

Third Year B.Sc Optometry Degree Supplementary Examinations, April 2016

Dispensing Optics, Mechanical Optics, Contact Lens and Low Vision Aids

Time : 3 hrs

Max marks : 100

- **Answer all questions**
- **Draw diagram wherever necessary**

Essays

(2x20=40)

1. Explain the tear film assessment tests performed during a contact lens practice. Briefly comment on hydrogel and silicone hydrogel contact lenses. What is the role of low water content lenses in the management of dry eye (6+10+4=20)
2. Compare spectacle magnifier, hand magnifier and stand magnifier in terms of advantages and disadvantages. Briefly explain the clinical features and low vision management of albinism (10+10=20)

Short notes

(5x5=25)

3. Explain refraction in low vision patients
4. Frame measurement
5. What are the mechanical properties of spectacle lenses.
6. Describe casting and moulding in spectacle lens production
7. Explain how does the accommodation and convergence changes from wearing spectacle to contact lenses.

Answer briefly

(10x3=30)

8. Indications for contact lens use
9. Sources of oxygen for cornea
10. Classification of spectacle frames based on temple position
11. Mobility assistive devices for low vision patients
12. Frame adjustments for PAL
13. Common spectacle lens defects
14. Frame selection for high myopic patients
15. Edging of rimless frames
16. IPD measurement in bifocal fitting
17. Academic considerations for a low vision child

One word answer

(5x1= 5)

18. According to Kestenbaum rule, ----- would be the required starting near addition for a patient whose distance acuity is 20/100
19. FDA group III classification for soft contact lens involves----- lenses
20. ----- is the abbe value of CR-39
21. In----- bifocal, near segment is of the same size as distance segment.
22. ----- is the prismatic effect at a point 6mm below the optical centre of a +5.00 D lens
