

1. Record Nr.	UNINA9911035056503321
Autore	Rahmani-Andebili Mehdi
Titolo	General Physics II : Practice Problems, Methods, and Solutions / / by Mehdi Rahmani-Andebili
Pubbl/distr/stampa	Cham : , : Springer Nature Switzerland : , : Imprint : Springer, , 2025
ISBN	9783031928666 9783031928659
Edizione	[1st ed. 2025.]
Descrizione fisica	1 online resource (361 pages)
Collana	Physics and Astronomy Series
Disciplina	500
Soggetti	Physics Astronomy Magnetism Thermodynamics Soft condensed matter Optics Physics and Astronomy Fluids Optics and Photonics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Electrostatic -- Electric Charge -- Electric Force -- Electric Field -- Electric Potential -- Electric Potential Energy -- Electric Energy and Electric Energy Density -- Electrical Charge, Capacitance, Capacitor, Current, Resistance, and Resistor -- Capacitance and Equivalent Capacitance of a Circuit -- Electrical Charge and Voltage of Capacitors -- Electrical Energy Stored in Capacitors -- Resistance and Equivalent Resistance of a Circuit -- Ohm's Law and Electrical Current and Voltage of Resistors -- Electrical Power and Energy Wasted in Resistors -- Magnetic Fields -- Magnetic Field Intensity Around a Long Current-Carrying Wire -- Magnetic Field Intensity at the Center of a Circle and a Circular Arc -- Magnetic Energy and Magnetic Energy Density -- Magnetic Force -- Electromagnetic Induction -- Magnetic Flux -- Voltage Induced in a Coil -- Voltage Induced in a Wire -- Inductance

and Equivalent Inductance of a Circuit -- Magnetic Energy Stored in Inductors -- Fluid Dynamics -- Density -- Pressure in Fluids -- Archimedes' Principle -- Continuity Principle of Fluids -- Thermodynamics -- Temperature and Thermometers -- Thermal Expansion -- Heat Transfer -- Laws of Thermodynamics -- Entropy and Change of Entropy -- Carnot Machine -- Transverse and Longitudinal Waves -- Transverse Waves -- Longitudinal Waves -- Sound Intensity and Sound Intensity Level -- Doppler Effect -- Light, Mirrors, and Lenses -- Reflection and Refraction -- Flat Mirror -- Concave Mirror -- Convex Mirror -- Convex Lens -- Concave Lens.

---

#### Sommario/riassunto

This essential study guide is designed for students enrolled in a General Physics II course. The textbook includes problems with detailed solutions to enhance students' understanding of the subject matter. It features partially and fully solved exercises and hints for required formulas and answers. This structure enables students to practice independently while guiding them through problem-solving methods. The topics covered in the guide include electrostatics, electrical charge, capacitance and capacitors, current, resistance and resistors, magnetic fields, electromagnetic induction, fluid dynamics, thermodynamics, as well as transverse and longitudinal waves, and optics, including mirrors and lenses. With its comprehensive solutions, multiple problem-solving approaches, and clear explanations of concepts, this hands-on guide will help improve students' problem-solving skills and foster a solid understanding of General Physics II. Additionally, it serves as a valuable resource for instructors in developing questions, tests, and quizzes.

---