

II- B. Optom. SEM-IV: SUMMER-2022
SUBJECT: OPTICS AND REFRACTION

Day: Monday
Date: 11-07-2022

Time: --
Max. Marks: 20

S-841-2022

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 in the first **30 minutes** of starting of the examination. The sheet with **Section-A** only will be collected by the supervisor.

Seat No. _____

Date: _____

SECTION-A

Q.1 Fill in the Blanks: **(10)**

- a) In conventional PAL the asphericity is given to _____ surface.
- b) While fitting Bifocal lenses if the head posture is chin up, the fitting height should be _____.
- c) Back toric surface is optically better than front toric because _____.
- d) _____ lenses reduce distortion.
- e) _____ tint can be prescribed to increase contrast.
- f) The optical center of the lens must be dropped by approximately 1 mm for every _____ degree of pantoscopic tilt.
- g) The horizontal distance between MRP and segment center is known as _____.
- h) Short corridor PAL have minimum fitting heights of _____ mm.
- i) Effective power of a plus lens _____ when moved away from the eye.
- j) _____ tilt is given in Billiard spectacle.

P.T.O.

Q.2 State **TRUE** or **FALSE** (if false give reason): **(10)**

- a) Soft design has lesser area of astigmatism and high amount of peripheral aberrations.
- b) In Atoric lens prescribed prism can be obtained by decentration.
- c) The full field lenticular lens has a very aspheric front surface but no carrier.
- d) Using AR coating the visibility of myopic rings of high minus lens can be reduced.
- e) Segment depth is the vertical distance between MRP and top of segment.
- f) Each PAL design varies with respect to the distance between the fitting cross.
- g) Distance between the two micro etchings in PAL is same as patients IPD.
- h) The steeper form achieved by using negative root of Jalties expression is Ostwald form.
- i) Essilor photochromic lens is known as colormatic.
- j) Recommended bridge type for short nose is modified saddle.

Total Marks obtained _____

Sign of invigilator _____

Sign of Examiner _____

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BACHELOR OF CLINICAL OPTOMETRY
II-B. Optometry Sem-IV :SUMMER- 2022
SUBJECT : OPTICS & REFRACTION

Day : Monday
Date : 11/7/2022

S-841-2022

Time : 10:00 AM-01:00 PM
Max. Marks : 50

N.B:

- 1) There are **THREE** section 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 attempt **ANY TWO** questions have to answer on **SEPARATE** answer sheet.
- 4) Section-C has short questions and attempt **ANY TWO** questions have to be answered on **SEPARATE** answer sheet.
- 5) Draw neat labeled diagram **WHEREVER** necessary.

SECTION-B

Q.3 Answer **ANY TWO** of the following: (20)

- a) What are Aspheric lenses? Explain its design and indications in detail.
- b) Compare different designs of PAL. Write about indications and contraindications of PAL.
- c) Write in detail about evolution of bifocal lenses.

SECTION-C

Q.4 Write **ANY FIVE** of the following: (30)

- a) Explain how to check quality of an anti-reflection coating? What are the ways to improve the functionality of AR coating?
- b) What are the effective ways of correction in Anisometropic condition?
- c) Explain different types of protective fitters and their use.
- d) Write a note on scratch resistance coating.
- e) Write a note on cosmetic dispensing.
- f) Explain the types of lenticular lens.