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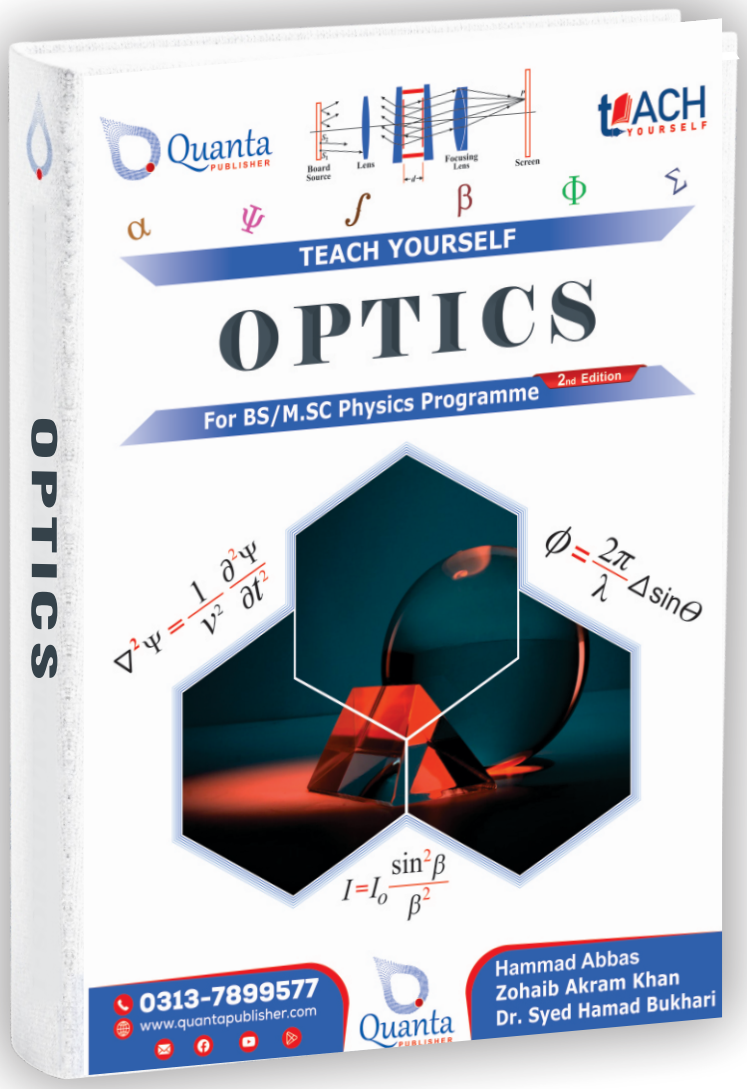
BS Physics

PAST PAPERS



SINCE 1920

Department of PHYSICS
Emerson College Multan

MID TERM EXAM — BS 6TH SEMESTER (2019 -2023)

OPTICS (PHYS 308) — INSTRUCTOR: HAMMAD ABBAS

TIME 1:30HR — MAX. MARKS 30

Note: Attempt all questions: (2*7=14)

Q1: Describe briefly:

(a) Write 3rd and 4th Maxwell equation and its significance?

(b) Give the idea about light by Maxwell and Einstein?

(c) Define the phase velocity and group velocity?

(d) Write the three dimensional wave equation and its significance?

(e) Differentiate between plane wave and spherical waves?

(f) How principle of superposition is important in the Harmonic waves?

(g) Differentiate between spherical and cylindrical waves propagations?

Q2:

(a) Describe the plane wave and its significance also calculate **the second order differential** wave equation for the plane wave?

Q3: What do you mean by the propagation of waves describe about the complex representation of wav in details?

ABDUL WALI KHAN UNIVERSITY MARDAN

Program: BS Physics Semester: 4th Paper: Optics
Time: 02:30 Hrs Total marks: 60 Spring-2022
Note: Attempt all questions

Q1. Choose the correct answer

i. What principle is responsible for light spreading as it passes through a narrow slit?
a. refraction b. polarization c. diffraction d. interference

ii. What principle is responsible for the fact that certain sunglasses can reduce glare from reflected surfaces?
a. refraction b. polarization c. diffraction d. total internal reflection

iii. The principle which allows a rainbow to form is
a. refraction b. polarization c. dispersion d. total internal reflection

iv. Light has a wavelength of 600 nm in a vacuum. It passes into glass, which has an index of refraction of 1.50. What is the wavelength of the light in the glass?
a. 600 nm b. 500 nm c. 400 nm d. 300 nm

v. When a light wave enters into a medium of different optical density,
a. its speed and frequency change.
b. its speed and wavelength change.
c. its frequency and wavelength change.
d. its speed, frequency, and wavelength change.

vi. Which phenomenon causes the polarisation of light?
a. Reflection b. diffraction c. double refraction d. double reflection

Q2: Write short notes on the following (two or three lines), each carries 02 marks.