Typical Chapter Outline:

1. **Introduction to Oscillations**
    - Definition of oscillations
    - Types of oscillations
2. **Simple Harmonic Motion**
    - Equations of motion
    - Energy in a harmonic oscillator
3. **Mechanical Waves**
    - Propagation of waves in different media
    - Wave speed
4. **Characteristics of Waves**
    - Amplitude, frequency, and wavelength
    - Relationships among these quantities
5. **Interference and Diffraction**
    - Principles of interference
    - Wave diffraction
6. **Sound Waves**
    - Propagation of sound
    - Characteristics of sound waves
7. **Electromagnetic Waves**
    - Nature of electromagnetic waves
    - Applications of electromagnetic waves
8. **Resonance**
    - Resonance phenomena
    - Practical applications of resonance
9. **Applications of Oscillations and Waves**
    - Technologies utilizing oscillation and wave principles
    - Everyday examples