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**Rajiv Gandhi University of Health Sciences, Karnataka**

**II Year B.Sc. Optometry Degree Examination - SEP-2019**

**Time: Three Hours**

**Max. Marks: 80 Marks**

**Optometric Optics  
(Revised Scheme – 3)**

**Q.P. CODE: 3111**

Your answers should be specific to the questions asked  
Draw neat, labeled diagrams wherever necessary

**LONG ESSAYS (Answer Any Three)**

**3 x 10 = 30 Marks**

1. Explain steps of lens surfacing.
2. What is PAL? What is the difference between hard and soft progressive lens design? Write the standard method for taking progressive lens fitting Measurements.
3. Mention the various parts of a frame with the help of a diagram. Explain the various types of frames in detail.
4. Explain different types of trifocal lenses.

**SHORT ESSAYS (Answer Any Six)**

**6 x 5 = 30 Marks**

5. What factors should be considered before selecting frames for the children.
6. Explain about Aspheric lenses in detail.
7. Explain 5 troublesome reflections from spectacle lens surface with a diagram.
8. Calculate the edge substance 'e' of a plano concave lens made in crown glass (1.523) of surface power -11.0 D, diameter of lens 44 mm and center thickness 0.6 mm
9. Explain the steps of toric transposition with example.
10. Explain lens material defects.
11. Briefly explain effects of UV Radiation on eye.

**SHORT ANSWERS**

**10 x 2 = 20 Marks**

12. Define prism and give the unit of prism power.
13. High index lens
14. Facial wrap
15. Name the materials used in making of frame.
16. Spherical aberration.
17. Lens maker equation.
18. Vertex distance.
19. Knapp's law.
20. Pantoscopic tilt.
21. Toughened lenses

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