Rajiv Gandhi University of Health Sciences, Karnataka
I Year B.Sc. Optometry Degree Examination - 12-May-2025

Time: Three Hours   **Max. Marks: 100**

PHYSICAL OPTICS AND PRINCIPLES OF LIGHTING, GEOMETRIC OPTICS
SECTION A – PHYSICAL OPTICS 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. With neat diagram, explain construction and working of Michelson interferometer
    OR
    Define photo electric effect and explain Einstein photo electric equation

SHORT ESSAYS (Question No. 5 choice)   **5 x 5 = 25 Marks**

2. Explain construction and working of Nicol prism

3. Show that area of half period zone are equal

4. explain construction and working of ruby laser

5. How is the luminous intensity of two sources is compared using Lummer-Brodhum photometer?
    OR
    A particle executes SHM of period 10 second and amplitude of 1.5 m. Calculate maximum velocity and acceleration

6. Explain transverse and longitudinal wave with examples

SHORT ANSWER (Question No. 10 choice)   **5 x 3 = 15 Marks**

7. Explain corpuscular theory of light

8. Define frequency and time period of SHM

9. Define principle of optical fiber and mention its application

10. Write the formula of dispersive power of grating and explain terms
    OR
    State Malus and Brewster's law

11. Explain Rayleigh scattering with an example

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