

Assignment-2 Waves, motion & Acoustics

Module-2 Waves, Motion & Acoustics

- 1) Define: Linear Motion, Uniform Motion, periodic motion.
- 2) Distinguish between Uniform & Non- Uniform motions.
- 3) Derive the expressions for Simple Harmonic motion.
- 4) Define: Free vibrations, Damped & Forced Vibrations.
- 5) Derive the periodic time formula for SHM by spring and Mass.
- 6) Derive the formula for Damped Harmonic Motion and explain under damped, critical & over damped harmonic oscillations.
- 7) Derive the expression for forced harmonic oscillations.
- 8) Write short note on Resonance.
- 9) Distinguish between transverse and longitudinal wave motion.
- 10) Write short note on Loudness.
- 11) Explain: Reverberation, Reverberation time, Pitch, Weber Fechner law.
- 12) Write the difference between Sound Intensity and Loudness.
- 13) Write short note on Coefficient of Absorption.
- 14) Write Sabine's Formula for reverberation time and explain the terms used in it and what are the limitations of Sabine's Formula.
- 15) Explain how the reverberation time of a hall is affected by
(a) Size (b) Nature of its wall (c) Audience (d) Shape
- 16) List the factors affecting the Reverberation time of auditorium and explain.

ULTRASONIC

- 17) Explain Magnetostriction Method for Production of Ultrasonic sound.
- 18) Explain Piezoelectric Method for Production of Ultrasonic sound.
- 19) Write short note on Ultrasonic wave Velocity determined using Acoustic diffraction method.