Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Optometry Degree Examination - 11-Nov-2025

Time: Three Hours **Max. Marks: 100**

OPTOMETRIC OPTICS & DISPENSING (RS-4)
Q.P. CODE: 3346
(QP contains two pages)
Your answers should be specific to the questions asked
Draw neat, labeled diagrams wherever necessary

LONG ESSAYS (Second Question Choice) **2 x 10 = 20 Marks**

1. Write a note on parts of frame with neat labeled diagram. Explain the various types of frames in details
2. Find the sph-cyl equivalent of following cross cylinder lens + 3.00 Dcyl x 20° / + 3.00 D cyl x 80° **Or**
   Explain different face shapes and frame measurement need to take before ordering the final spectacles?

SHORT ESSAYS (Question No 5 & 10 choice) **10 x 5 = 50 Marks**

3. Describe the effect of distortion in high powered plus and minus spectacle lenses
4. Briefly explain the image jump in bifocal lenses
5. Briefly explain about photochromatic lenses
   Or
   Write short notes on special type of frames
6. Write a short note on selecting frame for children
7. Draw a neat labeled diagram of progressive additional lens
8. Calculate the edge substance 'e' of a plano concave lens made in crown glass (1.523) of surface power – 10.0 D, diameter of lens 44mm and center thickness 0.6mm
9. Explain effects of UV radiation on eye
10. Describe the various types of lenses which are suitable for high minus prescription
    Or
    Describe the indications and contraindication of progressive additional lenses
11. Explain prentice rule with example
12. A lens has the following dimensions: F1= +8.00 D, F2= -1.00 D, n=1.6, t=5mm. Find the back vertex power of the lens using formula

SHORT ANSWER **10 x 3 = 30 Marks**

13. What are thermoplastic and thermosetting materials?
14. Draw and labelled different kind of temples of spectacle
15. Define toric lens with example
16. Explain positive thin lens form
17. Write a note about advantage of minus toric form
18. Find the induced prismatic effect of a lens of + 5.00 D with a decentration of 7 mm out from its optical centre
19. Define abbe value with example
20. Write a note on prismatic effect on sphero-cylinder lens
21. Explain segment height and segment depth
22. State the surface power required to produce the following lenses in periscopic form
    a) + 1.5 b) -3.75