

Modern Engineering Physics By Gupta

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Directory

A Textbook of Engineering Physics is written with two distinct objectives: to provide a single source of information for engineering undergraduates of different specializations and provide them a solid base in physics. Successive editions of the book incorporated topics as required by students pursuing their studies in various universities. In this new edition the contents are fine-tuned, modernized and updated at various stages.

Modern Engineering Physics

The Modern Review

Engineering Materials

Handbook of Optical Sensors provides a comprehensive and integrated view of optical sensors, addressing the fundamentals, structures, technologies, applications, and future perspectives. Featuring chapters authored by recognized

experts and major contributors to the field, this essential reference: Explains the basic aspects of optical sensors and

Applied Physics Quarterly

This book reviews the fundamentals, background and theoretical concepts of optimization principles in comprehensive manner along with their potentials applications and implementation strategies. The book will be very useful for wide spectrum of target readers such as research scholars, academia, and industry professionals.

Basic Electronics and Linear Circuits

Wave Optics

International Journal of Modern Physics

The book is focused on the area of remote processing of ECG in the context of telecardiology, an emerging area in the field of Biomedical Engineering Application. Considering the poor infrastructure and inadequate numbers of physicians in rural healthcare clinics in India and other developing nations, telemedicine services assume special importance. Telecardiology, a specialized area of telemedicine, is taken up in this book considering the importance of cardiac diseases, which is prevalent in the population under discussion. The main focus of this book is to discuss different aspects of ECG acquisition, its remote transmission and computerized ECG signal analysis for feature extraction. It also discusses ECG compression and application of standalone embedded systems, to develop a cost effective solution of a telecardiology system.

Handbook of Optical Sensors

The Book Presents A Comprehensive Treatment Of Quantum Mechanics At The Post Graduate Level. The Emphasis Is On The Physical Foundations And The Mathematical Framework Of Quantum Mechanics; Applications To Specific Problems Are Taken Up Only To Illustrate A Principle Or A Computational Technique Under Discussion. The Book Begins With A Preview Of The Conceptual Problem Peculiar To Quantum Mechanics. The Introductory Chapter Also Contains A Formulation Of The Basic Laws Of Motion In Quantum Mechanics In Terms Of The Feynman Postulates. Chapter 2 Contains A Detailed Exposition Of The Linear Vector Spaces And Representation Theory. In Chapter 3 The Basic Principles Of Quantum Mechanics Are Introduced In The Form Of A Number Of Postulates. The Schrodinger, The Heisenberg And The Interaction Pictures Of Time

Development Form The Subject Matter Of Chapter 4. An Indepth Study Of Angular Momentum Theory (Chapter 5) Is Followed By A Brief Account Of Space-Time Symmetries Including Time Reversal Invariance (Chapter 6). Scattering Theory (Chapter 7), Approximation Methods For Stationary As Well As Time-Dependent Problems (Chapter 8) And Identical Particles (Chapter 9) Receive Adequate Treatment. The Dirac, The Klein-Gordon And The Weyl Equations Are Discussed Extensively In Chapter 10. Chapter 11 Treats Canonical Quantization Of Both Non- Relativistic And Relativistic Fields; Topics Covered Include The Natural System Of Units, The Dyson And The Wick Chronological Products, Normal Products, Wicks Theorem And The Feynman Diagrams. The Last Chapter (12) Discusses In Detail The Interpretational Problem In Quantum Mechanics. The Epr Paradox, The Copenhagen And The Ensemble Interpretations, Hidden-Variable Theories, Neumanns And Bell S Theorems And Bells Inequality Are Among The Topics Discussed. The Appendices Incorporate A Detailed Discussion Of Matrices Both Finite-And-Infinite Dimensional, Antilinear Operators, Dirac Delta Function And Fourier Transforms. A Number Of Problems Are Included With A View To Supplementing The Text.

FINANCIAL DERIVATIVES

ECG Acquisition and Automated Remote Processing

Optical Engineering

RNAi Technology

The book in its present form is due to my interaction with the students for quite a long time. It had been my long-cherished desire to write a book covering most of the topics that form the syllabii of the Engineering and Science students at the degree level. Many students, although able to understand the various topics of the books, may not be able to put their knowledge to use. For this purpose a number of questions and problems are given at the end of each chapter.

Indian Books

Engineering Physics; Volume IV; Wave Motion and Sound

Although Concepts of Modern Physics was the first book covering the syllabi of Punjab Technical University, Jalandhar and it was accepted whole-heartedly by students and teachers alike. However, due to the repeated changes of syllabi of P.T.U. as it being a new university, the book had to be revised and some of the chapters became redundant as these were replaced by new topics. Though the book was revised with the additional chapters, the discarded chapters also formed the part of the book.

Surface Engineering of Modern Materials

Wave Optics: Basic Concepts and Contemporary Trends combines classical optics with some of the latest developments in the field to provide readers with an appreciation and understanding of advanced research topics. Requiring only a basic knowledge of electromagnetic theory and mathematics, this book: Covers the fundamentals of wave optics, such as oscillations, scalar and vector waves, reflection and refraction, polarization, interference and diffraction, and rays and beams. Focuses on concepts related to advances in negative materials and superresolution, reflectionless potentials, plasmonics, spin-orbit interaction, optical tweezers, Pendry lensing, and more. Includes MATLAB® codes for specific research problems, offering readers a behind-the-scenes look at the computational practices as well as an opportunity to extend the research. Drawing parallels with corresponding quantum problems whenever possible to broaden the horizon and outlook, Wave Optics: Basic Concepts and Contemporary Trends gives readers a taste of what is happening in modern optics today and shows why wave optics remains one of the most interesting and challenging areas of physics.

International Books in Print

This book focuses on surface engineering of a wide range of modern materials such as smart alloys, light metals, polymers, and composites etc. for their improved manufacturability. It discusses the effect of surface engineering processes namely friction stir processing, forming, spark erosion, welding, laser heating, and coating etc. on various properties of modern materials. The book aims to facilitate researchers and engineers for manufacturing modern materials for numerous commercial, precision and scientific applications.

Books in Series, 1985-89

High-Field Electrodynamics

Reflecting changes in the field in the ten years since the publication of the first edition, The Handbook of Photonics, Second

Edition explores recent advances that have affected this technology. In this new, updated second edition editor Mool Gupta is joined by John Ballato, strengthening the handbook with their combined knowledge and the continued contributions of world-class researchers. New in the Second Edition: Information on optical fiber technology and the economic impact of photonics Coverage of emerging technologies in nanotechnology Sections on optical amplifiers, and polymeric optical materials The book covers photonics materials, devices, and systems, respectively. An introductory chapter, new to this edition, provides an overview of photonics technology, innovation, and economic development. Resting firmly on the foundation set by the first edition, this new edition continues to serve as a source for introductory material and a collection of published data for research and training in this field, making it the reference of first resort.

The Handbook of Photonics

Includes section "Reviews and notices of books".

Engineering Thermodynamics

Who's who in Technology: Who's who in physics & optics

Modern Optimization Methods for Science, Engineering and Technology

Publishes papers reporting on research and development in optical science and engineering and the practical applications of known optical science, engineering, and technology.

Bulletin of the Institution of Engineers (India).

The book in its present form is due to my interaction with the students for quite a long time. It had been my long-cherished desire to write a book covering most of the topics that form the syllabii of the Engineering and Science students at the degree level. Many students, although able to understand the various topics of the books, may not be able to put their knowledge to use. For this purpose a number of questions and problems are given at the end of each chapter.

Indian Journal of Pure & Applied Physics

MODERN PHYSICS FOR SCIENTISTS AND ENGINEERS

Modern Physics for Scientists and Engineers provides thorough understanding of concepts and principles of Modern Physics with their applications. The various concepts of Modern Physics are arranged logically and explained in simple reader friendly language. For proper understanding of the subject, a large number of problems with their step-by-step solutions are provided for every concept. University problems have been included in all chapters. A set of theoretical, numerical and multiple choice questions at the end of each chapter will help readers to understand the subject. This textbook covers broad variety of topics of interest in Modern Physics: The Special Theory of Relativity, Quantum Mechanics (Dual Nature of Particle as well as Schrödinger's Equations with Applications), Atomic Physics, Molecular Physics, Nuclear Physics, Solid State Physics, Superconductivity, X-Rays, Lasers, Optical Fibres, and Motion of Charged Particle in Electromagnetic Fields. The book is designed as a textbook for the undergraduate students of science and engineering.

Modern India and Progress in Science and Technology

Modern Engineering Physics

The material of this book will derive its scientific under-pinning from basics of mathematics, physics, chemistry, geology, meteorology, engineering, soil science, and related disciplines and will provide sufficient breadth and depth of understanding in each sub-section of hydrology. It will start with basic concepts: Water, its properties, its movement, modelling and quality The distribution of water in space and time Water resource sustainability Chapters on 'global change' and 'water and ethics' aim respectively to emphasize the central role of hydrological cycle and its quantitative understanding and monitoring for human well being and to familiarize the readers with complex issues of equity and justice in large scale water resource development process. Modern Hydrology for Sustainable Development is intended not only as a textbook for students in earth and environmental science and civil engineering degree courses, but also as a reference for professionals in fields as diverse as environmental planning, civil engineering, municipal and industrial water supply, irrigation and catchment management.

Concepts of Modern Engineering Physics

This highly acclaimed text, designed for postgraduate students of management, commerce, and financial studies, has been enlarged and updated in its second edition by introducing new chapters and topics with its focus on conceptual understanding based on practical examples. Each derivative product is illustrated with the help of diagrams, charts, tables

and solved problems. Sufficient exercises and review questions help students to practice and test their knowledge. Since this comprehensive text includes latest developments in the field, the students pursuing CA, ICWA and CFA will also find this book of immense value, besides management and commerce students. THE NEW EDITION INCLUDES • Four new chapters on 'Forward Rate Agreements', 'Pricing and Hedging of Swaps', 'Real Options', and 'Commodity Derivatives Market' • Substantially revised chapters—'Risk Management in Derivatives', 'Foreign Currency Forwards', and 'Credit Derivatives' • Trading mechanism of Short-term interest rate futures and Long-term interest rate futures • Trading of foreign currency futures in India with RBI Guidelines • Currency Option Contracts in India • More solved examples and practice problems • Separate sections on 'Swaps' and 'Other Financial Instruments' • Extended Glossary

Krishina's Engineering Physics; Volume III; Optics; 2001

Engineering Physics (Annual Pattern)

Tremendous technological developments and rapid progress in theory have opened a new area of modern physics called high-field electrodynamics: the systematic study of the interaction of relativistic electrons or positrons with ultrahigh-intensity, coherent electromagnetic radiation. This advanced undergraduate/graduate-level text provides a detailed introduction to high-field electrodynamics, from its fundamentals to some of its important modern applications. The author describes a broad collection of theoretical techniques, and where possible, approaches derivations by at least two different routes to yield deeper physical insight and a wider range of mathematical and physical techniques. He also discusses some of the outstanding ramifications of electrodynamics in areas ranging from quantum optics, squeezed states, and the Einstein-Podolsky-Rosen paradox to rotating black holes, non-Abelian gauge field theories, and the Bohm-Aharonov effect. High-Field Electrodynamics gives a comprehensive description of the theoretical tools needed to approach this novel discipline. It highlights important modern applications and serves as a starting point for more advanced and specialized research at the frontiers of modern physics.

Science Reporter

Introduction To Modern Physics

Indian National Bibliography

A Textbook of Engineering Physics

Engineering Physics

Modern Hydrology and Sustainable Water Development

RNAi technology is used for large-scale screens that systematically shut down each gene in the cell, which can help identify the components necessary for a particular cellular process or an event such as cell division. Exploitation of the pathway is also a promising tool in biotechnology and medicine. Introducing new technology in the study of RNA

Indian Book Industry

Introduces Emerging Engineering Materials Mechanical, materials, and production engineering students can greatly benefit from Engineering Materials: Research, Applications and Advances. This text focuses heavily on research, and fills a need for current information on the science, processes, and applications in the field. Beginning with a brief overview, the book provides a historical and modern perspective on material science, and describes various types of engineering materials. It examines the industrial process for emerging materials, determines practical use under a wide range of conditions, and establishes what is needed to produce a new generation of materials. Covers Basic Concepts and Practical Applications The book consists of 18 chapters and covers a variety of topics that include functionally graded materials, auxetic materials, whiskers, metallic glasses, biocomposite materials, nanomaterials, superalloys, superhard materials, shape-memory alloys, and smart materials. The author outlines the latest advancements, including futuristic plastics, sandwich composites, and biodegradable composites, and highlights special kinds of composites, including fire-resistant composites, marine composites, and biomimetics. He also factors in current examples, future prospects, and the latest research underway in materials technology. Contains approximately 160 diagrams and 85 tables Incorporates examples, illustrations, and applications used in a variety of engineering disciplines Includes solved numerical examples and objective questions with answers Engineering Materials: Research, Applications and Advances serves as a textbook and reference for advanced/graduate students in mechanical engineering, materials engineering, production engineering, physics, and chemistry, and relevant researchers and practicing professionals in the field of materials science.

Publisher's Monthly

A Historical Survey Of The Progress Of Science And Technology In India From Early 19Th Century - 9 Chapters - Introduction Of Western Education - Role Of Universities - Scientific Surveys And Research - Learned Societies And Institutes - Medical Education And Research - Engineering And Industry - Technical Education And Research - Agricultural Education And Research - Conclusion - Index.

Indian Books in Print

Continuing the tradition of the best selling textbooks, this first edition “Engineering Thermodynamics” is a comprehensive reference to the broad spectrum of thermodynamics, encapsulating the theoretical and practical aspects of the field. The author addresses a myriad of topics, covering both traditional and innovative approaches. Additionally, the book includes numerous tables

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