



Module PMRF-ISSS070/II/2025

Waves and Oscillations

Name of the PMRF student

ARNAB DAS

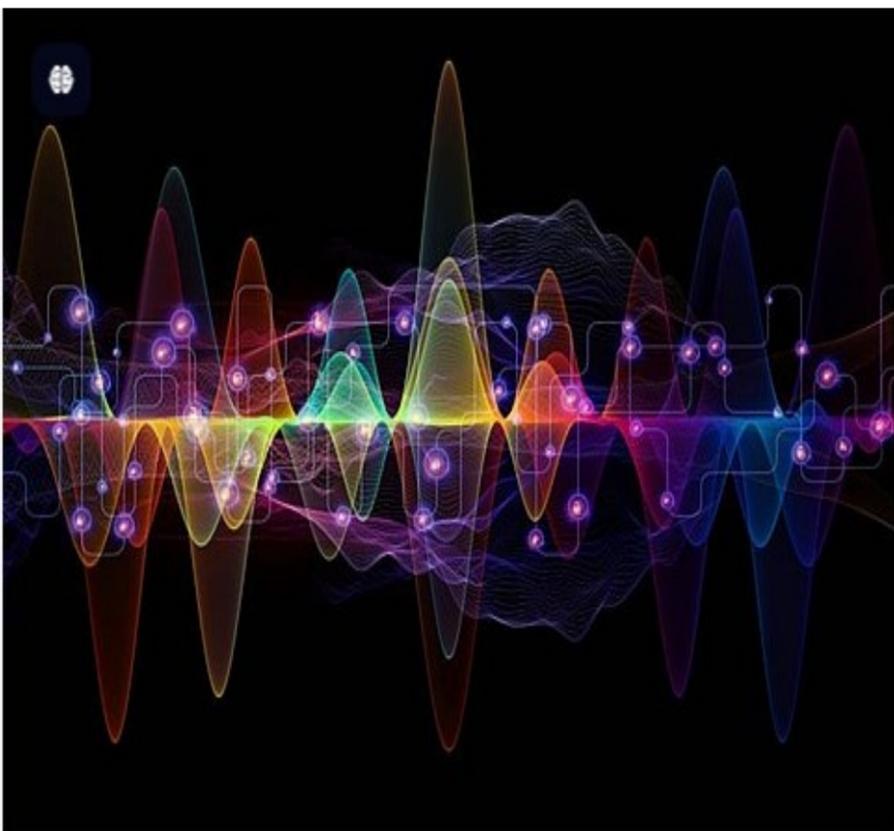
Required background of the students taught

Basic knowledge of differential equations, vector analysis and calculus. Will be useful for competitive exams

Details of the content of the module

This will introduce the physics of oscillatory systems and wave phenomena. Mathematical models will be developed to describe periodic motion, energy transformation and wave propagation in different media. The main topics will be:

1. Simple Harmonic Motion
2. Damped Harmonic oscillations
3. Forced Oscillations and Resonance
4. Coupled Oscillations
5. Wave Motion
6. Sound Waves and Beats
7. Fourier Series and Wave packets
8. Waveguides



Schedule of the module

Start Date: 15.08.2024

Live lectures will be conducted (or recorded lectures uploaded) on Saturday from 8 PM to 9 PM and Sunday from 11 AM to 12 PM (50 Lectures)

End Date: 31.03.2025 (Tentative)

Total lecture hours : 50

Meeting link : Will be shared later

[Link](#)

Contact email ID: issforum@gmail.com

Registration link:

<https://forms.gle/7agAQ45SZxF4JtEn7>