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# Read PDF Engineering Electronics And Electrical Of Fundamentals Ghosh Smarajit

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## **FUNDAMENTALS OF ELECTRICAL AND ELECTRONICS ENGINEERING**

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**PHI Learning Pvt. Ltd.** This second edition, extensively revised and updated, continues to offer sound, practically-oriented, modularized coverage of the full spectrum of fundamental topics in each of the several major areas of electrical and electronics engineering. Circuit Theory Electrical Measurements and Measuring Instruments Electric Machines Electric Power Systems Control Systems Signals and Systems Analog and Digital Electronics including introduction to microcomputers The book conforms to the syllabi of Basic Electrical and Electronic Sciences prescribed for the first-year engineering students. It is also an ideal text for students pursuing diploma programmes in Electrical Engineering. Written in a straightforward style with a strong emphasis on primary principles, the main objective of the book is to bring an understanding of the subject within the reach of all engineering students. What is New to This Edition : Fundamentals of Control Systems (Chapter 24) Fundamentals of Signals and Systems (Chapter 25) Introduction to Microcomputers (Chapter 32) Substantial revisions to chapters on Transformer, Semiconductor Diodes and Transistors,

and Field Effect Transistors Laplace Transform (Appendix B) Applications of Laplace Transform (Appendix C) PSpice (Appendix E) key Features : Numerous solved examples for sound conceptual understanding End-of-chapter review questions and numerical problems for rigorous practice by students Answers to all end-of-chapter numerical problems An objective type Questions Bank with answers to hone the technical skills of students for viva voce and preparation for competitive examinations.

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## **BASIC ELECTRICAL ENGINEERING**

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**S. Chand Publishing** This book is designed based on revised syllabus of Gujarat Technological University, Gujarat (AICTE model curriculum) for under-graduate (B.Tech/BE) students of all branches, those who study Basic Electrical Engineering as one of the subject in their curriculum. The primary goal of this book is to establish a firm understanding of the basic laws of Electric Circuits, Network Theorems, Resonance, Three-phase circuits, Transformers, Electrical Machines and Electrical Installation.

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## **FUNDAMENTALS OF ELECTRICAL ENGINEERING**

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**McGraw-Hill Higher Education** Rizzoni's Fundamentals of Electrical Engineering provides a solid overview of the electrical engineering discipline that is especially geared toward the many non-electrical engineering students who take this course. The book was developed to fit the growing trend of the Intro to EE course morphing into a briefer, less comprehensive course. The hallmark feature of this text is its liberal use of practical applications to illustrate important principles. The applications come from every field of engineering and feature exciting technologies. The appeal to non-engineering students are the special features such as Focus on Measurement sections, Focus on Methodology sections, and Make the Connections sidebars.

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## **POLYIMIDE FOR ELECTRONIC AND ELECTRICAL ENGINEERING APPLICATIONS**

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**BoD - Books on Demand** Polyimide is one of the most efficient polymers in many industries for its excellent thermal, electrical, mechanical, and chemical properties as well as its easy processability. In the electronic and electrical engineering industries, polyimide has widely been used for decades thanks to its very good dielectric and insulating properties at the high electric field and at high temperatures of around 200°C in long term-service. Moreover, polyimide appears essential for the development of new electronic devices where further considerations such as high power density, integration, higher temperature, thermal conduction management, energy storage, reliability, or flexibility are required in order to sustain the growing global electrical energy consumption. This book gathers interdisciplinary chapters on polyimide in various topics through state-of-the-art and original ongoing research.

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## INTRODUCTION TO CONTROL SYSTEMS

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**PHI Learning Pvt. Ltd.** The Second Edition of this text, which is largely revised and updated version of Introduction to Linear and Digital Control Systems by the same author, continues to build on the fundamental concepts covered earlier. The text discusses the important concepts of control systems, transfer functions and system components. It describes system stability, employing the Hurwitz-Routh stability criterion, root locus technique, Bode plot and polar and Nyquist plots. In addition, this student-friendly book features in-depth coverage of controllers, compensators, state-space modelling, and discrete time systems. The book is designed for undergraduate courses in control systems for electrical engineering, electronics and instrumentation, electronics and communication, instrumentation and control, and computer science and engineering courses. New to This Edition • New chapter on Relevant Mathematics. • Incorporates many more worked-out examples mostly taken from the GATE exams on Instrumentation Engineering over the last several years. • Text refined, wherever felt necessary, to make it more student friendly.

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## SIGNALS AND SYSTEMS

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**Pearson Education India** This Book Provides Comprehensive Coverage Of All Topics Within The Signals And Systems Paper Offered To Undergraduates Of Electrical And Electronics Engineering.

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## INNOVATIONS IN ELECTRICAL AND ELECTRONIC ENGINEERING

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### PROCEEDINGS OF ICEEE 2021

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**Springer Nature** This book presents selected papers from the 2021 International Conference on Electrical and Electronics Engineering (ICEEE 2020), held on January 2-3, 2021. The book focuses on the current developments in various fields of electrical and electronics engineering, such as power generation, transmission and distribution; renewable energy sources and technologies; power electronics and applications; robotics; artificial intelligence and IoT; control, automation and instrumentation; electronics devices, circuits and systems; wireless and optical communication; RF and microwaves; VLSI; and signal processing. The book is a valuable resource for academics and industry professionals alike.

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## ELECTRICAL AND ELECTRONICS ENGINEERING MATERIALS

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**PHI Learning Pvt. Ltd.** The book has been written in a lucid and systematic manner with necessary mathematical derivations, illustrations, examples and practise exercises providing detailed description of the materials used in electrical and electronics

engineering and their applications. Beginning with the atomic structure of the materials, the book deals with the behaviour of dielectrics and their properties under the influence of DC and AC fields. It covers the magnetic properties of materials including soft and hard magnetic materials and their applications. The text discusses fabrication techniques and the basic physics involved in the operation of the semiconductors, junction transistors and rectifiers. It includes detailed description of optical properties of the materials (optical materials), photovoltaic materials and the materials used in lasers and optical fibres. It also incorporates the latest information on the materials used for the direct energy conversion and fuel cell technologies. This book is primarily intended for undergraduate students of electrical engineering and electrical and electronics engineering. Key features

- Contains sufficient numbers of solved numerical examples.
- Includes a set of review questions and a list of references at the end of each chapter.
- Provides a set of numerical problems in some of the chapters, wherever required.
- Contains more than 150 diagrammatic illustrations for easy understanding of the concepts.

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## **ANNUAL REPORT**

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## **NETWORK THEORY**

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## **ANALYSIS AND SYNTHESIS**

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**PHI Learning Pvt. Ltd.** This book offers an excellent and practically oriented introduction to the basic concepts of modern circuit theory. It builds a thorough and rigorous understanding of the analysis techniques of electric networks, and also explains the essential procedures involved in the synthesis of passive networks. Written specifically to meet the needs of undergraduate students of electrical and electronics engineering, electronics and communication engineering, instrumentation and control engineering, and computer science and engineering, the book provides modularized coverage of the full spectrum of network theory suitable for a one-semester course. A balanced emphasis on conceptual understanding and problem-solving helps students master the basic principles and properties that govern circuit behaviour. A large number of solved examples show students the step-by-step processes for applying the techniques presented in the text. A variety of exercises with answers at the chapter ends allow students to practice the solution methods. Besides students pursuing courses in engineering, the book is also suitable for self-study by those preparing for AMIE and competitive examinations. An objective-type question bank at the end of book is designed to see how well the students have mastered the material presented in the text.

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## **BASIC ELECTRONICS**

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### **DEVICES, CIRCUITS AND IT FUNDAMENTALS**

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**PHI Learning Pvt. Ltd.** This comprehensive and well-organized text discusses the fundamentals of electronic communication, such as devices and analog and digital circuits, which are so essential for an understanding of digital electronics. Professor Santiram Kal, with his wealth of knowledge and his years of teaching experience, compresses, within the covers of a single volume, all the aspects of electronics - both analog and digital - encompassing devices such as microprocessors, microcontrollers, fibre optics, and photonics. In so doing, he has struck a fine balance between analog and digital electronics. A distinguishing feature of the book is that it gives case studies in modern applications of electronics, including information technology, that is, DBMS, multimedia, computer networks, Internet, and optical communication. Worked-out examples, interspersed throughout the text, and the large number of diagrams should enable the student to have a better grasp of the subject. Besides, exercises, given at the end of each chapter, will sharpen the student's mind in self-study. These student-friendly features are intended to enhance the value of the text and make it both useful and interesting.

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### **POWER QUALITY ENHANCEMENT USING CUSTOM POWER DEVICES**

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**Springer Science & Business Media** Power Quality Enhancement Using Custom Power Devices considers the structure, control and performance of series compensating DVR, the shunt DSTATCOM and the shunt with series UPQC for power quality improvement in electricity distribution. Also addressed are other power electronic devices for improving power quality in Solid State Transfer Switches and Fault Current Limiters. Applications for these technologies as they relate to compensating busses supplied by a weak line and for distributed generation connections in rural networks, are included. In depth treatment of inverters to achieve voltage support, voltage balancing, harmonic suppression and transient suppression in realistic network environments are also covered. New material on the potential for shunt and series compensation which emphasizes the importance of control design has been introduced.

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## **INNOVATIONS IN ELECTRICAL AND ELECTRONICS ENGINEERING**

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### **PROCEEDINGS OF THE 4TH ICIEEE 2019**

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**Springer Nature** This book is a collection of selected research papers presented at the International Conference on Innovations in Electrical and Electronics Engineering (ICIEEE 2019), which was organized by the Guru Nanak Institutions, Ibrahimpatnam, Hyderabad,

Telangana, India, on July 26–27, 2019. The book highlights the latest developments in electrical and electronics engineering, especially in the areas of power systems, power electronics, control systems, electrical machinery, and renewable energy. The solutions discussed here will encourage and inspire researchers, industry professionals, and policymakers to put these methods into practice.

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## **BASIC ELECTRICAL ENGINEERING**

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**S. Chand Publishing** For close to 30 years, "Basic Electrical Engineering" has been the go-to text for students of Electrical Engineering. Emphasis on concepts and clear mathematical derivations, simple language coupled with systematic development of the subject aided by illustrations makes this text a fundamental read on the subject. Divided into 17 chapters, the book covers all the major topics such as DC Circuits, Units of Work, Power and Energy, Magnetic Circuits, fundamentals of AC Circuits and Electrical Instruments and Electrical Measurements in a straightforward manner for students to understand.

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## **BASIC ELECTRICAL AND ELECTRONICS ENGINEERING:**

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**Pearson Education India** Basic Electrical and Electronics Engineering provides an overview of the basics of electrical and electronic engineering that are required at the undergraduate level. The book allows students outside electrical and electronics engineering to easily

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## **FUNDAMENTALS OF ELECTRICAL ENGINEERING AND ELECTRONICS**

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## **IN INTERNATIONAL SYSTEM SI OF UNITS**

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## **INTERNET OF THINGS AND SECURE SMART ENVIRONMENTS**

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## **SUCSESSES AND PITFALLS**

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**Chapman & Hall/CRC Big Data Series** This book will provide a comprehensive overview of recent research and open problems in the area of IoT research. It will cover state of the art problems, present solutions, and open research directions and will be targeted to researchers and scholars in both industry and academia.

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## MICROELECTRONICS AND SIGNAL PROCESSING

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### ADVANCED CONCEPTS AND APPLICATIONS

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**CRC Press** This book is about general and specific areas involved in electrical and electronics engineering which comprises broad subjects such as MEMS and Microfluidics, VLSI, Communication and Signal Processing. This book discusses the recent trends in various aspects of research areas for diverse applications like biomedical, biochemical, and power source systems. It also discusses modelling, simulating, and prototyping of the different electronic-based systems for carrying out varied applications. With this book, the readers will understand the multiplatform fundamentals guiding electrical and biomedical devices that form the current features such as automation, integration, and miniaturization of a particular device. This book showcases a unique platform as it covers the different areas of research in this trending era as a benchmark. This book is a link between the electronics and cutting-edge technologies that are being used for numerous applications representing the physical and virtual developments of electronic devices. Therefore, this book will mostly uphold the innovation and originality involved in the development of miniaturized devices, and proposing new methods, emphasizing with different areas of electrical and electronics engineering. This book entitles various approaches involved in electrical, biomedical, and electronics for modern distribution of research strategies and covers the state-of-art research themes. These include signal sensing, signal simulators, 3D printing technology, power systems, data acquisition systems, instrumentation, electrochemical sensing, electromechanical measurements, and signal analysis. The book will provide the academic perspectives of the cutting-edge R&D outputs from the faculty members and Ph.D. students, amalgamating the newer cross-dimensional areas, such as cyber-physical systems, nanoelectronics, smart-sensors, point-of-need devices, etc. The book will become a benchmark to the readers to understand the academic aspect of the contemporary work and the way forward on how this will lead to help the society-at-large.

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### INDIAN BOOKS IN PRINT

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### CONJUGATED POLYMER NANOSTRUCTURES FOR ENERGY CONVERSION AND STORAGE APPLICATIONS

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**John Wiley & Sons** A timely overview of fundamental and advanced topics of conjugated polymer nanostructures Conjugated Polymer Nanostructures for Energy Conversion and Storage Applications is a comprehensive reference on conjugated polymers for energy applications. Distinguished academic and editor Srabanti Ghosh offers readers a broad overview of the synthesis, characterization, and energy-related applications of nanostructures based on conjugated polymers. The book includes novel

approaches and presents an interdisciplinary perspective rooted in the interfacing of polymer and synthetic chemistry, materials science, organic chemistry, and analytical chemistry. This book provides complete descriptions of conjugated polymer nanostructures and polymer-based hybrid materials for energy conversion, water splitting, and the degradation of organic pollutants. Photovoltaics, solar cells, and energy storage devices such as supercapacitors, lithium ion battery electrodes, and their associated technologies are discussed, as well. *Conjugated Polymer Nanostructures for Energy Conversion and Storage Applications* covers both the fundamental topics and the most recent advances in this rapidly developing area, including: The design and characterization of conjugated polymer nanostructures, including the template-free and chemical synthesis of polymer nanostructures Conjugated polymer nanostructures for solar energy conversion and environmental protection, including the use of conjugated polymer-based nanocomposites as photocatalysts Conjugated polymer nanostructures for energy storage, including the use of nanocomposites as electrode materials The presentation of different and novel methods of utilizing conjugated polymer nanostructures for energy applications Perfect for materials scientists, polymer chemists, and physical chemists, *Conjugated Polymer Nanostructures for Energy Conversion and Storage Applications* also belongs on the bookshelves of organic chemists and any other practicing researchers, academics, or professionals whose work touches on these highly versatile and useful structures.

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## FUNDAMENTALS OF LTE

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**Pearson Education** The Definitive Guide to LTE Technology Long-Term Evolution (LTE) is the next step in the GSM evolutionary path beyond 3G technology, and it is strongly positioned to be the dominant global standard for 4G cellular networks. LTE also represents the first generation of cellular networks to be based on a flat IP architecture and is designed to seamlessly support a variety of different services, such as broadband data, voice, and multicast video. Its design incorporates many of the key innovations of digital communication, such as MIMO (multiple input multiple output) and OFDMA (orthogonal frequency division multiple access), that mandate new skills to plan, build, and deploy an LTE network. In *Fundamentals of LTE*, four leading experts from academia and industry explain the technical foundations of LTE in a tutorial style—providing a comprehensive overview of the standards. Following the same approach that made their recent *Fundamentals of WiMAX* successful, the authors offer a complete framework for understanding and evaluating LTE. Topics include Cellular wireless history and evolution: Technical advances, market drivers, and foundational networking and communications technologies Multicarrier modulation theory and practice: OFDM system design, peak-to-average power ratios, and SC-FDE solutions Frequency Domain Multiple Access: OFDMA downlinks, SC-FDMA uplinks, resource allocation, and LTE-specific implementation Multiple antenna techniques and tradeoffs: spatial diversity, interference cancellation, spatial multiplexing, and multiuser/networked MIMO LTE standard overview: air interface protocol, channel structure, and physical layers Downlink and uplink transport channel processing: channel encoding, modulation mapping, Hybrid ARQ, multi-antenna

processing, and more Physical/MAC layer procedures and scheduling: channel-aware scheduling, closed/open-loop multi-antenna processing, and more Packet flow, radio resource, and mobility management: RLC, PDCP, RRM, and LTE radio access network mobility/handoff procedures

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## DEEP LEARNING FOR INTERNET OF THINGS INFRASTRUCTURE

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**CRC Press** This book promotes and facilitates exchanges of research knowledge and findings across different disciplines on the design and investigation of deep learning (DL)-based data analytics of IoT (Internet of Things) infrastructures. Deep Learning for Internet of Things Infrastructure addresses emerging trends and issues on IoT systems and services across various application domains. The book investigates the challenges posed by the implementation of deep learning on IoT networking models and services. It provides fundamental theory, model, and methodology in interpreting, aggregating, processing, and analyzing data for intelligent DL-enabled IoT. The book also explores new functions and technologies to provide adaptive services and intelligent applications for different end users. FEATURES Promotes and facilitates exchanges of research knowledge and findings across different disciplines on the design and investigation of DL-based data analytics of IoT infrastructures Addresses emerging trends and issues on IoT systems and services across various application domains Investigates the challenges posed by the implementation of deep learning on IoT networking models and services Provides fundamental theory, model, and methodology in interpreting, aggregating, processing, and analyzing data for intelligent DL-enabled IoT Explores new functions and technologies to provide adaptive services and intelligent applications for different end users Uttam Ghosh is an Assistant Professor in the Department of Electrical Engineering and Computer Science, Vanderbilt University, Nashville, Tennessee, USA. Mamoun Alazab is an Associate Professor in the College of Engineering, IT and Environment at Charles Darwin University, Australia. Ali Kashif Bashir is a Senior Lecturer/Associate Professor and Program Leader of BSc (H) Computer Forensics and Security at the Department of Computing and Mathematics, Manchester Metropolitan University, United Kingdom. Al-Sakib Khan Pathan is an Adjunct Professor of Computer Science and Engineering at the Independent University, Bangladesh.

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## FUNDAMENTALS OF ELECTRICAL ENGINEERING

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**Oxford Series in Electrical and Computer Engineering** Divided into four parts: circuits, electronics, digital systems, and electromagnetics, this text provides an understanding of the fundamental principles on which modern electrical engineering is based. It is suitable for a variety of electrical engineering courses, and can also be used as a text for an introduction to electrical engineering.

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## APPLICATIONS OF ARTIFICIAL INTELLIGENCE IN ELECTRICAL ENGINEERING

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**IGI Global** Artificial intelligence is increasingly finding its way into industrial and manufacturing contexts. The prevalence of AI in industry from stock market trading to manufacturing makes it easy to forget how complex artificial intelligence has become. Engineering provides various current and prospective applications of these new and complex artificial intelligence technologies. Applications of Artificial Intelligence in Electrical Engineering is a critical research book that examines the advancing developments in artificial intelligence with a focus on theory and research and their implications. Highlighting a wide range of topics such as evolutionary computing, image processing, and swarm intelligence, this book is essential for engineers, manufacturers, technology developers, IT specialists, managers, academicians, researchers, computer scientists, and students.

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## ELECTRICAL MACHINES

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**Pearson Education India** This fully revised second edition of Electrical Machines is systematically organized as per the logical flow of the topics included in electrical machines courses in universities across India. It is written as a text-cum-guide so that the underlying principles can be readily understood, and is useful to both the novice as well as advanced readers. Emphasis has been laid on physical understanding and pedagogical aspects of the subject. In addition to conventional machines, the book's extensive coverage also includes rigorous treatment of transformers (current, potential and welding transformers), special machines, AC/DC servomotors, linear induction motors, permanent magnet DC motors and application of thyristors in rotating machines.

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## DIGITAL ELECTRONICS

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### PRINCIPLES, DEVICES AND APPLICATIONS

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**John Wiley & Sons** The fundamentals and implementation of digital electronics are essential to understanding the design and working of consumer/industrial electronics, communications, embedded systems, computers, security and military equipment. Devices used in applications such as these are constantly decreasing in size and employing more complex technology. It is therefore essential for engineers and students to understand the fundamentals, implementation and application principles of digital electronics, devices and integrated circuits. This is so that they can use the most appropriate and effective technique to suit their technical need. This book provides practical and comprehensive coverage of digital electronics, bringing together information on fundamental theory, operational aspects and potential applications. With worked problems, examples, and review questions for each chapter, Digital Electronics includes: information on number systems, binary codes, digital arithmetic, logic gates and families, and Boolean algebra;

an in-depth look at multiplexers, de-multiplexers, devices for arithmetic operations, flip-flops and related devices, counters and registers, and data conversion circuits; up-to-date coverage of recent application fields, such as programmable logic devices, microprocessors, microcontrollers, digital troubleshooting and digital instrumentation. A comprehensive, must-read book on digital electronics for senior undergraduate and graduate students of electrical, electronics and computer engineering, and a valuable reference book for professionals and researchers.

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### **APPLICATIONS OF FUZZY LOGIC IN PLANNING AND OPERATION OF SMART GRIDS**

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**Springer Nature** Fuzzy logic has vast applications in power and electrical engineering. This collection is the first book to cover research advancements in the application of fuzzy logic in the planning and operation of smart grids. A global group of researchers and scholars present innovative approaches to fuzzy-based smart grid planning and operation, cover theoretical concepts and experimental results of the application of fuzzy-based techniques, and define and apply these techniques to deal with smart grid issues. Applications of Fuzzy Logic in Planning and Operation of Smart Grids is an ideal resource for researchers on the theory and application of fuzzy logic, practicing engineers working in electrical power engineering and power system planning, and post-graduates and students in advanced graduate-level courses.

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### **CONTROL OF POWER ELECTRONIC CONVERTERS WITH MICROGRID APPLICATIONS**

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**John Wiley & Sons** Control of Power Electronic Converters with Microgrid Applications Discover a systematic approach to design controllers for power electronic converters and circuits In Control of Power Electronic Converters with Microgrid Applications, distinguished academics and authors Drs. Arindam Ghosh and Firuz Zare deliver a systematic exploration of design controllers for power electronic converters and circuits. The book offers readers the knowledge necessary to effectively design intelligent control mechanisms. It covers the theoretical requirements, like advanced control theories and the analysis and conditioning of AC signals as well as controller development and control. The authors provide readers with discussions of custom power devices, as well as both DC and AC microgrids. They also discuss the harmonic issues that are crucial in this area, as well as harmonic standardization. The book addresses a widespread lack of understanding in the control philosophy that can lead to a stable operation of converters, with a focus on the application of power electronics to power distribution systems. Readers will also benefit from the inclusion of: A thorough introduction to controller design for different power electronic converter configurations in microgrid systems (both AC and DC) A presentation of emerging technology in power distribution systems to integrate different renewable energy sources Chapters on DC-DC converters and DC microgrids, as well as DC-AC converter modulation techniques and custom power devices, predictive control,

and AC microgrids Perfect for manufacturers of power converters, microgrid developers and installers, as well as consultants who work in this area, Control of Power Electronic Converters with Microgrid Applications is also an indispensable reference for graduate students, senior undergraduate students, and researchers seeking a one-stop resource for the design of controllers for power electronic converters and circuits.

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## **DYNAMIC SYSTEMS FOR EVERYONE**

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### **UNDERSTANDING HOW OUR WORLD WORKS**

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**Springer** Systems are everywhere and we are surrounded by them. We are a complex amalgam of systems that enable us to interact with an endless array of external systems in our daily lives. They are electrical, mechanical, social, biological, and many other types that control our environment and our well-being. By appreciating how these systems function, will broaden our understanding of how our world works. Readers from a variety of disciplines will benefit from the knowledge of system behavior they will gain from this book and will be able to apply those principles in various contexts. The treatment of the subject is non-mathematical, and the book considers some of the latest concepts in the systems discipline, such as agent based systems, optimization, and discrete events and procedures. The diverse range of examples provided in this book, will allow readers to: Apply system knowledge at work and in daily life without deep mathematical knowledge; Build models and simulate system behaviors on a personal computer; Optimize systems in many different ways; Reduce or eliminate unintended consequences; Develop a holistic world view . This book will enable readers to not only better interact with the systems in their professional and daily lives, but also allow them to develop and evaluate them for their effectiveness in achieving their designed purpose. Comments from Reviewers: “This is a marvelously well written introduction to Systems Thinking and System Dynamics - I like it because it introduces Systems Thinking with meaningful examples, which everyone should be able to readily connect” - Gene Bellinger, Organizational theorist, systems thinker, and consultant, Director Systems Thinking World “Excellent book ...very well written. Mr. Ghosh's world view of system thinking is truly unique” - Peter A. Rizzi, Professor Emeritus, University of Massachusetts Dartmouth “A thorough reading of the book provides an interesting way to view many problems in our society” -Bradford T. Stokes, Poppleton Chair and Professor Emeritus, The Ohio State University College of Medicine “This is a very good and very readable book that is a must read for any person involved in systems theory in any way - which may actually include just about everyone” - Peter G. Martin, Vice President Business Value Consulting, Schneider Electric

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## **FOUNDATION OF DIGITAL ELECTRONICS AND LOGIC DESIGN**

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**CRC Press** This book focuses on the basic principles of digital electronics and logic design. It is designed as a textbook for

undergraduate students of electronics, electrical engineering, computer science, physics, and information technology. The text covers the syllabi of several Indian and foreign universities. It depicts the comprehensive resources on the recent ideas in the area of digital electronics explored by leading experts from both industry and academia. A good number of diagrams are provided to illustrate the concepts related to digital electronics so that students can easily comprehend the subject. Solved examples within the text explain the concepts discussed and exercises are provided at the end of each chapter.

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## **CONTROL SYSTEMS: THEORY AND APPLICATIONS**

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**Pearson Education India** Control Systems: Theory and Applications contains a comprehensive coverage of the subject ranging from conventional control to modern control including non-linear control, digital control systems and applications of fuzzy logic. Emphasis has been laid on the pedagogical aspects of the subject.

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## **ELECTROMAGNETIC INTERFERENCE ISSUES IN POWER ELECTRONICS AND POWER SYSTEMS**

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**Bentham Science Publishers** This E-Book focuses on conducted and radiated emission noise generated by different power converters such as Switch Mode power Supplies and DC-AC Inverters. EMI filter design and different approaches to predict common mode and differential mode noise are

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## **INTRODUCTION TO MEASUREMENTS AND INSTRUMENTATION**

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**PHI Learning Pvt. Ltd.** The fourth edition of this highly readable and well-received book presents the subject of measurement and instrumentation systems as an integrated and coherent text suitable for a one-semester course for undergraduate students of Instrumentation Engineering, as well as for instrumentation course/paper for Electrical/Electronics disciplines. Modern scientific world requires an increasing number of complex measurements and instruments. The subject matter of this well-planned text is designed to ensure that the students gain a thorough understanding of the concepts and principles of measurement of physical quantities and the related transducers and instruments. This edition retains all the features of its previous editions viz. plenty of worked-out examples, review questions culled from examination papers of various universities for practice and the solutions to numerical problems and other additional information in appendices. **NEW TO THIS EDITION** Besides the inclusion of a new chapter on Hazardous Areas and Instrumentation(Chapter 15), various new sections have been added and existing sections modified in the following chapters: Chapter 3 Linearisation and Spline interpolation Chapter 5 Classifications of transducers, Hall effect, Piezoresistivity, Surface acoustic waves, Optical effects (This chapter has been thoroughly modified) Chapter 6 Proximity sensors Chapter 8 Hall effect and Saw transducers

Chapter 9 Proving ring, Prony brake, Industrial weighing systems, Tachometers Chapter 10 ITS-90, SAW thermometer Chapter 12 Glass gauge, Level switches, Zero suppression and Zero elevation, Level switches Chapter 13 The section on ISFET has been modified substantially

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## **OPTICAL ENGINEERING**

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

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## **ELECTRONICS FUNDAMENTALS AND APPLICATIONS**

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**New Age International**

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## **ELECTRONIC DEVICES, CIRCUITS, AND SYSTEMS FOR BIOMEDICAL APPLICATIONS**

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### **CHALLENGES AND INTELLIGENT APPROACH**

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**Academic Press** Electronic Devices, Circuits, and Systems for Biomedical Applications: Challenges and Intelligent Approaches explains the latest information on the design of new technological solutions for low-power, high-speed efficient biomedical devices, circuits and systems. The book outlines new methods to enhance system performance, provides key parameters to explore the electronic devices and circuit biomedical applications, and discusses innovative materials that improve device performance, even for those with smaller dimensions and lower costs. This book is ideal for graduate students in biomedical engineering and medical informatics, biomedical engineers, medical device designers, and researchers in signal processing. Presents major design challenges and research potential in biomedical systems Walks readers through essential concepts in advanced biomedical system design Focuses on healthcare system design for low power-efficient and highly-secured biomedical electronics

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## **INTRODUCTION TO NANO**

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### **BASICS TO NANOSCIENCE AND NANOTECHNOLOGY**

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**Springer** This book covers the basics of nanotechnology and provides a solid understanding of the subject. Starting from a brush-up of the basic quantum mechanics and materials science, the book helps to gradually build up understanding of the various effects of

quantum confinement, optical-electronic properties of nanoparticles and major nanomaterials. The book covers the various physical, chemical and hybrid methods of nanomaterial synthesis and nanofabrication as well as advanced characterization techniques. It includes chapters on the various applications of nanoscience and nanotechnology. It is written in a simple form, making it useful for students of physical and material sciences.

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## **ARTIFICIAL INTELLIGENCE FOR FUTURE GENERATION ROBOTICS**

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**Elsevier** Artificial Intelligence for Future Generation Robotics offers a vision for potential future robotics applications for AI technologies. Each chapter includes theory and mathematics to stimulate novel research directions based on the state-of-the-art in AI and smart robotics. Organized by application into ten chapters, this book offers a practical tool for researchers and engineers looking for new avenues and use-cases that combine AI with smart robotics. As we witness exponential growth in automation and the rapid advancement of underpinning technologies, such as ubiquitous computing, sensing, intelligent data processing, mobile computing and context aware applications, this book is an ideal resource for future innovation. Brings AI and smart robotics into imaginative, technically-informed dialogue Integrates fundamentals with real-world applications Presents potential applications for AI in smart robotics by use-case Gives detailed theory and mathematical calculations for each application Stimulates new thinking and research in applying AI to robotics

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## **FUNDAMENTALS OF ELECTRICAL ENGINEERING**

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**PHI Learning Pvt. Ltd.** This comprehensive book, in its third edition, continues to provide an in-depth analysis on the fundamental principles of electrical engineering. The exposition of these principles is fully reinforced by many practical problems that illustrate the concepts discussed. Beginning with a precise and quantitative detailing of the basics of electrical engineering, the text moves on to explain the fundamentals of circuit theory, electrostatic and electromagnetism and further details on the concept of electromechanical energy conversion. The book provides an elaborate and systematic analysis of the working principle, applications and construction of each electrical machine. In addition to circuit responses under steady state conditions, the book contains the chapters on dynamic responses of networks and analysis of a three-phase circuit. In this third edition, two chapters on Electrical Power System and Domestic Lighting have been added to fulfil the syllabus requirement of various universities. The chapters discuss different methods of generating electrical power, economic consideration and tariff of power system, illumination, light sources used in lighting systems, conductor size and insulation, lighting accessories used in wiring systems, fuses and MCBs, meter board, main switch and distribution board, earthing methods, types of wiring, wiring system for domestic use and cost estimation of wiring system. Designed as a text for

the undergraduate students of almost all branches of engineering, the book will also be useful to the practising engineers as reference. Key Features • Discusses statements with numerical examples • Includes answers to the numerical problems at the end of the book • Enhances learning of the basic working principles of electrical machines by using a number of supporting examples, review questions and illustrative examples

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## **HANDBOOK OF RESEARCH ON EVOLVING DESIGNS AND INNOVATION IN ICT AND INTELLIGENT SYSTEMS FOR REAL-WORLD APPLICATIONS**

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