

B.OPTOM
(New Syllabus 2015-2016)

FIRST YEAR

PAPER III – PHYSICAL AND GEOMETRICAL OPTICS (I & II)

Q.P. Code: 802703

Time: Three Hours

Maximum: 100 Marks

Answer all questions

I. Elaborate on:

(3 x 10 = 30)

1. Describe the various types of aberrations in a lens and ways to reduce them.
2. Describe the Newton's rings experiment and how it is used to determine the refractive index of the liquid.
3. Describe the construction and working of Nicol prism & its double refracting property. Describe how it can be used both as polarizer and analyser?

II. Write notes on:

(8 x 5 = 40)

1. Applications of laser in ophthalmology.
2. Gullstrand's schematic eye with neat diagram.
3. Lloyd's single mirror.
4. Flicker photometer.
5. Photoelectric effect.
6. Write 5 differences between myopia and hypermetropia.
7. Polarization by reflection.
8. Solar spectrum.

III. Short answers on:

(10 x 3 = 30)

1. Constructive and destructive interference.
2. Explain emmetropia.
3. Linear magnification.
4. Fermat's principle.
5. Stimulated emission.
6. Polaroid sheets.
7. Weber's law.
8. Refractive index.
9. Population inversion.
10. Raman effect.
