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ENGINEERING & MANAGEMENT EXAMINATIONS, JUNE - 2009  
**OPHTHALMIC LENS & DISPENSING OPTICS**  
SEMESTER - 4



Time : 3 Hours ]

[ Full Marks : 70

**GROUP - A**

**( Multiple Choice Type Questions )**

1. Choose the correct alternatives for any *ten* of the following : 10 × 1 = 10

i) Which system measures the PD using a corneal reflex ?

- |                        |                    |
|------------------------|--------------------|
| a) Essilor Pupilometer | b) Topcon PD meter |
| c) PD rule             | d) All of these.   |

ii) The new bifocal wearer must

- a) keep the head erect and drop the eyes to see the floor
- b) drop the eyes to read a book
- c) drop the chin and head to
- d) both (a) and (b) are correct.

iii) Tinting of lenses decreases the

- |                       |                  |
|-----------------------|------------------|
| a) transmittance      | b) reflection    |
| c) scratch resistance | d) all of these. |

iv) Which of the following should be avoided when fitting the high minus wearer ?

- |                        |                               |
|------------------------|-------------------------------|
| a) Squared off corners | b) High lite lens             |
| c) Thick rim           | d) An antireflective coating. |

**4671 ( 16/06 )**



v) When the wearer's PD is less than the frame PD,

- a) positive face form is required
- b) negative face form is required
- c) pantoscopic tilt is required
- d) retroscopic tilt is required.

vi) Toughest ophthalmic lens for industrial use is

- a) CR-39
- b) crown glass
- c) polycarbonate
- d) transition.

vii) In case of squint, the best way to measure IPD is

- a) pupil centre to pupil centre
- b) pupil margin to pupil margin
- c) medial canthus of one eye to lateral canthus of other eye
- d) limbus to limbus.

viii) Datum Centre refers to the mid-point of the

- a) datum length
- b) datum line
- c) mid-datum depth
- d) all of these.

ix) Polymethylmethacrylate ( PMMA ) is used to make

- a) polycarbonate
- b) CR-39
- c) crown glass
- d) none of these.



x) The bridge of a frame projects behind the frame plane so that the area of contact with nose lies behind the lens plane is called



- a) Regular bridge
- b) Inset bridge
- c) Saddle bridge
- d) None of these.

xi) The vertex distance required for fitting of bifocals is

- a) 14 mm
- b) 13 mm
- c) 20 mm
- d) 23 mm.

xii) To find the CVF value of plastic lens material, the reference material taken is

- a) Crown glass
- b) CR-39
- c) High index plastic
- d) None of these.

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**GROUP – B**

**( Short Answer Type Questions )**

Answer any *three* of the following.

3 × 5 = 15

2. Write a short note on curve variation factor.
3. What are lenticular lenses ? Describe the different types, with diagrams.
4. Write a short note on importance of nose pads.
5. Write a short note on impact resistance lenses.
6. Write a short note on D-Bifocals.

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**GROUP – C**

**( Long Answer Type Questions )**

Answer any *three* of the following.



3 × 15 = 45

7. What do you mean by progressive addition lens ( PAL ) ? Draw a diagram of a PAL and label it. Describe the following :

- a) large upper circle
- b) smaller lower circle
- c) central fitting cross
- d) addition
- e) logo.

15

8. Describe different type of frames available in the market. What are the different criteria to select a frame ? Write a short note on Standard Alignment of a frame.

3 + 6 + 6

9. A patient having headache with new glasses comes to you. How will manage the case ? What factors should be considered before selecting frames for the children ?

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10. The degree of hardness and softness of PAL depends on four basic design elements. Discuss hard and soft design with reference to the above statement.

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END