2013

VISUAL OPTICS (OPTICS – IV)

Time Allotted : 3 Hours   Full Marks : 70

The figures in the margin indicate full marks.

Candidates are required to give their answers in their own words

as far as practicable.

GROUP – A

(Multiple Choice Type Questions)

1. Choose the correct alternatives for the following : 10 × 1 = 10

i) Pelli Robson chart is used for

   a) V. A. testing

   b) Glare testing

   c) Contrast sensitivity testing

   d) Colour vision testing.

ii) 1 mm shortening of axial length of eyeball can produce

   a) 1D of hyperopia   b) 3D of hyperopia

   c) 1D of myopia   d) 3D of myopia.

iii) If a myopic patient shifts from spectacle to contact lens

   a) accommodative & vergence demand increase

   b) accommodative & vergence demand decrease

   c) accommodative demand increases but vergence

      demand decreases

   d) no change occurs in accommodative & vergence

      demand.

iv) Spherical equivalent of +2·00/−2·50 D cyl 90° is

   a) + 3·25 Dsph   b) – 0·50 Dsph

c) + 0·75 Dsph   d) + 0·50 Dsph.

v) Coma is a type of

    a) off-axis spherical aberration

    b) chromatic aberration

    c) peripheral magnification

    d) none of these.

vi) A patient having refractive error of

−1 Dsph/−3·00 Dcyl 180 is an example of

    a) with the rule astigmatism

    b) against the rule astigmatism

    c) mixed astigmatism

    d) none of these.

vii) In Listings reduced eye posterior focal point on retina is

.... behind anterior surface of cornea.

    a) 22·9 cm   b) 22·5 mm

    c) 24·4 cm   d) 22·9 mm.

viii) Against the rule astigmatism refers to a condition where

    the horizontal meridian is .... curved than the

    vertical meridian.

    a) more   b) less

    c) equally   d) none of these.

ix) In case of hypermetropia punctum remotum is at

    a) infinity   b) in front of the eye

    c) behind eye   d) none of these.

x) Far point of a patient is at 20 cm in front of the eye, his

    refractive error is

    a) − 5·00 D   b) + 5·00 D

c) + 10·0 D   d) none of these.

GROUP – B

(Short Answer Type Questions)

Write short notes on any three of the following. 3 × 5 = 15

2. Circle of least diffusion.

3. Advantages of 10 L insertion , over spectacle correction, in

   aphakia.

4. Mechanism to minimize spherical aberration in the eye.

5. Progressive myopia.

GROUP – C

(Long Answer Type Questions)

Answer any three of the following. 3 × 15 = 45

6. Define F & K relationship. An axial ammetropic eye with

– 9·00 D spectacle at ant. Focal plane. When the person is

corrected with contact lens, find out the new RSM.   5 + 10

7. Briefly describe different modalities available for aphakia

correction with their advantages & disadvantages.

8. Classify astigmatism. Illustrate the characteristics of

retinoscopic reflexes found in astigmatic eye.   7 + 8

9. Define & classify glare. Outline the tests for contrast

sensitivity function of eye.   5 + 10

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