

VINAYAKA MISSION'S RESEARCH FOUNDATIONS, SALEM
(Deemed to be University)

B.OPTOMETRY DEGREE EXAMINATION – February 2020
Second Year

VISUAL OPTICS

Time: Three hours

Maximum: 80 marks

I Choose the best answer

(10 x 1 = 10)

1. The image formed by concave lens is
 - a) Real, inverted
 - b) Virtual, erect
 - c) Virtual inverted
 - d) Real erect
2. The refractive power of human lens is
 - a) +10D
 - b) +14D
 - c) +40D
 - d) +20D
3. The distance correction for the working distance of 66cm. is
 - a) -1.00D
 - b) -1.50D
 - c) +1.00D
 - d) +1.50D
4. Ciliary spasm causes
 - a) Presbyopia
 - b) Index Myopia
 - c) Hyperopia
 - d) Pseudomyopia
5. Against movement reflex in retinoscopy is seen in
 - a) Myopia < 1D
 - b) Aphakia
 - c) Myopia > 1D
 - d) Presbyopia
6. Refractive index of aqueous is
 - a) Equal to cornea
 - b) Equal to lens
 - c) Equal to vitreous
 - d) Equal to air
7. Stenopic slit is used to
 - a) Refine sphere power
 - b) Refine cylinder power
 - c) Refine axis of cylinder
 - d) None of these
8. Base in prism is used to correct
 - a) Exophoria
 - b) Esotropia
 - c) Esophoria
 - d) Ciliary spasm
9. At birth, the refraction of eye is
 - a) Myopia
 - b) Hyperopia
 - c) Presbyopia
 - d) Astigmatism
10. The spherical equivalent of -3.00 D sph/ -1.50 D cyl. $\times 90^\circ$
 - a) -3.75 D sph
 - b) -1.50 D sph
 - c) -4.50 D sph
 - d) -4.00 D sph

(p.t.o)

II State whether the following statements are **TRUE** or **FALSE** (10 x 1 = 10)

1. Write reflex is appreciated in arcus senilis.
2. Ocular refraction and contact lens refraction are approximately same.
3. Convergent rays of light are considered as positive sign.
4. Myopia shift is seen in papilloedema.
5. Keratoconus causes regular astigmatism.
6. Ring scotoma is seen in myopic correction
7. The power of lens is measured in dioptries.
8. 0.25 D Difference in refractive error causes 4% aniseikonia.
9. For emmetropic eye, the far point is in front of eye.
10. The movement of reflex is slow, low power is used for neutralization.

III Fill in the blanks: (10 x 1 = 10)

1. _____ lens is used to correct presbyopia.
2. Aniseikonia is measured by using _____
3. Bailey – Lovie chart is example for _____ visual acuity chart
4. In sign convention, divergent rays of light are considered as ____ sign.
5. At birth, the refraction of eye is _____
6. Speed of retinoscopy reflex _____ increases towards neutrality.
7. Keratometry is used to find _____ of cornea.
8. If principal meridians are more than 30° apart, it is called _____
9. Spectacle magnification of aphakic correction is _____.
10. The average normal value of AC/A ratio is _____.

IV Answer any **FIVE** of the following: (5 x 6 = 30)

1. Keratometry
2. AC/A Ratio
3. Aniseikonia
4. Transpose the following :
 - a. +3.00 D sph. / -2.00D Cyl × 90°
 - b. -5.00 D sph. / +1.50D Cyl × 120°
 - c. +7.00 D sph. / -3.00D Cyl × 180°
5. Correction of aphakia
6. Schematic eye
7. Growth of eye in relation to refractive errors.

V Write an Essay on any **TWO** of the following: (2 x 10 = 20)

1. Discuss on cycloplegic retinoscopy and characteristics of reflex in different refractive errors.
2. Discuss on astigmatism.
3. Discuss on amblyopia.
