

## Engineering Physics Mani Naidu

Applied Physics  
Engineering Chemistry  
Sociology for nurses 2/e  
Engineering Physics- I  
Modern Engineering Physics  
Proceedings of the 2nd International Conference on Data Engineering and Communication Technology  
Endoscopy  
Engineering Physics : Anna-USDP  
Quantum Physics  
Soft Computing for Problem Solving  
Micro-Electronics and Telecommunication Engineering  
The Physics of Microdroplets  
Glacier Evolution in a Changing World  
Nanomaterials and Devices  
Engineering Physics  
Emerging Physics  
Engineering Physics (Annual Pattern)  
Engineering Physics: For PTU  
Engineering Physics I: For WBUT  
Engineering Physics - I: For Anna University  
Ferrites and Ferrates  
Introduction to Modern Physics  
Binocular Vision and Ocular Motility  
Solid State Physics  
Trends in Computer Science, Engineering and Information Technology  
Engineering Physics  
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The Physics of Semiconductor Devices  
Mathematical Analysis and Its Applications

### Applied Physics

### Engineering Chemistry

Introducing the fields of nanomaterials and devices, and their applications across a wide range of academic disciplines and industry sectors, Donglu Shi bridges knowledge acquisition and practical work, providing a starting point for the research and development of applications. The book describes characterization of nanomaterials, their preparation methods and performance testing techniques; the design and development of nano-scale devices; and the applications of nanomaterials, with examples taken from different industry sectors, such as lighting, energy, bioengineering and medicine / medical devices. Key nanomaterial types are covered, such as carbon nanotubes, nanobiomaterials, nano-magnetic materials, semiconductor materials and nanocomposites. Shi also provides detailed coverage of key emerging technologies such as DNA nanotechnology and spintronics. The resulting text is equally relevant for advanced students (senior and graduate) and for engineers and scientists from a variety of different academic backgrounds working in the multi-disciplinary field of nanotechnology. Provides detailed guidance for the characterization of nanomaterials, their preparation, and performance testing Explains the principles and challenges of the design and development of nano-scale devices Explores applications through cases taken from a range of different sectors, including electronics, energy and medicine.

### Sociology for nurses 2/e

This two-volume book presents the outcomes of the 8th International Conference on Soft Computing for Problem Solving, SocProS 2018. This conference was a joint technical collaboration between the Soft Computing Research Society, Liverpool

Hope University (UK), and Vellore Institute of Technology (India), and brought together researchers, engineers and practitioners to discuss thought-provoking developments and challenges in order to select potential future directions. The book highlights the latest advances and innovations in the interdisciplinary areas of soft computing, including original research papers on algorithms (artificial immune systems, artificial neural networks, genetic algorithms, genetic programming, and particle swarm optimization) and applications (control systems, data mining and clustering, finance, weather forecasting, game theory, business and forecasting applications). It offers a valuable resource for both young and experienced researchers dealing with complex and intricate real-world problems that are difficult to solve using traditional methods.

## **Engineering Physics-I**

Earth-abundant iron and its oxides are not only "greener" than many of rare and precious metals, but can elegantly perform numerous catalytic reactions of industrial and environmental significance, often mimicking enzymes. Industrial applications include the use of iron and iron oxide-based compounds in pigments, magnetic recording media, catalysis, and magnetic fluids. Iron oxides have shown potential in manufacturing, water purification, and photocatalytic transformation to generate solar fuel. This book presents synthesis and application of ferrites, including high energy density rechargeable batteries, in cleaner ("greener") technologies for organic syntheses, and in environmentally friendly water and wastewater treatment processes. This book comprises 18 chapters with a focus on synthesis and environmental applications of ferrites and ferrates. Topics of the book encompass greener catalysis (nano-catalysis) emanating from ferrites and ferrates to achieve chemical energy transformation, organic syntheses and transformation, as well as eco-friendly water and wastewater treatment processes, namely removal of metals, oxidation of micropollutants, and inactivation of microorganisms and toxins.

## **Modern Engineering Physics**

Physics I: For BPUT is designed to cater to the needs of the first-year undergraduate engineering students. Written in a lucid style, this book assimilates the best principles of conceptual pedagogy, dealing at length with various topics such as waves and oscillations, optics, electromagnetism, electromagnetic waves and quantum mechanics.

## **Proceedings of the 2nd International Conference on Data Engineering and Communication Technology**

## **Endoscopy**

## **Engineering Physics : Anna-USDP**

This book is designed as per the new Curriculum conceived for the students of

B.Sc. (Physics). Although the approach is primarily qualitative, a reasonably large number of illustrative examples and segregated exercises are included, wherever possible, to ensure that the students develop a taste of real rigour of physics.

## **Quantum Physics**

Engineering Physics-II: For JNTUK is designed to cater to the needs of the undergraduate engineering students of JNTU Kakinada. Written in a lucid style, this book assimilates the best principles of conceptual pedagogy, dealing at length with various topics such as wave optics, nuclear physics, quantum physics, solid state physics, lasers and fibre optics.

## **Soft Computing for Problem Solving**

Engineering Physics is designed to cater to the needs of first year undergraduate engineering students of Anna University. Written in a lucid style, this book assimilates the best practices of conceptual pedagogy, dealing at length with various topics such as Crystal Physics, Properties of matter, Thermal Physics, Quantum Physics, Fibre optics, Lasers, Acoustics, Ultrasonics.

## **Micro-Electronics and Telecommunication Engineering**

In its pursuit to bring about an awakening among students of nursing about human social behavior, this second edition of Sociology for Nurses continues to build on sociological theories that are of relevance to the nursing community. Conforming to the syllabus prescribed by the Indian Nursing Council and catering to the needs of second year B. Sc Nursing students, this book provides jargon-free explanation of even the most difficult concepts to the student's benefit.

## **The Physics of Microdroplets**

The Physics of Microdroplets gives the reader the theoretical and numerical tools to understand, explain, calculate, and predict the often nonintuitive observed behavior of droplets in microsystems. Microdrops and interfaces are now a common feature in most fluidic microsystems, from biology, to biotechnology, materials science, 3D-microelectronics, optofluidics, and mechatronics. On the other hand, the behavior of droplets and interfaces in today's microsystems is complicated and involves complex 3D geometrical considerations. From a numerical standpoint, the treatment of interfaces separating different immiscible phases is difficult. After a chapter dedicated to the general theory of wetting, this practical book successively details: The theory of 3D liquid interfaces The formulas for volume and surface of sessile and pancake droplets The behavior of sessile droplets The behavior of droplets between tapered plates and in wedges The behavior of droplets in microchannels The effect of capillarity with the analysis of capillary rise The onset of spontaneous capillary flow in open microfluidic systems The interaction between droplets, like engulfment The theory and application of electrowetting The state of the art for the approach of 3D-microelectronics using capillary alignment

## **Glacier Evolution in a Changing World**

This book disseminates the current knowledge of semiconductor physics and its applications across the scientific community. It is based on a biennial workshop that provides the participating research groups with a stimulating platform for interaction and collaboration with colleagues from the same scientific community. The book discusses the latest developments in the field of III-nitrides; materials & devices, compound semiconductors, VLSI technology, optoelectronics, sensors, photovoltaics, crystal growth, epitaxy and characterization, graphene and other 2D materials and organic semiconductors.

## **Nanomaterials and Devices**

This book is a collection of chapters reflecting the experiences and achievements of some of the Fellows of the Indian National Academy of Engineering (INAE). The book comprises essays that look at reminiscences, eureka moments, inspirations, challenges and opportunities in the journey of an engineering professional. The chapters look at the paths successful engineering professionals take towards self-realisation, the milestones they crossed, and the goals they reached. The book contains 38 chapters on diverse topics that truly reflect the way the meaningful mind of an engineer works.

## **Engineering Physics**

### **Emerging Physics**

This book presents selected papers from the 3rd International Conference on Micro-Electronics and Telecommunication Engineering, held at SRM Institute of Science and Technology, Ghaziabad, India, on 30-31 August 2019. It covers a wide variety of topics in micro-electronics and telecommunication engineering, including micro-electronic engineering, computational remote sensing, computer science and intelligent systems, signal and image processing, and information and communication technology.

### **Engineering Physics (Annual Pattern)**

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.

### **Engineering Physics: For PTU**

Physics I: For RTU is designed to cater to the needs of the first-year undergraduate engineering students of RTU. Written in a lucid style, this book assimilates the best principles of conceptual pedagogy, dealing at length with various topics such as

Interference, Polarization and Diffraction of Light, Quantum Mechanics and Special Theory of Relativity.

## **Engineering Physics I: For WBUT**

This book constitutes the refereed proceedings of the First International Conference on Computer Science, Engineering and Information Technology, CCSEIT 2011, held in Tirunelveli, India, in September 2011. The 73 revised full papers were carefully reviewed and selected from more than 400 initial submissions. The papers feature significant contributions to all major fields of the Computer Science and Information Technology in theoretical and practical aspects.

## **Engineering Physics - I: For Anna University**

Solid state physics forms an important part of the undergraduate syllabi of physics in most of the universities. The existing competing books by Indian authors have too complex technical language which makes them abstractive to Indian students who use English as their secondary language. Solid State Physics is written as per the core module syllabus of the major universities and targets undergraduate B.Sc students. The book uses lecture style in explaining the concepts which would facilitate easy understanding of the concepts. The topics have been dealt with precision and provide adequate knowledge of the subject.

## **Ferrites and Ferrates**

Microwave and Radar Engineering presents the essential features and focuses on the needs of students who take up the subject at undergraduate and postgraduate levels of electronics and communications engineering courses. Spread across 17 chapters, the book begins with a discussion of wave equations and builds upon the topics step by step with ample illustrations and examples that delineate the concepts to the student's benefit. The book will also come in handy for aspirants of competitive examinations.

## **Introduction to Modern Physics**

Volume I: Simple Harmonic Motion | Wave Motion| Interference | Diffraction | Polarization | Scalar And Vector Fields | Electromagnetism | Maxwell'S Equation| Spectroscopy | Matter Waves And Uncertainty Principle| Particle Properties Of Radiation | Quantum Mechanics|Volume II: Particle Accelerators | Radioactivity| Crystal Structure | Band Theory Of Solids | Metals, Insulators And Semiconductors | Super-Conductivity| Lasers | Fibre Optics

## **Binocular Vision and Ocular Motility**

Due to a huge concentration of electromagnetic fields and eddy currents, large power equipment and systems are prone to crushing forces, overheating, and overloading. Luckily, power failures due to disturbances like these can be predicted and/or prevented. Based on the success of internationally acclaimed computer programs, such as the authors' own RNM-3D, Engineering Electrodynamics: Electric

Machine, Transformer, and Power Equipment Design explains how to implement industry-proven modeling and design techniques to solve complex electromagnetic phenomena. Considering recent progress in magnetic and superconducting materials as well as modern methods of mechatronics and computer science, this theory- and application-driven book: Analyzes materials structure and 3D fields, taking into account magnetic and thermal nonlinearities Supplies necessary physical insight for the creation of electromagnetic and electromechanical high power equipment models Describes parameters for electromagnetic calculation of the structural parts of transformers, electric machines, apparatuses, and other electrical equipment Covers power frequency 50-60 Hz (worldwide and US) equipment applications Includes examples, case studies, and homework problems Engineering Electrodynamics: Electric Machine, Transformer, and Power Equipment Design provides engineers, students, and academia with a thorough understanding of the physics, principles, modeling, and design of contemporary industrial devices.

### **Solid State Physics**

Glaciers have always played an important role in human history, and currently, they are carefully observed as climate change sentinels. Glacier melt rate is increasing, and its mass balance is continuously negative. This issue deserves accurate and in-depth studies in order to, adequately, monitor its state. This circumstance in fact endangers the water supply, affecting human settlements but also creating new environments allowing the colonization by pioneer communities and the formation of new landscapes. This book is subdivided into two main sections in order to deal with the two topics of worldwide research on glaciers and ecology in glacial environments. In the first one "Glaciers in the World," several reviews and studies are collected. It is an overview of glaciers, their state, and research carried out in different continents and contexts. The second section "Glacial Ecosystems" focuses, on the other hand, on glacier environments and ecological researches.

### **Trends in Computer Science, Engineering and Information Technology**

This book discusses recent developments in and the latest research on mathematics, statistics and their applications. All contributing authors are eminent academics, scientists, researchers and scholars in their respective fields, hailing from around the world. The book presents roughly 60 unpublished, high-quality and peer-reviewed research papers that cover a broad range of areas including approximation theory, harmonic analysis, operator theory, fixed-point theory, functional differential equations, dynamical and control systems, complex analysis, special functions, function spaces, summability theory, Fourier and wavelet analysis, and numerical analysis - all of which are topics of great interest to the research community - while further papers highlight important applications of mathematical analysis in science, engineering and related areas. This conference aims at bringing together experts and young researchers in mathematics from all over the world to discuss the latest advances in mathematical analysis, and at promoting the exchange of ideas in various applications of mathematics in engineering, physics and biology. This conference encourages international

collaboration and provides young researchers an opportunity to learn about the current state of the research in their respective fields.

## **Engineering Physics**

This volume contains 74 papers presented at SCI 2016: First International Conference on Smart Computing and Informatics. The conference was held during 3-4 March 2017, Visakhapatnam, India and organized communally by ANITS, Visakhapatnam and supported technically by CSI Division V – Education and Research and PRF, Vizag. This volume contains papers mainly focused on applications of advanced intelligent techniques to video processing, medical imaging, machine learning, sensor technologies, and network security.

## **A Text Book of Applied Physics**

### **Physics I: For RTU**

Engineering Physics: For PTU is designed to cater to the needs of the first-year undergraduate engineering students of PTU. Written in a lucid style, this book assimilates the best principles of conceptual pedagogy, dealing at length with various topics such as lasers, fibre optics, quantum theory and theory of relativity.

## **Concepts of Modern Engineering Physics**

This book features research work presented at the 2nd International Conference on Data Engineering and Communication Technology (ICDECT) held on December 15–16, 2017 at Symbiosis International University, Pune, Maharashtra, India. It discusses advanced, multi-disciplinary research into smart computing, information systems and electronic systems, focusing on innovation paradigms in system knowledge, intelligence and sustainability that can be applied to provide feasible solutions to varied problems in society, the environment and industry. It also addresses the deployment of emerging computational and knowledge transfer approaches, optimizing solutions in a variety of disciplines of computer science and electronics engineering.

## **Mathematics for Degree Students (For B.Sc. First Year)**

Engineering Physics is designed to cater to the needs of first year undergraduate engineering students. Written in a lucid style, this book assimilates the best practices of conceptual pedagogy, dealing at length with various topics such as crystallography, principles of quantum mechanics, free electron theory of metals, dielectric and magnetic properties, semiconductors, nanotechnology, etc.

## **A Textbook of Engineering Physics (Orissa)**

This two-volume book presents the outcomes of the 8th International Conference on Soft Computing for Problem Solving, SocProS 2018. This conference was a joint technical collaboration between the Soft Computing Research Society, Liverpool

Hope University (UK), and Vellore Institute of Technology (India), and brought together researchers, engineers and practitioners to discuss thought-provoking developments and challenges in order to select potential future directions. The book highlights the latest advances and innovations in the interdisciplinary areas of soft computing, including original research papers on algorithms (artificial immune systems, artificial neural networks, genetic algorithms, genetic programming, and particle swarm optimization) and applications (control systems, data mining and clustering, finance, weather forecasting, game theory, business and forecasting applications). It offers a valuable resource for both young and experienced researchers dealing with complex and intricate real-world problems that are difficult to solve using traditional methods.

## **Engineering Electrodynamics**

Endoscopy is a fast moving field, and new techniques are continuously emerging. In recent decades, endoscopy has evolved and branched out from a diagnostic modality to enhanced video and computer assisting imaging with impressive interventional capabilities. The modern endoscopy has seen advances not only in types of endoscopes available, but also in types of interventions amenable to the endoscopic approach. To date, there are a lot more developments that are being trialed. Modern endoscopic equipment provides physicians with the benefit of many technical advances. Endoscopy is an effective and safe procedure even in special populations including pediatric patients and renal transplant patients. It serves as the tool for diagnosis and therapeutic interventions of many organs including gastrointestinal tract, head and neck, urinary tract and others.

## **Engineering Physics - II: For JNTUK**

Engineering Chemistry is an interdisciplinary subject offered to undergraduate Engineering students. This book introduces the fundamental concepts in a simple and concise manner and highlights the role of chemistry in the field of engineering. It includes a large number of end-of-chapter exercises that test the student's understanding besides being useful from the examination point of view.

## **Soft Computing for Problem Solving**

Engineering Physics I: For Anna University is designed to cater to the needs of the first-year undergraduate engineering students of Anna University. Written in a lucid style, this book assimilates the best principles of conceptual pedagogy, dealing at length with various topics such as Ultrasonics, Lasers, Fibre Optics, Quantum Physics and Crystal Physics.

## **Smart Computing and Informatics**

Quantum physics explores the behavior of matter and energy at the molecular, atomic, nuclear, and even smaller levels. Idiot's Guides: Quantum Physics makes this very complex topic easy to understand. It skips the complicated math and dives right into all the concepts, paradoxes, thought experiments, and implications that make quantum mechanics so fascinating to armchair science buffs. Topics

covered include: - Quantum vs. classical physics - A look at the smallest known particles - How the tiniest particles behave both as particles and waves - The famous double-slit experiment - Quantum wave function - The Heisenberg Uncertainty Principle - How particles can be in multiple places at once - Quantum entanglement - The Schrodinger's cat thought experiment - Competing interpretations of quantum physics - The Copenhagen interpretation and need for an observer - The role of consciousness in quantum theory - The Many Worlds interpretation and parallel universes - Building a quantum computer - Quantum gravity and the search for a theory of everything

## **The Mind of an Engineer:**

Algebra >Functions And Relations >Congruence Of Integers >Some Special Types Of Matrices >Elementary Operations And Inverse Of A Matrix >Linear Dependence Of Vectors >Rank Of A Matrix >Linear Equations >Characteristic Roots Of Vectors >Theory Of Equations

## **Physics I: For BPUT**

## **Microwave and Radar Engineering**

## **The Physics of Semiconductor Devices**

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 sullabi of P.T.U. as it being a new university,the book had to be revised and some of the chapters become 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.

## **Mathematical Analysis and Its Applications**

Applied Physics is designed to cater to the needs of first year undergraduate engineering students of Jawaharlal Nehru Technical University (J.N.T.U). Written in a lucid style, this book assimilates the best practices of conceptual pedagogy, dealing at length with various topics such as crystallography, principles of quantum mechanics, free electron theory of metals, dielectric and magnetic properties, semi conductors, superconductivity, lasers, holography, and nanotechnology.

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