State True or False. (10)

- 1) Micro etchings present on progressive lenses are temporary marking.
- 2) Uncoated CR- 39 lens has higher impact resistance than A.R coated CR- 39 lens.
- 3) Magnification is directly related to the surface curvature.
- 4) Distance between Distance optical Center and Near optical Center is called fitting Height.
- 5) Entropion spectacles have crutch on upper side of back portion of frame.
- 6) Pink tints don't have uniform transmission across the visible spectrum.
- 7) High Index Lenses are generally not given for High Plus powers.
- 8) If the fitting cross is too High patient will face problem of Blurry distance Vision?
- 9) For tempered lenses, Tinting through coating should be done before the tempering process.
- 10) All the progressive lenses have unwanted astigmatic areas on Nasal and Temporal sides

Signature of Invigilator

Total Marks Obtained:

Signature of the Examiner

II -B.OPTOM. SEM – IV : WINTER - 2017

SUBJECT: OPTICS AND REFRACTION

Day: **Monday**
Date: **27/11/2017**

Time: **02.00 PM TO 05.00 PM**
Max. Marks: 50

W-2017-3476

N.B.:

- 1) There are **THREE** sections as-
Section –A = Objective types 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 3 long questions and Any **TWO** questions have to be answered on the separate answer sheet.
- 4) **Section –C** has 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.1 Answer **ANY TWO** of the following: **(20)**

- a) Explain how you will trouble shoot a patient having different problems while wearing progressive lenses. Take different cases and explain in detail.
- b) Write about Tinted Lenses in detail.
- c) Explain the optical principle of Anti-Reflection coating. Also explain its indications and uses.

SECTION-C

Write short notes on **ANY FIVE** of the following: **(30)**

- a) High Index Lenses and their advantages
- b) Write down about Temporary and Permanent markings on Progressive Lenses with diagram.
- c) What is functional dispensing? Write down about certain guidelines that you will follow while prescribing certain lens designs, materials or frames in different professions.
- d) Write about Photochromatic Lenses.
- e) Explain about Aspheric lens design. How is it helpful in reducing some type of aberration? Also write its indications and uses.
- f) Write about the different lens options that you will suggest to an anisometropic patient.

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