Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Optometry Degree Examination - 03-Nov-2026

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

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. Discuss the different types of defects seen in lens and different methods to identify lens defects.

2. Discuss various frame parts. Draw and explain boxing and Datum system.

   Or

   Explain in detail of frame selection based on face shapes and spectacle prescription.

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

3. Discuss the Bifocal spectacle lens fitting.

4. What is photochromatic lens? What are the advantages and disadvantages?

5. Explain the conoid of sturms with a neat figure.

   Or

   Transpose the following prescription in toric form +4.00 DS +1.00 DC x 180,
   Base curve –6.00 D

6. Discuss in detail about Nylon cord frames and half eyes.

7. Brief about Geneva lens measure with a neat figure.

8. Discuss the mathematical sign convention and mechanical sign convention.

9. What is prismatic effect? Derive an equation to find the decentration relationship.

10. Name the common design problems of progressive addition lens. What are the patient's basic visual characteristic and requirement that need to be assessed once the patient is motivated for progressive addition lens?

    Or

    Find the prismatic effects introduced by decentring the lens – 2.00 / +3.00x180^0, 6mm up and in along 30 degree. Also find the resultant prismatic effects.

11. Availability of spectacle lens and frame in Indian market.

12. Discuss about the special purpose frames.

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

13. Brief refractive index of lens? What is refractive index of crown glass?

14. What is Lenticular lenses?

15. Short note on Glazing and Edging.

16. Brief about Executive bifocal lenses.

17. Calculate the alternate transposition form of
    A. +3.00 / -5.00 x 180
    B. -1.25 / +3.50 x 135
    C. -2.75 / - 1.75 x 20

18. Write any six advantages of anti reflection coating.

19. Short note on Ghost images.

20. What are the principle ingredients of Ophthalmic glass?

21. Short notes on skull and riding bow temples.

22. Fitting philosophies for Kryptok bifocals.

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