

- **1 Units, Physical Quantities, and Vectors**
- **2 Motion Along a Straight Line**
- **3 Motion in Two or Three Dimensions**
- **4 Newton's Laws of Motion**
- **5 Applications of Newton's Laws**
- **6 Work and Kinetic Energy**
- **7 Potential Energy and Energy Conservation**
- **8 Momentum, Impulse, and Collisions**
- **9 Rotation of Rigid Bodies**
- **10 Dynamics of Rotational Motion**
- **11 Equilibrium and Elasticity**
- **12 Gravitation**
- **13 Periodic Motion**
- **14 Fluid Mechanics**
- **15 Temperature and Heat**
- **16 Thermal Properties of Matter**
- **17 The First Law of Thermodynamics**
- **18 The Second Law of Thermodynamics**
- **19 Mechanical Waves**
- **20 Wave Interference and Normal Modes**
- **21 Sound and Hearing Electromagnetism**
- **22 Electric Charge and Electric Field**
- **23 Gauss's Law**
- **24 Electric Potential**
- **25 Capacitance and Dielectrics**
- **26 Current, Resistance, and Electromotive Force**
- **27 Direct-Current Circuits**
- **28 Magnetic Field and Magnetic Forces**
- **29 Sources of Magnetic Field**
- **30 Electromagnetic Induction**
- **31 Inductance**
- **32 Alternating Current**
- **33 Electromagnetic Waves Optics**
- **34 The Nature and Propagation of Light**
- **35 Geometric Optics**
- **36 Optical Instruments**
- **37 Interference**
- **38 Diffraction Modern Physics**
- **39 Relativity**
- **40 Photons, Electrons, and Atoms**
- **41 The Wave Nature of Particles**
- **42 Quantum Mechanics**
- **43 Atomic Structure**
- **44 Molecules and Condensed Matter**
- **45 Nuclear Physics**
- **46 Particle Physics and Cosmology**
- **Appendices**
- **Answers to Odd-Numbered Problems**
- **Index**

