

Premkumar Basic Electric Engineering

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Intelligent Control of Robotic Systems Laxmidhar Behera 2020-04-07 This book illustrates basic principles, along with the development of the advanced algorithms, to realize smart robotic systems. It speaks to strategies by which a robot (manipulators, mobile robot, quadrotor) can learn its own kinematics and dynamics from data. In this context, two major issues have been dealt with; namely, stability of the systems and experimental validations. Learning algorithms and techniques as covered in this book easily extend to other robotic systems as well. The book contains MATLAB-based examples and c-codes under robot operating systems (ROS) for experimental validation so that readers can replicate these algorithms in robotics platforms.

Power Electronics and Renewable Energy Systems C. Kamalakannan 2014-11-19 The book is a collection of high-quality peer-reviewed research papers presented in the Proceedings of International Conference on Power Electronics and Renewable Energy Systems (ICPERES 2014) held at Rajalakshmi Engineering College, Chennai, India. These research papers provide the latest developments in the broad area of Power Electronics and Renewable Energy. The book discusses wide variety of industrial, engineering and scientific applications of the emerging techniques. It presents invited papers from the inventors/originators of new applications and advanced technologies.

Computational Methodologies for Electrical and Electronics Engineers Singh, Rajiv 2021-03-18 Artificial intelligence has been applied to many areas of science and technology, including the power and energy sector. Renewable energy in particular has experienced the tremendous positive impact of these developments. With the recent evolution of smart energy technologies, engineers and scientists working in this sector need an exhaustive source of current knowledge to effectively cater to the energy needs of citizens of developing countries. Computational Methodologies for Electrical and Electronics Engineers is a collection of innovative research that provides a complete insight and overview of the application of intelligent computational techniques in power and energy. Featuring research on a wide range of topics such as artificial neural networks, smart grids, and soft computing, this book is ideally designed for programmers, engineers, technicians, ecologists, entrepreneurs, researchers, academicians, and students.

Engineering Analysis with ANSYS Software Tadeusz Stolarski 2011-02-24 For all engineers and students coming to finite element analysis or to ANSYS software for the first time, this powerful hands-on guide develops a detailed and confident understanding of using ANSYS's powerful engineering analysis tools. The best way to learn complex systems is by means of hands-on experience. With an innovative and clear tutorial based approach, this powerful book provides readers with a comprehensive introduction to all of the fundamental areas of engineering analysis they are likely to require either as part of their studies or in getting up to speed fast with the use of ANSYS software in working life. Opening with an introduction to the principles of the finite element method, the book then presents an overview of ANSYS technologies before moving on to cover key applications areas in detail. Key topics covered: Introduction to the finite element method Getting started with ANSYS software stress analysis dynamics of machines fluid dynamics problems thermo mechanics contact and surface mechanics exercises, tutorials, worked examples With its detailed step-by-step explanations, extensive worked examples and sample problems, this book will develop the reader's understanding of FEA and their ability to use ANSYS's software tools to solve their own particular analysis problems, not just the ones set in the book. * Develops a detailed understanding of finite element analysis and the use of ANSYS software by example * Develops a detailed understanding of finite element analysis and the use of ANSYS software by example * Exclusively structured around the market leading ANSYS software, with detailed and clear step-by-step instruction, worked examples, and detailed, screen-by-screen illustrative problems to reinforce learning

Intelligent Control of Robotic Systems Laxmidhar Behera 2020-04-07 This book illustrates basic principles, along with the development of the advanced algorithms, to realize smart robotic systems. It speaks to strategies by which a robot (manipulators, mobile robot, quadrotor) can learn its own kinematics and dynamics from data. In this context, two major issues have been dealt with; namely, stability of the systems and experimental validations. Learning algorithms and techniques as covered in this book easily extend to other robotic systems as well. The book contains MATLAB-based examples and c-codes under robot operating systems (ROS) for experimental validation so that readers can replicate these algorithms in robotics platforms.

Intelligent Autonomous Systems Dilip Kumar Pratihari 2010-02-24 This research book contains a sample of most recent research in the area of intelligent autonomous systems. The contributions include: General aspects of intelligent autonomous systems Design of intelligent autonomous robots Biped robots Robot for stair-case navigation Ensemble learning for multi-source information fusion Intelligent autonomous systems in psychiatry Condition monitoring of internal combustion engine Security management of an enterprise network High dimensional neural nets and applications This book is directed to engineers, scientists, professor and the undergraduate/postgraduate students who wish to explore this field further.

Natural Language Processing with AWS AI Services Mona M 2021-11-26 Work through interesting real-life business use cases to uncover valuable insights from unstructured text using AWS AI services Key Features Get to grips with AWS AI services for NLP and find out how to use them to gain strategic insights Run Python code to use Amazon Textract and Amazon Comprehend to accelerate business outcomes Understand how you can integrate human-in-the-loop for custom NLP use cases with Amazon A2I Book Description Natural language processing (NLP) uses machine learning to extract information from unstructured data. This book will help you to move quickly from business questions to high-performance models in production. To start with, you'll understand the importance of NLP in today's business applications and learn the features of Amazon Comprehend and Amazon Textract to build NLP models using Python and Jupyter Notebooks. The book then shows you how to integrate AI in applications for accelerating business outcomes with just a few lines of code. Throughout the book, you'll cover use cases such as smart text search, setting up compliance and controls when processing confidential documents, real-time text analytics, and much more to understand various NLP scenarios. You'll deploy and monitor scalable NLP models in production for real-time and batch requirements. As you advance, you'll explore strategies for including humans in the loop for different purposes in a document processing workflow. Moreover, you'll learn best practices for auto-scaling your NLP

inference for enterprise traffic. Whether you're new to ML or an experienced practitioner, by the end of this NLP book, you'll have the confidence to use AWS AI services to build powerful NLP applications. What you will learn Automate various NLP workflows on AWS to accelerate business outcomes Use Amazon Textract for text, tables, and handwriting recognition from images and PDF files Gain insights from unstructured text in the form of sentiment analysis, topic modeling, and more using Amazon Comprehend Set up end-to-end document processing pipelines to understand the role of humans in the loop Develop NLP-based intelligent search solutions with just a few lines of code Create both real-time and batch document processing pipelines using Python Who this book is for If you're an NLP developer or data scientist looking to get started with AWS AI services to implement various NLP scenarios quickly, this book is for you. It will show you how easy it is to integrate AI in applications with just a few lines of code. A basic understanding of machine learning (ML) concepts is necessary to understand the concepts covered. Experience with Jupyter notebooks and Python will be helpful.

Practical Troubleshooting of Electrical Equipment and Control Circuits Mark Brown 2004-10-21 There is a large gap between what you learn in college and the practical knowhow demanded in the working environment, running and maintaining electrical equipment and control circuits. Practical Troubleshooting of Electrical Equipment and Control Circuits focuses on the hands-on knowledge and rules-of-thumb that will help engineers and employers by increasing knowledge and skills, leading to improved equipment productivity and reduced maintenance costs.

Practical Troubleshooting of Electrical Equipment and Control Circuits will help engineers and technicians to identify, prevent and fix common electrical equipment and control circuits. The emphasis is on practical issues that go beyond typical electrical principles, providing a tool-kit of skills in solving electrical problems, ranging from control circuits to motors and variable speed drives. The examples in the book are designed to be applicable to any facility. Discover the practical knowhow and rules-of-thumb they don't teach you in the classroom Diagnose electrical problems 'right first time' Reduce downtime

Proceedings of First International Conference on Computational Electronics for Wireless Communications Sanyog Rawat 2022-01-04 This book includes high-quality papers presented at Proceedings of First International Conference on Computational Electronics for Wireless Communications (ICWC 2021), held at National Institute of Technology, Kurukshetra, Haryana, India, during June 11-12, 2021. The book presents original research work of academics and industry professionals to exchange their knowledge of the state-of-the-art research and development in computational electronics with an emphasis on wireless communications. The topics covered in the book are radio frequency and microwave, signal processing, microelectronics and wireless networks.

Electric Circuit Theory, 1/e N. Premakumaran 1982

Basic Electric Circuit Theory Isaak D. Mayergoys 2012-12-02 This is the only book on the market that has been conceived and deliberately written as a one-semester text on basic electric circuit theory. As such, this book employs a novel approach to the exposition of the material in which phasors and ac steady-state analysis are introduced at the beginning. This allows one to use phasors in the discussion of transients excited by ac sources, which makes the presentation of transients more comprehensive and meaningful. Furthermore, the machinery of phasors paves the road to the introduction of transfer functions, which are then used in the analysis of transients and the discussion of Bode plots and filters. Another salient feature of the text is the consolidation into one chapter of the material concerned with dependent sources and operational amplifiers. Dependent sources are introduced as linear models for transistors on the basis of small signal analysis. In the text, PSpice simulations are prominently featured to reinforce the basic material and understanding of circuit analysis. Key Features * Designed as a comprehensive one-semester text in basic circuit theory * Features early introduction of phasors and ac steady-state analysis * Covers the application of phasors and ac steady-state analysis * Consolidates the material on dependent sources and operational amplifiers * Places emphasis on connections between circuit theory and other areas in electrical engineering * Includes PSpice tutorials and examples * Introduces the design of active filters * Includes problems at the end of every chapter * Priced well below similar books designed for year-long courses

Introducing Play Framework Prem Kumar Karunakaran 2020-03-06 Enter the world of rapid web application development. This gentle introduction to Play covers all you need to know: it carefully introduces the background concepts before diving into examples, making learning Play 2 enjoyable (it includes the latest Play framework version 2.8). Introducing Play Framework is crisp, up-to-the-point, and full of valuable information. You will find chapters covering the basics of Play, the sbt build system, the Ebean ORM, web services using Play, production deployment, cache, and more with actual pragmatic code snippets for common tasks. After reading and using this book, you'll be able to build and deploy Java-based web applications with the Play framework. What You Will Learn Use the Play framework to do rapid Java-based web application development Work with Play controllers and Play views Create web services using JSON and XML Persist data and access databases Use Play modules Carry out asynch programming Cache, deploy, and work with code snippets in Play Who This Book Is For Those with at least some prior experience with Java.

Multilevel Converters: Control Techniques for Renewable Energy Resources Sudhakar Babu Thanikanti 2022-01-13

Futuristic Sustainable Energy & Technology Rajesh Singh 2022-05-01 Futuristic Sustainable Energy and Technology provides a structured overview of the concept of Futuristic Sustainable Energy and Technology. It also explores the promotion of the sustainable development of renewable energy from the perspectives of technology, modelling, application, sustainability and policy. This book is dedicated to the advancement of energy efficiency to mitigate consumption, ensure and replenish, expand and reuse elective energy supplies, and to replicate the damage caused by previous energy initiatives. This book has offered a large stage of experimentation for practitioners, experts, researchers and teachers to incorporate and analyze their latest developments, as well as the trends and difficulties encountered and the ongoing evolution of the stage in these areas.

Optical and Wireless Technologies Vijay Janyani 2020-06-02 This volume presents selected papers from the 3rd International Conference on Optical and Wireless Technologies, conducted from 16th to 17th March, 2019. It focuses on extending the limits of currently used systems encompassing optical and wireless domains, and explores the latest developments in applications like photonics, high speed

communication systems and networks, visible light communication, nano-photonics, wireless, and MIMO systems. The proceedings contain high quality scholarly articles, giving insight into the analytical, experimental, and developmental aspects of systems, techniques, and devices in these spheres. This volume will prove useful to researchers and professionals alike.

Smart Grids and Green Energy Systems A. Chitra 2022-11-08 SMART GRIDS AND GREEN ENERGY SYSTEMS Green energy and smart grids are two of the most important topics in the constantly emerging and changing energy and power industry. Books like this one keep the veteran engineer and student, alike, up to date on current trends in the technology and offer a reference for the industry for its practical applications. Smart grids and green energy systems are promising research fields which need to be commercialized for many reasons, including more efficient energy systems and environmental concerns. Performance and cost are tradeoffs which need to be researched to arrive at optimal solutions. This book focuses on the convergence of various technologies involved in smart grids and green energy systems. Areas of expertise, such as computer science, electronics, electrical engineering, and mechanical engineering are all covered. In the future, there is no doubt that all countries will gradually shift from conventional energy sources to green energy systems. Thus, it is extremely important for any engineer, scientist, or other professional in this area to keep up with evolving technologies, techniques, and processes covered in this important new volume. This book brings together the research that has been carrying out in the field of smart grids and green energy systems, across a variety of industries and scientific subject-areas. Written and edited by a team of experts, this groundbreaking collection of papers serves as a point of convergence wherein all these domains need to be addressed. The various chapters are configured in order to address the challenges faced in smart grid and green energy systems from various fields and possible solutions. Valuable as a learning tool for beginners in this area as well as a daily reference for engineers and scientists working in these areas, this is a must-have for any library.

Coherence and Quantum Optics VI J.H. Eberly 2012-12-06 The conference, held at the U. of Rochester in June 1989, was a sequel to five earlier meetings in this series, held in 1960, 1966, 1972, 1977 and 1983. This volume contains abbreviated versions of most of the 252 papers presented, addressing such topics as laser spectroscopy, photon statistics, pha

Intelligent Systems and Control: Principles and Applications Laxmidhar Behera 2009-12-24 Intelligent Systems and Control: Principles and Applications is a textbook for undergraduate level courses on intelligent control, intelligent systems, adaptive control, and non-linear control. The book covers primers in neural networks, fuzzy logic, and non-linear control so that readers can easily follow intelligent control techniques.

Basic Electrical & Electronics Engineering J. Gnanavadeivel 2008

Proceedings of First International Conference on Computational Electronics for Wireless Communications Sanyog Rawat 2022-01-03 This book includes high-quality papers presented at Proceedings of First International Conference on Computational Electronics for Wireless Communications (ICWC 2021), held at National Institute of Technology, Kurukshetra, Haryana, India, during June 11–12, 2021. The book presents original research work of academics and industry professionals to exchange their knowledge of the state-of-the-art research and development in computational electronics with an emphasis on wireless communications. The topics covered in the book are radio frequency and microwave, signal processing, microelectronics and wireless networks.

Electric Circuit Theory R. Yorke 2013-10-22 Electric Circuit Theory provides a concise coverage of the framework of electrical engineering. Comprised of six chapters, this book emphasizes the physical process of electrical engineering rather than abstract mathematics. Chapter 1 deals with files, circuits, and parameters, while Chapter 2 covers the natural and forced response of simple circuit. Chapter 3 talks about the sinusoidal steady state, and Chapter 4 discusses the circuit analysis. The fifth chapter tackles frequency response of networks, and the last chapter covers polyphase systems. This book will be of great help to electrical, electronics, and control engineering students or any other individuals who require a substantial understanding of the physical aspects of electrical engineering.

The Palgrave Handbook of Managing Continuous Business Transformation Horst Ellermann 2016-12-27 This handbook provides a comprehensive and unparalleled reference point for studying continuous business transformation. Asserting that change will be the new normal and highlighting the fact that business transformation can never be complete, this important resource is a tool for coping with ongoing change in order to become and stay resilient, the predominant concern of executives across industries. Containing case study material to illustrate issues and solutions, The Palgrave Handbook of Managing Continuous Business Transformation takes an interdisciplinary approach weaving together strategic concepts with real-life experiences, connecting human resource issues with shifts in information technology and linking customers with the businesses from which they buy. Structured into four parts; transformational shifts, achieving customer centricity, dealing with new technology and leading the change, this handbook is crucial reading for academics, scholars and practitioners of business transformation.

A Textbook of Applied Electronics RS Sedha 2008-02 The present book has been thoroughly revised and lot of useful material has been added .saveral photographs of electronic devices and their specifications sheets have been included.This will help the students to have a better understanding of the electric devices and circuits from application point of view.the mistake and misprints,which has crept in,have been eliminated in this edition.

Roots and Wings Shantha Mohan 2018-08-31 Are you wondering if engineering, science, or business will work as a career choice for a young woman? Do you question if a woman can pursue a successful career in these fields while enjoying a satisfying family life and still find a way to make meaningful social contributions? Then this book, which chronicles the lives and careers of women who managed to do just that, is the one for you. These 29 women all graduated from the oldest engineering college in India sometime between 1943 and 1971. This was a difficult time for these pioneering women to pursue their chosen path, yet they all went on to make their mark in their unique ways in various fields of work in India as well as the USA. Overcoming several obstacles to their careers, they managed to find a good balance between family and work. A few were, and are, also great community leaders. Their lives are models of courage, initiative, perseverance, innovation, entrepreneurship, resilience and flexibility. Enjoy the stories of these courageous women and be inspired.

Advances in Electrical and Computer Technologies Thangaprakash Sengodan 2022-07-27 This book comprises select proceedings of the International Conference on Advances in Electrical and Computer Technologies 2021 (ICAECT 2021). The papers presented in this book are peer-reviewed and cover the latest research in electrical, electronics, communication, and computer engineering. Topics covered include smart grids, soft computing techniques in power systems, smart energy management systems, power electronics, feedback control systems, biomedical engineering, geographic information systems, grid computing, data mining, image and signal processing, video processing, computer vision, pattern recognition, cloud computing, pervasive computing, intelligent systems, artificial intelligence, neural network and fuzzy logic, broadband communication, mobile and optical

communication, network security, VLSI, embedded systems, optical networks, and wireless communication. The book is useful for students and researchers working in the different overlapping areas of electrical, electronics, and communication engineering.

Problems in Operation Research (Principles & Solution) D S Hira 1991 We take great pleasure in presenting to the readers the second thoroughly revised edition of the book after a number of reprints.The suggestions received from the readers have been carefully incorporated in this edition and almost the entire subject matter has been reorganised, revised and rewritten.

Product Lifecycle Management (PLM) Uthayan Elangovan 2020-06-24 Product Lifecycle Management (PLM): A Digital Journey Using Industrial Internet of Things (IIoT) provides a summary of the essential topics of Product Lifecycle Management (PLM) and the Industrial Internet of Things (IIoT) in the era of Industry 4.0. The book discusses emerging technologies, their contribution towards enhancing product design, development, and manufacturing. It also presents the integration of PLM, Enterprise Resource Planning (ERP), and Manufacturing Execution System (MES) along with IIoT as well the integration of mechanical, electronic components, embedded systems, firmware and software focusing on smart design, development, and manufacturing in the digital transformation journey. The book provides a high-level overview of how the smart product development through smart manufacturing materializes within the smart ecosystem. Manufacturing professionals, designers, mechanical, electrical, electronics, instrumentation and industrial engineers, information and communication technology consultants and those working in production planning, process control, and operations will find this book invaluable.

Nanoelectronics, Circuits and Communication Systems Vijay Nath 2018-08-01 This book features selected papers presented at Third International Conference on Nanoelectronics, Circuits and Communication Systems (NCCS 2017). Covering topics such as MEMS and nanoelectronics, wireless communications, optical communication, instrumentation, signal processing, Internet of Things, image processing, bioengineering, green energy, hybrid vehicles, environmental science, weather forecasting, cloud computing, renewable energy, RFID, CMOS sensors, actuators, transducers, telemetry systems, embedded systems, and sensor network applications in mines, it is a valuable resource for young scholars, researchers, and academics.

Advances in VLSI, Communication, and Signal Processing Debashis Dutta 2019-12-03 This book comprises select proceedings of the International Conference on VLSI, Communication and Signal processing (VCAS 2018). It looks at latest research findings in VLSI design and applications. The book covers a wide range of topics in electronics and communication engineering, especially in the area of microelectronics and VLSI design, communication systems and networks, and image and signal processing. The contents of this book will be useful to researchers and professionals alike.

Operations Research D S Hira 1992 The author have used numerical examples as the means for presentation of the underlying ideas of different operations research techniques.Accordingly,a large number of comprehensive solved examples,taken from a variety of fields,have been added in every chapter and they are followed by a set of unsolved problems with answers(and hints wherever required)through which readers can test their understanding of the subject matter.The book,in its present form,contains around 650,examples,1,280 illustrative diagrams.

ZnO Nanocrystals and Allied Materials M S Ramachandra Rao 2013-09-12 ZnO has been the central theme of research in the past decade due to its various applications in band gap engineering, and textile and biomedical industries. In nanostructured form, it offers ample opportunities to realize tunable optical and optoelectronic properties and it was also termed as a potential material to realize room temperature ferromagnetism. This book presents 17 high-quality contributory chapters on ZnO related systems written by experts in this field. These chapters will help researchers to understand and explore the varied physical properties to envisage device applications of ZnO in thin film, heterostructure and nanostructure forms.

Advances in Communication Systems and Networks J. Jayakumari 2020-06-13 This book presents the selected peer-reviewed papers from the International Conference on Communication Systems and Networks (ComNet) 2019. Highlighting the latest findings, ideas, developments and applications in all areas of advanced communication systems and networking, it covers a variety of topics, including next-generation wireless technologies such as 5G, new hardware platforms, antenna design, applications of artificial intelligence (AI), signal processing and optimization techniques. Given its scope, this book can be useful for beginners, researchers and professionals working in wireless communication and networks, and other allied fields.

Basic Electrical and Electronics Engineering B. R. Patil 2012

Advances in Materials Research G. Kumaresan 2021-02-04 This book comprises select peer-reviewed proceedings of the International Conference on Advances in Materials Research (ICAMR 2019). The contents cover latest research in materials and their applications relevant to composites, metals, alloys, polymers, energy and phase change. The indigenous properties of materials including mechanical, electrical, thermal, optical, chemical and biological functions are discussed. The book also elaborates the properties and performance enhancement and/or deterioration in order of the modifications in atomic particles and structure. This book will be useful for both students and professionals interested in the development and applications of advanced materials.

Advances in VLSI, Communication, and Signal Processing David Harvey 2020-10-14 This book comprises select peer-reviewed papers from the International Conference on VLSI, Communication and Signal processing (VCAS) 2019, held at Motilal Nehru National Institute of Technology (MNNIT) Allahabad, Prayagraj, India. The contents focus on latest research in different domains of electronics and communication engineering, in particular microelectronics and VLSI design, communication systems and networks, and signal and image processing. The book also discusses the emerging applications of novel tools and techniques in image, video and multimedia signal processing. This book will be useful to students, researchers and professionals working in the electronics and communication domain.

Plant Tissue Culture: An Introductory Text Sant Saran Bhojwani 2013-03-20 Plant tissue culture (PTC) is basic to all plant biotechnologies and is an exciting area of basic and applied sciences with considerable scope for further research. PTC is also the best approach to demonstrate the totipotency of plant cells, and to exploit it for numerous practical applications. It offers technologies for crop improvement (Haploid and Triploid production, In Vitro Fertilization, Hybrid Embryo Rescue, Variant Selection), clonal propagation (Micropropagation), virus elimination (Shoot Tip Culture), germplasm conservation, production of industrial phytochemicals, and regeneration of plants from genetically manipulated cells by recombinant DNA technology (Genetic Engineering) or cell fusion (Somatic Hybridization and Cybridization). Considerable work is being done to understand the physiology and genetics of in vitro embryogenesis and organogenesis using model systems, especially Arabidopsis and carrot, which is likely to enhance the efficiency of in vitro regeneration protocols. All these aspects are covered extensively in the present book. Since the first book on Plant Tissue Culture by Prof. P.R. White in 1943, several volumes describing different aspects of PTC have been published. Most of these are compilation of invited articles by different experts or proceedings of conferences. More recently, a number of books describing

the Methods and Protocols for one or more techniques of PTC have been published which should serve as useful laboratory manuals. The impetus for writing this book was to make available a complete and up-to-date text covering all basic and applied aspects of PTC for the students and early-career researchers of plant sciences and plant / agricultural biotechnology. The book comprises of nineteen chapters profusely illustrated with self-explanatory illustrations. Most of the chapters include well-tested protocols and relevant media compositions that should be helpful in conducting laboratory experiments. For those interested in further details, Suggested Further Reading is given at the end of each chapter, and a Subject and Plant Index is provided at the end of the book.

Microgrid Architectures, Control and Protection Methods Naser Mahdavi Tabatabaei 2019-08-01 This book presents intuitive explanations of the principles of microgrids, including their structure and operation and their applications. It also discusses the latest research on microgrid control and protection technologies and the essentials of microgrids as well as enhanced communication systems. The book provides solutions to microgrid operation and planning issues using various methodologies including planning and modelling; AC and DC hybrid microgrids; energy storage systems in microgrids; and optimal microgrid operational planning. Written by specialists, it is filled in innovative solutions and research related to microgrid operation, making it a valuable resource for those interested in developing updated approaches in electric power analysis, design and operational strategies. Thanks to its in-depth explanations and clear, three-part structure, it is useful for electrical engineering students, researchers and technicians.

Technology Innovation in Mechanical Engineering Prem Kumar Chaurasiya 2022-04-29 This book comprises select papers presented at the conference on Technology Innovation in Mechanical Engineering (TIME-2021). The book discusses the latest innovation and advanced research in the diverse field of Mechanical Engineering such as materials, manufacturing processes, evaluation of materials properties for the application in automotive, aerospace, marine, locomotive and energy sectors. The topics covered include advanced metal forming, Energy Efficient systems, Material Characterization, Advanced metal forming, bending, welding & casting techniques, Composite and Polymer Manufacturing, Intermetallics, Future generation

materials, Laser Based Manufacturing, High-Energy Beam Processing, Nano materials, Smart Material, Super Alloys, Powder Metallurgy and Ceramic Forming, Aerodynamics, Biological Heat & Mass Transfer, Combustion & Propulsion, Cryogenics, Fire Dynamics, Refrigeration & Air Conditioning, Sensors and Transducers, Turbulent Flows, Reactive Flows, Numerical Heat Transfer, Phase Change Materials, Micro- and Nano-scale Transport, Multi-phase Flows, Nuclear & Space Applications, Flexible Manufacturing Technology & System, Non-Traditional Machining processes, Structural Strength and Robustness, Vibration, Noise Analysis and Control, Tribology. In addition, it discusses industrial applications and cover theoretical and analytical methods, numerical simulations and experimental techniques in the area of Mechanical Engineering. The book will be helpful for academics, including graduate students and researchers, as well as professionals interested in interdisciplinary topics in the areas of materials, manufacturing, and energy sectors.

Nanoelectronics, Circuits and Communication Systems Vijay Nath 2021-12-02 This book features selected papers presented at the Fifth International Conference on Nanoelectronics, Circuits and Communication Systems (NCCS 2019). It covers a range of topics, including nanoelectronic devices, microelectronics devices, material science, machine learning, Internet of things, cloud computing, computing systems, wireless communication systems, advances in communication 5G and beyond. Further, it discusses VLSI circuits and systems, MEMS, IC design and testing, electronic system design and manufacturing, speech signal processing, digital signal processing, FPGA-based wireless communication systems and FPGA-based system design, Industry 4.0, e-farming, semiconductor memories, and IC fault detection and correction.

Advances in Smart Grid Technology Pierluigi Siano 2020-09-22 This book comprises the select proceedings of the International Conference on Power Engineering Computing and Control (PECCON) 2019. This volume focuses on the different renewable energy sources which are integrated in a smart grid and their operation both in the grid connected mode and islanded mode. The contents highlight the role of power converters in the smart grid environment, battery management, electric vehicular technology and electric charging station as a load for the power network. This book can be useful for beginners, researchers as well as professionals interested in the area of smart grid technology.