

# Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Optometry Degree Examination - 19-Nov-2024

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. Explain different types of trifocal lenses with diagram
2. Explain the properties of cross cylinders with the help of examples

**OR**

Calculate the centre thickness of plano convex lens made in spectacle crown glass ( $n=1.523$ ) of power of surface + 5.00 D, diameter of lens is 50 mm and the edge thickness is 1 mm

### SHORT ESSAYS (Question No 5 & 10 choice)

10 x 5 = 50 Marks

3. Explain aspheric lens in details
4. Explain five troublesome reflections from spectacle lens surface with a diagram
5. Write a note on lens materials properties

**OR**

What is the relationship between apical angle and amount of deviation?

6. Explain in briefly the effective power of a prism in near vision with proper example
  7. Measurement of monocular PD
  8. Transpose the following into the alternate sphero cylinder form
    - a) +0.50 D sph/+1.50 D cyl x 160
    - b) -3.25 D sph / + 1.75 D cyl x 35
  9. Derive the actual sag formula
  10. Write a short note on different types of plastic materia frames
- OR**
- Write a short note on selecting frame for high plus
11. A spectacle prescription for the Recalls for 3  $\Delta$  bare in and 2  $\Delta$  base up. What compounded prism must be ground onto the lens surface to arrive at the desired prescription?
  12. Explain steps of tonic transposition with one example

### SHORT ANSWER

10 x 3 = 30 Marks

13. Write a note on prismatic effect on plano-cylinder lens
14. Write a note on method of writing prescription
15. What are the advantages of ARC?
16. Write a note on lenticular lens
17. Write a note on hi index lens

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18. Explain lens maker's formula
19. Enlist the common fault in the lens materials
20. Enlist the characteristics of tinted lens
21. What are the substance used in production of spectacle lens?
22. Write the advantages of CR-39 and polycarbonate

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