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SB—66—2022

FACULTY OF SCIENCE & TECHNOLOGY

B.Sc. (Second Year) (Fourth Semester) EXAMINATION

MAY/JUNE, 2022

(CBCS/Old Course)

PHYSICS

Paper-VIII

(Optics and Lasers)

(Monday, 13-06-2022)

Time : 2.00 p.m. to 4.30 p.m.

Time— 2½ Hours

Maximum Marks—40

N.B. :— (i) Attempt all questions.

(ii) Illustrate your answers with suitably labelled diagrams, wherever necessary.

1. Explain in detail Huygen's eyepiece with Cardinal points. 15

Or

(a) Explain Newton's rings experiment for determinations of wavelength of light. 8

(b) With well labelled diagram explain cardinal points of Ramsden eyepiece. 7

2. Explain the double refraction phenomenon in uniaxial crystals according to Huygen's theory. 15

Or

(a) Explain Laurent's half shade polarimeter. 8

(b) Explain population inversion in laser. 7

P.T.O.

3. Write short notes on (any *two* of the four) :

10

- (a) Focal point and Focal plane
- (b) Rayleigh Criterion
- (c) Nicol Prism
- (d) Properties of Lasers.