

Rajiv Gandhi University of Health Sciences, Karnataka
I Year B.Sc. Optometry Degree Examination - 29-Nov-2023

Time: Three Hours

Max. Marks: 100 Marks

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

Q.P. CODE: 3344

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. Explain in detail production and detection of different kinds of polarized light.

Or

Describe the construction and action of Lummer-Brodhun photometer. How the transmission coefficient of a glass is determined using the L-B photometer?

SHORT ESSAYS (Question No. 5 choice)

5 x 5 = 25 Marks

2. obtain the expression for the total energy of a body executing S.H.M
3. Deduce the expression for Radius of curvature using Newton's Rings experiment
4. What is the radius of the first half period zone on a zone plate of focal length 0.6 m and designed for a wavelength of 589 nm?
5. Explain in brief attenuation in optical fiber.
- Or**
- Explain Raman scattering with relevant theory.
6. Write a short note on Nicol Prism.

SHORT ANSWER (Question No. 10 choice)

5 x 3 = 15 Marks

7. Define Brewster's Law. Write the expression for the same.
8. Explain transverse and longitudinal waves.
9. The critical angle of glass is 42° , calculate the polarizing angle.
10. Write a note double refraction.
- Or**
- Write a note on Rayleigh and Mie scattering.
11. Define resolving power of a grating.
