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AA—47—2022

FACULTY OF SCIENCE

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

NOVEMBER/DECEMBER, 2022

(NEW COURSE)

PHYSICS

Paper-VI

(Waves and Oscillations)

(Saturday, 10-12-2022)

Time : 02.00 p.m. to 04.00 p.m.

Time—Two Hours

Maximum Marks—40

N.B. :— (i) All questions are compulsory.

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

1. Explain the analytical treatment of stationary waves formed in a closed end organ pipe. 15

Or

- (a) Obtain an expression for energy of a plane progressive wave. 8
(b) Obtain an expression for frequency of damped vibrations. 7

2. What is reverberation ? Derive an expression for Sabine's reverberation formula. 15

Or

- ✓ (a) Derive an expression for displacement of forced vibration. 8
(b) Obtain an expression for differential equation of wave motion. 7

P.T.O.

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3. Write short notes on (any two)

10

- (a) Wave velocity and particle velocity
- (b) Nodes and antinodes
- (c) Undamped vibrations
- (d) Piezoelectric Oscillator.

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