

Rajiv Gandhi University of Health Sciences, Karnataka
I Year B.Sc. Optometry Degree Examination - 23-May-2023

Time: Three Hours

Max. Marks: 100 Marks

PHYSICAL AND PRINCIPLES OF LIGHTING, GEOMETRIC OPTICS
SECTION B – GEOMETRIC OPTICS (50 MARKS)
(REVISED SCHEME – 4)

Q.P. CODE: 3345

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

(Note : Both QP Codes 3344 and 3345 are to be answered within total duration of 3 hours)



LONG ESSAYS (First Question Choice)

1 x 10 = 10 Marks

1. Deduce the expression for gauss formula for spherical surface and hence arrive at lens maker's formula.

Or

Describe the experiment in arriving at laws of photoelectric effect. Give Einstein's explanation of the same.

SHORT ESSAYS (Question No. 5 choice)

5 x 5 = 25 Marks

2. Deduce the prism formula and the expression for the deviation produced by a thin prism?
3. Write a note on telescope.
4. Explain the cardinal points of a thick lens with diagram.
5. Describe a compound microscope.

Or

What is dispersive power of a prism? Obtain the condition for combination of two thin prisms to produce dispersion without deviation.

6. What are the laws of reflection and refraction? Explain with diagram.

SHORT ANSWER (Question No. 10 choice)

5 x 3 = 15 Marks

7. What is spherical aberration? How is the same eliminated?
8. What is total internal reflection? Explain with diagram.
9. Define rectilinear propagation of light.
10. Define entrance and exit pupil.

Or

Define refractive index.

11. What is simple and compound microscopes?