Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Optometry Degree Examination - 23-May-2025

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 progressive addition lenses in the following heading with a neat diagram temporary marking and its importance, permanent marketing and its importance, hard and soft design in detail.

2. Mention the lens quality with respect to faults in the material and on the surface of a lens. Explain the different techniques of inspecting a lens for its defects.
    Or
    Describe in detail the plastic and metal materials used for spectacle frames.

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

3. What is Fresnel prism and mention its advantages and disadvantages.

4. Different types of bifocal lenses.

5. Discuss Lenticular lenses.
    Or
    What do we mean by image jump in biofocal lenses? Illustrate jump with an example and how can jump be eliminated.

6. Give reason for plus lenses on application of transverse movement test exhibit against motion and negative lenses exhibit with movement.

7. Short note on frame measurement and frame selective for elderly.

8. What are the mechanical properties of spectacle lenses?

9. What are Photo chromatic lenses and factors influencing photochromatic lenses?

10. A Right Eye lens of power – 7.00 DS is decentred 3mm out and 4 mm up. What are the resulting horizontal and vertical prismatic effect?
    Or
    A lens has the following parameters, power : plano –3.00 DC X 90, lens form plano concave cylinder, lens is 50 mm round, refraction index 1.53, center thickness 1.00mm, what is the edge thickness in the horizontal and vertical meridian.

11. Mention briefly the lens defects.

12. Mention the steps involved in taking binocular and monocular distance PD using a ruler.

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

13. Polycarbonate lenses.

14. Library and convertible temple.

15. List the ideal characteristics of a tinted lens.

16. Best form lenses.

17. Define glare and list the types.

18. Short note on Refractive index of a lens.

19. What is Pantoscopic tilt? What is the usual pantoscopic tilt?

20. How chromatic aberration is eliminated in a recumbent prism.

21. Short note on contrast filters and gradient lenses.

22. Simple transposition :
     a) +3.00 DS −3.00 DC x 180
     b) +1.75 DS +0.75 DC x 50
     c) -0.75 DS −1.75 DC x 120

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