

B.Sc. Semester - 2 (NEP-2020) Examination

JUNE – 2024

PHY: Mechanics and Optics (Major-4)

Time: 2:00 Hours

Marks: 50

Instructions:

1. All questions are compulsory.
2. Figures to the right indicate marks.

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- Que.1 Answer any 2 out of 3 from following questions. (10)
- (1) Discuss about Simple harmonic wave.
 - (2) State the Law of Transverse vibration of strings.
 - (3) Explain speed of a sound wave in a material medium.
- Que.2 Answer any 2 out of 3 from following questions. (10)
- (1) Discuss Young's double slit experiment.
 - (2) Write a note on Fresnel's Biprism.
 - (3) Discuss about wedge shaped thin film.
- Que.3 Answer any 2 out of 3 from following questions. (10)
- (1) Explain production of X-rays.
 - (2) Write about Bragg's Law.
 - (3) What is radio activity? Write difference between natural and artificial radio activity.
- Que.4 Answer any 5 out of 9 from following questions. (10)
- (1) What is Particle velocity and wave velocity?
 - (2) Write a uses of Acoustics of Buildings.
 - (3) Write characteristics of wave motion.
 - (4) What do you mean by Interference of light?
 - (5) Write types of interference.
 - (6) Define Principle of Superposition.
 - (7) What is Compton Effect?
 - (8) Write about properties of α - ray.
 - (9) Explanation of Laue's spots.
- Que.5 Answer any 2 out of 3 from following questions. (10)
- (1) Write a Newton's formula for the velocity of sound in gas (air) with Laplace correction.
 - (2) Illustrate Lloyd's single mirror.
 - (3) Explain Practical applications of X-rays.
