

Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Optometry Degree Examination - 17-May-2023

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. Describe the parts of spectacle frames. Mention the different types of metal and plastic materials used for making spectacle frames and briefly explain each. Explain the boxing system with the help of a neat diagram.
2. Discuss the importance of centering of lenses in spectacle frames. Describe the method of accurate centering of lenses in spectacle and different methods to mark centering of lenses.

Or

Explain the various designs of progressive addition lenses. Describe the patient selection and dispensing of progressive addition lens.

SHORT ESSAYS (Question No 5 & 10 choice)

10 x 5 = 50 Marks

3. Discuss Iseikonic lenses and spectacle magnifiers.
 4. Derive the formula to find the front and back vertex powers of a lens.
 5. Explain the manufacturing process and the test to find out the effectiveness of heat toughened glasses.
- Or**
- Explain the steps involved in taking binocular and monocular PD using a ruler.
6. Discuss the Photochromatic lenses.
 7. Explain Polaroid lenses, its advantages and disadvantage?
 8. Discuss the frame selection for high myopic patients.
 9. Write about the frame adjustment for PAL.
 10. Explain Geneva lens measure.

Or

Front surfaces of lens and measured with a lens clock. The lens clock shows a value of +6.00D based on an the index of 1.530. What is the radius of curvature of the tem surface?

11. Discuss about Hand neutralization.
12. Explain the types of Aberrations.

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SHORT ANSWER

10 x 3 = 30 Marks

13. Brief on heat absorbing lenses.
14. Fresnel prism.
15. What are the mechanical requirement of an bifocal lenses.
16. Classification of spectacle frames based on temple position.
17. Calculate the spherical equivalent of
 - A. $+2.50 / - 3.00 \times 180^{\circ}$
 - B. $-3.00 / -1.50 \times 90^{\circ}$
 - C. $-2.50 / - 1.75 \times 20^{\circ}$
18. Short note on Abbe value.
19. Write about Edging.
20. What are the different facial shapes?
21. Differentiate flint and crown glasses.
22. Define spherical aberration and how can you minimize the spherical aberration.
