

Auto Le Engineering By Vijayaraghavan

This student-friendly text on the current economic issues particular to engineering covers the topics needed to analyze engineering alternatives. Students use both hand-worked and spreadsheet solutions of examples, problems and case studies. In this edition the options have been increased with an expanded spreadsheet analysis component, twice the number of case studies, and virtually all new end-of-chapter problems. The chapters on factor derivation and usage, cost estimation, replacement studies, and after-tax evaluation have been heavily revised. New material is included on public sector projects and cost estimation. A reordering of chapters puts the fundamental topics up front in the text. Many chapters include a special set of problems that prepare the students for the Fundamentals of Engineering (FE) exam. This text provides students and practicing professionals with a solid preparation in the financial understanding of engineering problems and projects, as well as the techniques needed for evaluating and making sound economic decisions. Distinguishing characteristics include learning objectives for each chapter, an easy-to-read writing style, many solved examples, integrated spreadsheets, and case studies throughout the text. Graphical cross-referencing between topics and quick-solve spreadsheet solutions are indicated in the margin throughout the text. While the chapters are progressive, over three-quarters can stand alone, allowing instructors flexibility for meeting course needs. A complete online learning center (OLC) offers supplemental practice problems, spreadsheet exercises, and review questions for the the Fundamentals of Engineering (FE) exam.

This book comprises select proceedings of the International Conference on Design, Materials, Cryogenics and Constructions (ICDMC 2019). The chapters cover latest research in different areas of mechanical engineering such as additive manufacturing, automation in industry and agriculture, combustion and emission control, CFD, finite element analysis, and engineering design. The book also focuses on cryogenic systems and low-temperature materials for cost-effective and energy-efficient solutions to current challenges in the manufacturing sector. Given its contents, the book can be useful for students, academics, and practitioners.

Magnesium and Its Alloys: Technology and Applications covers a wide scope of topics related to magnesium science and engineering, from manufacturing and production to finishing and applications. This handbook contains thirteen chapters, each contributed by experts in their respective fields, and presents a broad spectrum of new information on pure magnesium, magnesium alloys, and magnesium matrix Mg/MCs composites. It covers such topics as computational thermodynamics, modern Mg-alloys with enhanced creep or fatigue properties, cutting-edge approaches to melt treating (grain refinement, micro-alloying, and the resulting solidification and growth), coatings, surface engineering, environmental protection (recycling and green energy storage and production), as well as biomedical applications. Aimed at researchers, professionals, and graduate students, the book conveys comprehensive and cutting-edge knowledge on magnesium alloys. It is especially useful to those in the fields of materials engineering, mechanical engineering, manufacturing engineering, and metallurgy.

This book presents the proceedings of the 4th International Conference on Internet of Things and Connected Technologies (ICIoTCT), held on May 9-10, 2019, at Malaviya National Institute of Technology (MNIT), Jaipur, India. The Internet of Things (IoT) promises to usher in a revolutionary, fully interconnected “smart” world, with relationships between objects and their environment and objects and people becoming more tightly intertwined. The prospect of the Internet of Things as a ubiquitous array of devices bound to the Internet could fundamentally change how people think about what it means to be “online”. The ICIoTCT 2019 conference provided a platform to discuss advances in Internet of Things (IoT) and connected technologies, such as various protocols and standards. It also offered participants the opportunity to interact with experts through keynote talks, paper presentations and discussions, and as such stimulated research. With the recent adoption of a variety of enabling wireless communication technologies, like RFID tags, BLE, ZigBee, embedded sensor and actuator nodes, and various protocols such as CoAP, MQTT and DNS, IoT has moved on from its infancy. Today smart sensors can collaborate directly with machines to automate decision-making or to control a task without human involvement. Further, smart technologies, including green electronics, green radios, fuzzy neural approaches, and intelligent signal processing techniques play an important role in the development of the wearable healthcare devices.

Molecular Mechanisms and Applications

Select Proceedings of ICETME 2018

Volume 1

Handbook of Food Engineering, Third Edition

Proceedings of the 6th International Conference on Wireless Technologies, Embedded, and Intelligent Systems

Emerging Technologies for Sustainability

A New Era in Automotive Technology

This book is a collection of papers presented at the International Conference on Intelligent Computing, Information and Control Systems (ICICCS 2020). It encompasses various research works that help to develop and advance the next-generation intelligent computing and control systems. The book integrates the computational intelligence and intelligent control systems to provide a powerful methodology for a wide range of data analytics issues in industries and societal applications. The book also presents the new algorithms and methodologies for promoting advances in common intelligent computing and control methodologies including evolutionary computation, artificial life, virtual infrastructures, fuzzy logic, artificial immune systems, neural networks and various neuro-hybrid methodologies. This book is pragmatic for researchers, academicians and students dealing with mathematically intransigent problems.

This Text-Cum-Reference Book Has Been Written To Meet The Manifold Requirement And Achievement Of The Students And Researchers. The Objective Of This Book Is To Discuss, Analyses And Design The Various Power Plant Systems Serving The Society At Present And Will Serve In Coming Decades India In Particular And The World In General. The Issues Related To Energy With Stress And Environment Up To Some Extent And Finally Find Ways To Implement The Outcome. Salient Features# Utilization Of Non-Conventional Energy Resources# Includes Green House Effect# Gives Latest Information S In Power Plant Engineering# Include Large Number Of Problems Of Both Indian And Foreign Universities# Rich Contents, Lucid Manner

This book gathers selected papers presented at the Second International Conference on Intelligent Manufacturing and Automation (ICIMA 2020), which was jointly organized by the Departments of Mechanical Engineering and Production Engineering at Dwarkadas J. Sanghvi College of Engineering (DJSCCE), Mumbai, and by the Indian Society of Manufacturing Engineers (ISME). Covering a range of topics in intelligent manufacturing, automation, advanced materials and design, it focuses on the latest advances in e.g. CAD/CAM/CAE/CIM/FMS in manufacturing, artificial intelligence in manufacturing, IoT in manufacturing, product design & development, DFM/DFA/FMEA, MEMS & nanotechnology, rapid prototyping, computational techniques, nano- & micro-machining, sustainable manufacturing, industrial engineering, manufacturing process management, modelling & optimization techniques, CRM, MRP & ERP, green, lean & agile manufacturing, logistics & supply chain management, quality assurance & environmental protection, advanced material processing & characterization of composite & smart materials. The book is intended as a reference guide for future researchers, and as a valuable resource for students in graduate and doctoral programmes.

MICROBIAL INTERACTIONS AT NANOBIO TECHNOLOGY INTERFACES This book covers a wide range of topics including synthesis of nanomaterials with specific size, shape, and properties, structure-function relationships, tailoring the surface of nanomaterials for improving the properties, interaction of nanomaterials with proteins/microorganism/eukaryotic cells, and applications in different sectors. This book also provides a strong foundation for researchers who are interested to venture into developing functionalized nanomaterials for any biological applications in their research. Practical concepts such as modelling nanomaterials, and simulating the molecular interactions with biomolecules, transcriptomic or genomic approaches, advanced imaging techniques to investigate the functionalization of nanomaterials/interaction of nanomaterials with biomolecules and microorganisms are some of the chapters that offer significant benefits to the researchers.

(in S.I. Units)

Fundamentals of Project Management

Hydrogen Production Technologies

Proceedings of ICDMC 2019

Fuels and Fuel-Additives

Genetic Algorithms in Search, Optimization, and Machine Learning

This book provides an overview on current sustainable machining. Its chapters cover the concept in economic, social and environmental dimensions. It provides the reader with proper ways to handle several pollutants produced during the machining process. The book is useful on both undergraduate and postgraduate levels and it is of interest to all those working with manufacturing and machining technology.

This book highlights recent findings in industrial, manufacturing and mechanical engineering, and provides an overview of the state of the art in these fields, mainly in Russia and Eastern Europe. A broad range of topics and issues in modern engineering are discussed, including the dynamics of machines and working processes, friction, wear and lubrication in machines, surface transport and technological machines, manufacturing engineering of industrial facilities, materials engineering, metallurgy, control systems and their industrial applications, industrial mechatronics, automation and robotics. The book gathers selected papers presented at the 5th International Conference on Industrial Engineering (ICIE), held in Sochi, Russia in March 2019. The authors are experts in various fields of engineering, and all papers have been carefully reviewed. Given its scope, the book will be of interest to a wide readership, including mechanical and production engineers, lecturers in engineering disciplines, and engineering graduates.

A gentle introduction to genetic algorithms. Genetic algorithms revisited: mathematical foundations. Computer implementation of a genetic algorithm. Some applications of genetic algorithms. Advanced operators and techniques in genetic search. Introduction to genetics-based machine learning. Applications of genetics-based machine learning. A look back, a glance ahead. A review of combinatorics and elementary probability. Pascal with random number generation for fortran, basic, and cobol programmers. A simple genetic algorithm (SGA) in pascal. A simple classifier system(SCS) in pascal. Partition coefficient transforms for problem-coding analysis. The theme of conference is Emerging Technologies for Sustainability. Sustainability tends to be problem driven and oriented towards guiding decision making. The goal is to raise the global standard of living without increasing the use of resources beyond global sustainable levels. The conference is intended to act as a platform for researchers to share and gain knowledge, showcase their research findings and propose new solutions in policy formulation, design, processing and application of green materials, material selection, analysis, green manufacturing, testing and synthesis, thereby contributing to the creation of a more sustainable world.

Design, Materials, Cryogenics, and Constructions

Proceedings of the Annual International Conference on Emerging Research Areas (AICERA 2019), July 18-20, 2019, Kottayam, Kerala

Proceedings of the 3rd International Conference on Advanced Technologies for Societal Applications—Volume 2

Dun's Asia/Pacific Key Business Enterprises

Power Plant Engineering

Advances in Manufacturing and Industrial Engineering

Emerging Trends in Mechanical Engineering

Updated concepts and tools to set up project plans, schedule work, monitor progress-and consistently achieve desired project results. In today's time-based and cost-conscious global business environment, tight project deadlines and stringent expectations are the norm. This classic book provides businesspeople with an excellent introduction to project management, supplying sound, basic information (along with updated tools and techniques) to understand and master the complexities and nuances of project management. Clear and down-to-earth, this step-by-step guide explains how to effectively spearhead every stage of a project-from developing the goals and objectives to managing the project team-and make project management work in any company. This updated second edition includes: * New material on the Project Management Body of Knowledge (PMBOK) * Do's and don'ts of implementing scheduling software* Coverage of the PMP certification offered by the Project Management Institute* Updated information on developing problem statements and mission statements* Techniques for implementing today's project management technologies in any organization-in any industry.

The book provides easy interpretable explanations for the key technologies involved in Electric Vehicles and Hybrid Electric Vehicles. The authors discuss the various electrical machines, drives, and controls used in EV and HEV. The book provides a detailed coverage of Regenerative Braking Systems used in EV and HEV. The book also illustrates the battery technology and battery management systems in EV and HEV. This book is intended for academicians, researchers and industrialists. In addition, this book has the following features Discusses the various Economic and Environmental Impact of Electric and Hybrid Electric Vehicles Discusses the role of Artificial Intelligence in Electric / Hybrid Electric Vehicles Illustrates the concept of Vehicle to Grid Technology and the smart charging station infrastructure and issues involved in the same Elucidates the concept of Internet of Vehicles Presents the latest research and applications in alternate energy vehicles

This book presents peer-reviewed articles from the 6th International Conference on Wireless Technologies, Embedded and Intelligent Systems (WITS 2020), held at Fez, Morocco. It presents original research results, new ideas and practical lessons learnt that touch on all aspects of wireless technologies, embedded and intelligent systems. WITS is an international conference that serves researchers, scholars, professionals, students and academicians looking to foster both working relationships and gain access to the latest research results. Topics covered include Telecoms & Wireless Networking Electronics & Multimedia Embedded & Intelligent Systems Renewable Energies.

This book presents the select proceedings of the International Conference on Functional Material, Manufacturing and Performances (ICFMMP) 2019. The book covers broad aspects of several topics involved in the metrology and measurement of engineering surfaces and their implementation in automotive, bio-manufacturing, chemicals, electronics, energy, construction materials, and other engineering applications. The contents focus on cutting-edge instruments, methods and standards in the field of metrology and mechanical properties of advanced materials. Given the scope of the topics, this book can be useful for students, researchers and professionals interested in the measurement of surfaces, and the applications thereof.

Federated Learning

WITS 2020

Internet of Things in Smart Technologies for Sustainable Urban Development

A Text Book of Automobile Engineering

Proceedings of International Conference on Intelligent Computing, Information and Control Systems

Developing Core Competencies to Help Outperform the Competition

Technology and Applications

Accompanying CD-ROM contains annex tables detailing population attributable fractions, mortality, and disease burden for selected major risk factors.

The first comprehensive reference on mechatronics. The Mechatronics Handbook was quickly embraced as the gold standard in the field. From washing machines, to coffeemakers, to cell phones, to the ubiquitous PC in almost every household, what, these days, doesn't take advantage of mechatronics in its design and function? In the scant five years since the initial publication of the handbook, the latest generation of smart products has made this even more obvious. Too much material to cover in a single volume Originally a single-volume reference, the handbook has grown along with the field. The need for easy access to new material on rapid changes in technology, especially in computers and software, has made the single volume format unwieldy. The second edition is offered as two easily digestible books, making the material not only more accessible, but also more focused. Completely revised and updated, Robert Bishop's seminal work is still the most exhaustive, state-of-the-art treatment of the field available.

This book provides solution for challenges facing engineers in urban environments looking towards smart development and IoT. The authors address the challenges faced in developing smart applications along with the solutions. Topics addressed include reliability, security and financial issues in relation to all the smart and sustainable development solutions discussed. The solutions they provide are affordable, resistive to threats, and provide high reliability. The book pertains to researchers, academics, professionals, and students. Provides solutions to urban sustainable development problems facing engineers in developing and developed countries Discusses results with industrial problems and current issues in smart city development Includes solutions that are reliable, secure and financially sound

Intended as a textbook for "applied" or engineering thermodynamics, or as a reference for practicing engineers, the book uses extensive in-text, solved examples and computer simulations to cover the basic properties of thermodynamics. Pure substances, the first and second laws, gases, psychrometrics, the vapor, gas and refrigeration cycles, heat transfer, compressible flow, chemical reactions, fuels, and more are presented in detail and enhanced with practical applications. This version presents the material using SI Units and has ample material on SI conversion, steam tables, and a Mollier diagram. A CD-ROM, included with the print version of the text, includes a fully functional version of QuickField (widely used in industry), as well as numerous demonstrations and simulations with MATLAB, and other third party software.

Comparative Quantification of Health Risks: Sexual and reproductive health

ICIMA 2020

E-Mobility

Who's Who in Science and Engineering 2008-2009

Magnesium and Its Alloys

Engineering Thermodynamics

Proceedings of the 5th International Conference on Industrial Engineering (ICIE 2019)

The book is organized in three parts. Part I shows how the catalytic and electrochemical principles involve hydrogen production technologies. Part II is devoted to biohydrogen production and introduces gasification and fast pyrolysis biomass, dark fermentation, microbial electrolysis and power production from algae. The last part of the book is concerned with the photo hydrogen generation technologies. Recent developments in the area of semiconductor-based nanomaterials, specifically semiconductor oxides, nitrides and metal-free semiconductors based nanomaterials for photocatalytic hydrogen production are extensively discussed in this part.

The primary mission of the third edition of Handbook of Food Engineering is to provide the information needed for efficient design and development of processes used in the manufacturing of food products, along with supplying the traditional background on these processes. The new edition focuses on the thermophysical properties of food and the rate constants of change in food components during processing. It highlights the use of these properties and constants in process design. In addition to chapters on the properties of food and food ingredients, the book has a new chapter on nano-scale science in food processing. An additional chapter focuses on basic concepts of mass transfer in foods.

This book provides a comprehensive and self-contained introduction to federated learning, ranging from the basic knowledge and theories to various key applications. Privacy and incentive

issues are the focus of this book. It is timely as federated learning is becoming popular after the release of the General Data Protection Regulation (GDPR). Since federated learning aims to enable a machine model to be collaboratively trained without each party exposing private data to others. This setting adheres to regulatory requirements of data privacy protection such as GDPR. This book contains three main parts. Firstly, it introduces different privacy-preserving methods for protecting a federated learning model against different types of attacks such as data leakage and/or data poisoning. Secondly, the book presents incentive mechanisms which aim to encourage individuals to participate in the federated learning ecosystems. Last but not least, this book also describes how federated learning can be applied in industry and business to address data silo and privacy-preserving problems. The book is intended for readers from both the academia and the industry, who would like to learn about federated learning, practice its implementation, and apply it in their own business. Readers are expected to have some basic understanding of linear algebra, calculus, and neural network. Additionally, domain knowledge in FinTech and marketing would be helpful.”

This book, divided in two volumes, originates from Techno-Societal 2020: the 3rd International Conference on Advanced Technologies for Societal Applications, Maharashtra, India, that brings together faculty members of various engineering colleges to solve Indian regional relevant problems under the guidance of eminent researchers from various reputed organizations. The focus of this volume is on technologies that help develop and improve society, in particular on issues such as advanced and sustainable technologies for manufacturing processes, environment, livelihood, rural employment, agriculture, energy, transport, sanitation, water, education. This conference aims to help innovators to share their best practices or products developed to solve specific local problems which in turn may help the other researchers to take inspiration to solve problems in their region. On the other hand, technologies proposed by expert researchers may find applications in different regions. This offers a multidisciplinary platform for researchers from a broad range of disciplines of Science, Engineering and Technology for reporting innovations at different levels.

Engineering Economy

A HEAT TRANSFER TEXTBOOK

A Materials Science Companion

Internet of Things and Connected Technologies

A Computer Approach (SI Units Version)

Teaching General Chemistry

Innovative Design, Analysis and Development Practices in Aerospace and Automotive Engineering (I-DAD 2018)

The book includes the best articles presented by researchers, academicians and industrial experts at the International Conference on “Innovative Design and Development Practices in Aerospace and Automotive Engineering (I-DAD 2018)”. The book discusses new concept in designs, and analysis and manufacturing technologies for improved performance through specific and/or multi-functional design aspects to optimise the system size, weight-to-strength ratio, fuel efficiency and operational capability. Other aspects of the conference address the ways and means of numerical analysis, simulation and additive manufacturing to accelerate the product development cycles. Describing innovative methods, the book provides valuable reference material for educational and research organizations, as well as industry, wanting to undertake challenging projects of design engineering and product development.

Organized nanoassemblies of inorganic nanoparticles and organic molecules are building blocks of nanodevices, whether they are designed to perform molecular level computing, sense the environment or improve the catalytic properties of a material. The key to creation of these hybrid nanostructures lies in understanding the chemistry at a fundamental level. This book serves as a reference book for researchers by providing fundamental understanding of many nanoscopic materials.

This text covers the basic techniques and applications of engineering economy for all disciplines in the engineering profession. The writing style emphasizes brief, crisp coverage of the principle or technique discussed in order to reduce the time taken to present and grasp the essentials. The objective of the text is to explain and demonstrate the principles and techniques of engineering economic analysis as applied in different fields of engineering. This brief text includes coverage of multiple attribute evaluation for instructors who want to include non-economic dimensions in alternative evaluation and the discussion of risk considerations in the appendix, compared to Blank's comprehensive text, where these topics are discussed in two unique chapters.

This book presents selected peer reviewed papers from the International Conference on Advanced Production and Industrial Engineering (ICAPIE 2019). It covers a wide range of topics and latest research in mechanical systems engineering, materials engineering, micro-machining, renewable energy, industrial and production engineering, and additive manufacturing. Given the range of topics discussed, this book will be useful for students and researchers primarily working in mechanical and industrial engineering, and energy technologies.

Volume II

The Cambridge Handbook of the Changing Nature of Work

ICICCS 2020

Techno-Societal 2020

Nanoscale Materials

The Mechatronics Handbook – 2 Volume Set

Proceedings of International Conference on Intelligent Manufacturing and Automation

Corrosion is a huge issue for materials, mechanical, civil and petrochemical engineers. With comprehensive coverage of the principles of corrosion engineering, this book is a one-stop text and reference for students and practicing corrosion engineers. Highly illustrated, with worked examples and definitions, it covers basic corrosion principles, and more advanced information for postgraduate students and professionals. Basic principles of electrochemistry and chemical thermodynamics are incorporated to make the book accessible for students and engineers who do not have prior knowledge of this area. Each form of corrosion covered in the book has a definition, description, mechanism, examples and preventative methods. Case histories of failure are cited for each form. End of chapter questions are accompanied by an online solutions manual. * Comprehensively covers the principles of corrosion engineering, methods of corrosion protection and corrosion processes and control in selected engineering environments * Structured for corrosion science and engineering classes at senior undergraduate and graduate level, and is an ideal reference that readers will want to use in their professional work * Worked examples, extensive end of chapter exercises and accompanying online solutions and written by an expert from a key petrochemical university

This resource volume, written especially for teachers of introductory chemistry courses, is in a ready-to-use format that will enable instructors to integrate materials chemistry into their curriculum. The book collects a critical mass of text, demonstrations, and laboratory experiments. The first ten chapters present a general introduction to solids; numerous easy-to-do teacher demonstrations are integrated into the material. The second part of the volume consists of fifteen laboratory experiments for students. Examples from cutting-edge research, as well as everyday life, spark student interest while illustrating the basic ideas that are important to an understanding of chemistry.

This handbook provides an overview of the research on the changing nature of work and workers by marshalling interdisciplinary research to summarize the empirical evidence and provide documentation of what has actually changed. Connections are explored between the changing nature of work and macro-level trends in technological change, income inequality, global labor markets, labor unions, organizational forms, and skill polarization, among others. This edited volume also reviews evidence for changes in workers, including generational change (or lack thereof), that has accumulated across domains. Based on documented changes in work and worker behavior, the handbook derives implications for a range of management functions, such as selection, performance management, leadership, workplace ethics, and employee well-being. This evaluation of the extent of changes and their impact gives guidance on what best practices should be put in place to harness these developments to achieve success.

This book comprises select proceedings of the International Conference on Emerging Trends in Mechanical Engineering (ICETME 2018). The book covers various topics of mechanical engineering like computational fluid dynamics, heat transfer, machine dynamics, tribology, and composite materials. In addition, relevant studies in the allied fields of manufacturing, industrial and production engineering are also covered. The applications of latest tools and techniques in the context of mechanical engineering problems are discussed in this book. The contents of this book will be useful for students, researchers as well as industry professionals.

A Textbook of Strength of Materials

Microbial Interactions at Nanobiotechnology Interfaces

Advances in Metrology and Measurement of Engineering Surfaces

Select Proceedings of ICAPIE 2019

Sustainable Machining

4th International Conference on Internet of Things and Connected Technologies (ICIoTCT), 2019

Privacy and Incentive

A Text Book of Automobile Engineering
Firewall Media
Emerging Trends in Mechanical Engineering
Select Proceedings of ICETME 2018
Springer Nature

Examines all stages of fuel production, from feedstocks to finished products Exploring chemical structures and properties, this book sheds new light on the current science and technology of producing energy-efficient and environmentally friendly fuels. Moreover, it explains the role of fuel-additives in the production cycle. This expertly written and organized guide to fuels and fuel-additives also presents requirements, rules and regulations, including US and EU standards governing automotive emissions, fuel quality and specifications, alternate fuels, biofuels, antioxidants, deposit control detergents/dispersants, stabilizers, corrosion inhibitors, and polymeric fuel-additives. Fuels and Fuel-Additives covers all stages and facets of the production of engine fuels as well as heating and fuel oils. The book begins with a quick portrait of the future of fuels and fuel production. Then, it sets forth the regulations controlling exhaust gas emissions and fuel quality from around the world. Next, the book covers: Processing of engine fuels derived from crude oil, including the production of blending components Production of alternative fuels Fuel-additives for automotive engines Blending of fuels Key properties of motor fuels and their effects on engines and the environment Aviation fuels The final chapter of the book deals with fuel oils and marine fuels. Each chapter is extensively referenced, providing a gateway to the primary and secondary literature in the field. At the end of the book, a convenient glossary defines all the key terms used in the book. Examining the full production cycle from feedstocks to final products, Fuels and Fuel-Additives is recommended for students, engineers, and scientists working in fuels and energy production.

IEEE Membership Directory

Select Proceedings of ICFMMP 2019

Principles of Corrosion Engineering and Corrosion Control

INTRODUCTION TO STATISTICAL QUALITY CONTROL.

Second Edition

Basics of Engineering Economy