

SHRIMATHI DEVKUNVAR NANALAL BHATT VAISHNAV COLLEGE FOR WOMEN
(AUTONOMOUS)

(Affiliated to the University of Madras and Re-accredited with 'A+' Grade by NAAC)
Chromepet, Chennai - 600 044.

B.Sc.Physics - END SEMESTER EXAMINATIONS - NOV'2024

SEMESTER - II

22UPHCT2003 - Acoustics and Thermodynamics

Total Duration : 2 Hrs.30 Mins.

Total Marks : 60

Section B

Answer any **SIX** questions ($6 \times 5 = 30$ Marks)

1. Explain Damped and Forced vibrations.
2. Distinguish between loudness and intensity of sound.
3. Explain the principle of Magneto striction method of producing ultrasonics.
4. Explain the types of thermodynamic equilibrium.
5. A carnot engine has a efficiency of 30%.When the temperature of the sink is 27°C . Find the temperature of source.
6. Define simple harmonic motion. Explain with examples of simple harmonic motion.
7. Describe the measurement of loudness of a sound.
8. Write any five applications of ultrasonics in various fields.

Section C

Answer any **THREE** questions ($3 \times 10 = 30$ Marks)

9. Derive the differential equation of a damped vibration.
10. Apply Fourier series in analysing the square wave form.
11. Explain the method of producing ultrasonic waves using piezo electric oscillator.
12. State and explain Zeroth law of thermodynamics.
13. Describe the construction and working of a petrol engine.
