

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

Day : Wednesday

Time : 10:00 AM-01:00 PM

Date : 1/2/2023

W-828-2022

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 within 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)**

- 1) Effective power of plus lens will become \_\_\_\_\_ when moved closer to the eye.
- 2) Plus cylindrical form of +3.50DS / -1.25DC X 90° prescription is \_\_\_\_\_
- 3) Biconvex lens is a part of two \_\_\_\_\_ spheres.
- 4) Prism have ability to \_\_\_\_\_ & \_\_\_\_\_ the light rays that enters into it.
- 5) Effectivity of plus lens will become \_\_\_\_\_ when moved closer to the eye.
- 6) Plano-cylindrical lens has movement seen in \_\_\_\_\_ meridian whereas spherocylindrical lens has movement observed in \_\_\_\_\_ meridians.
- 7) Equiconvex lens is a part of two \_\_\_\_\_ spheres.
- 8) In a plus lens, \_\_\_\_\_ is thinner portion & in minus lens \_\_\_\_\_ is the thicker portion seen.
- 9) \_\_\_\_\_ is used as a target to determine the axis of a cylindrical lens while we are doing hand neutralizing procedure of it.
- 10) In astigmatism lens prescription \_\_\_\_\_ & \_\_\_\_\_ are two important components to be written without fail.

**Q.2**

Match the following

**(10)**

‘Column A’

‘Column B’

- 1) Outdoor worker
- 2) High minus prescription
- 3) High plus prescription
- 4) Children
- 5) Apex of prism
- 6) Base of prism
- 7) Lorgnettes
- 8) Reading correction
- 9) Polycarbonate
- 10) German silver

- a) Bigger shell frame
- b) Bigger metal frame
- c) Monel metal frame
- d) Shell frame
- e) Smaller metal frame
- f) Thinner
- g) Thicker
- h) Thermoplastic
- i) Half eye frame
- g) Frame without temples
- k) Nickel silver

Marks obtained: \_\_\_\_\_

Signature of Invigilator: \_\_\_\_\_

Signature of Examiner: \_\_\_\_\_

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Max. Marks **50**

**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** as 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 **SEPARATE** answer sheet.
- 4) Section C has 6 short questions and **ANY FIVE** questions have to be answered on **SEPARATE** answer sheet.
- 5) Draw neat labeled diagrams **WHEREVER** necessary.

**SECTION-B**

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

- 1) Explain image formation of a cylindrical lens using a neat diagram with suitable labels.
- 2) How do you estimate back vertex power of an unknown spherocylindrical lens? Explain the same in step-by-steps till recording.
- 3) Draw and explain the parts of frame front and temple in brief.

**SECTION-C**

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

- 1) Explain 3 very important properties of an ophthalmic lens in brief.
- 2) Explain the phrase "Lenses are combination of prisms" with a neat labelled diagram for both minus and plus lenses.
- 3) Explain the sign convention with regard to distance and angles using a ray diagram.
- 4) Explain coma and oblique astigmatism aberrations using a diagram.
- 5) What is Prentice rule? What is the prismatic effect that a person experience when he looks through a +15.00DS lens, nasally by 10mm from the optical center of the lens.
- 6) Explain the purpose and working of the lens clock.