

Thermal Engineering By Yadav

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Handbook of Generation IV Nuclear Reactors - Igor Pioro 2016-06-09

Handbook of Generation IV Nuclear Reactors presents information on the current fleet of Nuclear Power Plants (NPPs) with water-cooled reactors (Generation III and III+) (96% of 430 power reactors in the world) that have relatively low thermal efficiencies (within the range of 32-36%) compared to those of modern advanced thermal power plants (combined cycle gas-fired power plants - up to 62% and supercritical pressure coal-fired power plants - up to 55%). Moreover, thermal efficiency of the current fleet of NPPs with water-cooled reactors cannot be increased significantly without completely different innovative designs, which are Generation IV reactors. Nuclear power is vital for generating electrical energy without carbon emissions. Complete with the latest research, development, and design, and written by an international team of experts, this handbook is completely dedicated to Generation IV reactors. Presents the first comprehensive handbook dedicated entirely to generation IV nuclear reactors Reviews the latest trends and developments Complete with the latest research, development, and design information in generation IV nuclear reactors Written by an international team of experts in the field

Advanced Welding Technology - Dr. K.S. Yadav 2017-03-02

□ABOUT THE BOOK: Presentation of the book is made in very simple and easily understandable language and well supported with wide range of illustrations. The subject matter of this book meets the requirement of B. Tech. and M. Tech. Mechanical Engineering students. Advanced Welding Technology is taught at the professional level as a compulsory /elective subject in various universities, AMIE and IME schemes. A successful Welding Engineer should be more familiar with the current welding processes and new welding techniques. Inspection is the essential basic strength of any product. It is the inspection whether at the stage of manufacturing or at in service stage ensures the proper production of product and hence produces wealth for that organisation. Hence the objective of the book is to provide Engineering personnel with the background knowledge of inspection of products without destroying them, i.e. by Non-destructive techniques used in Modern Industry. This book will also be suitable for personnel's from various disciplines like Mechanical Engg., Industrial Engg., Production Engg., Metallurgical Engg. and Manufacturing Technology etc. The matter of this book is divided into seven chapters which covers the topics on Introduction, Conventional Welding Processes, Advance Welding Process, Weld Design and Quality Control, Inspection and Testing and Thermal and Metallurgical Considerations, and Non-Destructive Testing (N.D.T.) Lab. work. □RECOMMENDATIONS: A textbook for all Engineering Branches, Competitive Examination, ICS, and AMIE Examinations □ABOUT THE AUTHOR: Dr. K.S. Yadav M.Tech. (Prod. & Thermal Engg.) M.B.A. (HRM) Ph.D, (Manufacturing Management) Professor and H.O.D. Mechanical and Automobile Engg. Noida International University (N.I.U.) Greater Noida □BOOK DETAILS: ISBN: 978-81-8940-1-49-8 Pages: 150 Paperback Edition: 2nd, Year-2017 Size(cms): L-24 B-16 H-0.7 □PUBLISHED BY: STANDARD BOOK HOUSE Since 1960 Unit of Rajsons Publications Pvt Ltd Regd Office: 4262/3A Ground Floor Ansari Road Daryaganj New Delhi-110002 +91 011 43551185/43551085/43751128/23250212 Retail Office : 1705-A Nai Sarak Delhi-110006 011 23265506 www.standardbookhouse.com A venture of Rajsons Group of Companies

Computational Intelligence in Manufacturing - Kaushik Kumar 2022-05-28

Computational Intelligence in Manufacturing addresses applications of AI, machine learning and other innovative computational techniques across the manufacturing supply chain. The rapid development of smart or digital manufacturing known as Industry 4.0 has swiftly provided a large number of opportunities for product and manufacturing process improvement. Selecting the appropriate technologies and combining

them successfully is a challenge this book helps readers overcome . It explains how to prepare different manufacturing cells for flexibility and enhanced productivity with better supply chain management, e.g., calibrating design machine tools for automation and agility. Computational intelligence applications for non-conventional manufacturing processes such as ECM and EDM are covered alongside recent advances in traditional processes like casting, welding and metal forming. As well as describing specific applications, this practical guide also explains the computational intelligence paradigm for enhanced supply chain management. Includes hot topics such as augmented and virtual reality applications in manufacturing Provides details of computational techniques, such as nature inspired algorithms for manufacturing process modeling Gives practical technical advice on how to calibrate processes and tools to work efficiently in an industry 4.0 system

Geothermal Energy - Kriti Yadav 2022

"This book focuses on usage of geothermal energy in countries with low enthalpy reservoirs. It initiates with the fundamentals of geothermal energy, classification of geothermal resources and their importance including Enhanced Geothermal Systems (EGS). Further, it discusses creation, production, potential assessment, perspective analysis, life cycle and environment assessments of EGS. It describes applications in the field of geothermal energy with relevant case studies and introduces the application of Machine Learning techniques in the field of geothermal sectors. Features: Focuses on development of low- to moderate geothermal resources; Introduces machine learning tools and artificial intelligence, as applied to geothermal energy; Provides understanding of Geothermal Energy Resources and Enhanced Geothermal Systems; Discusses possibility of Enhanced Geothermal System using spallation and laser drilling; Includes stimulation methods (thermal, hydraulic, chemical, and explosive) and case studies. This book aims at researchers and graduate students in Geology, Clean Energy, Geothermal Energy and Thermal Engineering"--

Compr. Engineering Heat Transfer - Mahesh M. Rathore 2000

Advances in Mechanical Engineering - B. B. Biswal 2020-01-16

This book comprises select proceedings of the International Conference on Recent Innovations and Developments in Mechanical Engineering (ICRIDME 2018). The book contains peer reviewed articles covering thematic areas such as fluid mechanics, renewable energy, materials and manufacturing, thermal engineering, vibration and acoustics, experimental aerodynamics, turbo machinery, and robotics and mechatronics. Algorithms and methodologies of real-time problems are described in this book. The contents of this book will be useful for both academics and industry professionals.

Thermal Energy - Yatish T. Shah 2018-01-12

The book details sources of thermal energy, methods of capture, and applications. It describes the basics of thermal energy, including measuring thermal energy, laws of thermodynamics that govern its use and transformation, modes of thermal energy, conventional processes, devices and materials, and the methods by which it is transferred. It covers 8 sources of thermal energy: combustion, fusion (solar) fission (nuclear), geothermal, microwave, plasma, waste heat, and thermal energy storage. In each case, the methods of production and capture and its uses are described in detail. It also discusses novel processes and devices used to improve transfer and transformation processes.

Current Advances in Mechanical Engineering - Saroj Kumar Acharya 2021-03-18

This book presents select proceedings of the International Conference on Recent Advances in Mechanical Engineering Research and Development (ICRAMERD 2020). The contents focus on latest research and current problems in various branches of mechanical engineering. Some of the

topics discussed here include fracture and failure analysis, fuels and alternative fuels, combustion and IC engines, advanced manufacturing technologies, powder metallurgy and rapid prototyping, industrial engineering and automation, supply chain management, design of mechanical systems, vibrations and control engineering, automobile engineering, fluid mechanics and machines, heat transfer, composite materials, micro and nano-engineering for energy storage and conversion, and modeling and simulations. The wide range of topics presented in this book can make it useful for beginners, researchers as well as professionals in mechanical engineering.

Advances in Thermal Engineering, Manufacturing, and Production Management - Sadhan Kumar Ghosh 2021-07-01

This book presents the selected peer-reviewed proceedings of the International Conference on Thermal Engineering and Management Advances (ICTEMA 2020). The contents discuss latest research in the areas of thermal engineering, manufacturing engineering, and production management. Some of the topics covered include multiphase fluid flow, turbulent flows, reactive flows, atmospheric flows, combustion and propulsion, computational methods for thermo-fluid arena, micro and nanofluidics, renewable energy and environment sustainability, non-conventional energy resources, energy principles and management, machine dynamics and manufacturing, casting and forming, green manufacturing, production planning and management, quality control and management, and traditional and non-traditional manufacturing. The contents of this book will be useful for students, researchers as well as professionals working in the area of mechanical engineering and allied fields.

Proceedings of 17th Edition of International Conference on Emerging Trends in Materials Science and Nanotechnology 2018 - EuroScicon 2018-04-20

April 26-27, 2018 Rome, Italy Key Topics : Nano Electronics, Nanotechnology For Clean Energy And Environment, Nano Applications, Nano Biotechnology, Nano Bio Medicine, Carbon And Graphene Nano-Structures, Polymer Science Engineering, Bio Polymers And Bio Plastics, Advanced Materials Science, Nano Composites, Nano Technology In Materials Science, Corrosion Engineering And Corrosion Protection, Biomaterials, Electronic, Optical & Magnetic Materials., Nano Photonics, Advanced Nano Materials,

Recent Advances in Thermofluids and Manufacturing Engineering - Shripad Revankar 2022-09-30

This book presents the select proceedings of the International Conference on Thermofluids and Manufacturing Science (ICTMS 2022). Some of the topics covered include Heat transfer, fluid dynamics, multiphase flow, flow diagnostics using artificial neural network, aerodynamics, high-speed flows, sustainable energy technology, propulsion and emissions, Eco-friendly manufacturing, Coating Techniques and Supply chain management etc. Given the scope, the book will be highly useful for researchers and professionals interested in mechanical, production or aerospace engineering

CRC Handbook of Thermal Engineering - Raj P. Chhabra 2017-11-08

The CRC Handbook of Thermal Engineering, Second Edition, is a fully updated version of this respected reference work, with chapters written by leading experts. Its first part covers basic concepts, equations and principles of thermodynamics, heat transfer, and fluid dynamics.

Following that is detailed coverage of major application areas, such as bioengineering, energy-efficient building systems, traditional and renewable energy sources, food processing, and aerospace heat transfer topics. The latest numerical and computational tools, microscale and nanoscale engineering, and new complex-structured materials are also presented. Designed for easy reference, this new edition is a must-have volume for engineers and researchers around the globe.

Introduction to Mechanical Engineering - J. Paulo Davim 2018-04-28

This textbook fosters information exchange and discussion on all aspects of introductory matters of modern mechanical engineering from a number of perspectives including: mechanical engineering as a profession, materials and manufacturing processes, machining and machine tools, tribology and surface engineering, solid mechanics, applied and computational mechanics, mechanical design, mechatronics and robotics, fluid mechanics and heat transfer, renewable energies, biomechanics, nanoengineering and nanomechanics. At the end of each chapter, a list of 10 questions (and answers) is provided.

Advances in Energy and Environment - Rafid Al Khaddar 2021-04-20

This book comprises select papers presented at the International Conference on Trends and Recent Advances in Civil Engineering (TRACE 2020). This book covers papers on contemporary renewable energy and

environmental technologies which include water purification, water distribution network, use of solar energy for electricity production, waste management, greening of buildings and air quality analysis. In all, twenty-three papers have been selected for publication. It is believed that this book will be useful to a fairly wide spectrum of audience like researchers, application engineers and industry managers.

Drop Dynamics and Dropwise Condensation on Textured Surfaces - Sameer Khandekar 2020-09-11

This book is an expanded form of the monograph, Dropwise Condensation on Inclined Textured Surfaces, Springer, 2013, published earlier by the authors, wherein a mathematical model for dropwise condensation of pure vapor over inclined textured surfaces was presented, followed by simulations and comparison with experiments. The model factored in several details of the overall quasi-cyclic process but approximated those at the scale of individual drops. In the last five years, drop level dynamics over hydrophobic surfaces have been extensively studied. These results can now be incorporated in the dropwise condensation model. Dropwise condensation is an efficient route to heat transfer and is often encountered in major power generation applications. Drops are also formed during condensation in distillation devices that work with diverse fluids ranging from water to liquid metals. Design of such equipment requires careful understanding of the condensation cycle, starting from the birth of nuclei, followed by molecular clusters, direct growth of droplets, their coalescence, all the way to instability and fall-off of condensed drops. The model described here considers these individual steps of the condensation cycle.

Additional discussions include drop shape determination under static conditions, a fundamental study of drop spreading in sessile and pendant configurations, and the details of the drop coalescence phenomena. These are subsequently incorporated in the condensation model and their consequences are examined. As the mathematical model is spread over multiple scales of length and time, a parallelization approach to simulation is presented. Special topics include three-phase contact line modeling, surface preparation techniques, fundamentals of evaporation and evaporation rates of a single liquid drop, and measurement of heat transfer coefficient during large-scale condensation of water vapor. We hope that this significantly expanded text meets the expectations of design engineers, analysts, and researchers working in areas related to phase-change phenomena and heat transfer.

Innovations in Electrical and Electronic Engineering - Margarita N. Favorskaya 2020-07-25

The book is a compilation of selected papers from 2020 International Conference on Electrical and Electronics Engineering (ICEEE 2020) held in National Power Training Institute HQ (Govt. of India) on February 21 - 22, 2020. The work focuses on the current development in the fields of electrical and electronics engineering like power generation, transmission and distribution, renewable energy sources and technology, power electronics and applications, robotics, artificial intelligence and IoT, control, and automation and instrumentation, electronics devices, circuits and systems, wireless and optical communication, RF and microwaves, VLSI, and signal processing. The book is beneficial for readers from both academia and industry.

Hybrid Power Cycle Arrangements for Lower Emissions - Anoop Kumar Shukla 2022-04-25

Hybrid Power Cycle Arrangements for Lower Emissions is an edited book that explores the state-of-the-art for creating effective hybrid power cycles for power generation with lower emission while utilizing different energy sources. The book details energetic and exergetic studies for improving system design and performance of hybrid power cycle arrangements. Chapters in the book provide a systematic approach to the integration and operation of different thermal power cycles with renewable energy sources. The book brings together researchers and practitioners from academia and industry to present their recent and ongoing research and development activities concerning the advancement of hybridization of different conventional and unconventional energy sources to produce efficient and clean energy systems. The book chapters present a range of ongoing research and development activities, challenges, constraints, and opportunities in both theoretical as well as application aspects of several hybrid technologies for power generation. Several issues such as hybridization of different energy sources, availability, environmental impacts, and power cycle integration are addressed in-depth, making this collection a worthy repository for those working in the field of the power cycles.

Mathematical Modeling for Intelligent Systems - Mukesh Kumar Awasthi 2022-07-29

Mathematical Modeling for Intelligent Systems: Theory, Methods, and Simulation aims to provide a reference for the applications of mathematical modeling using intelligent techniques in various unique industry problems in the era of Industry 4.0. Providing a thorough introduction to the field of soft-computing techniques, this book covers every major technique in artificial intelligence in a clear and practical style. It also highlights current research and applications, addresses issues encountered in the development of applied systems, and describes a wide range of intelligent systems techniques, including neural networks, fuzzy logic, evolutionary strategy, and genetic algorithms. This book demonstrates concepts through simulation examples and practical experimental results. Key Features:

- Offers a well-balanced mathematical analysis of modeling physical systems
- Summarizes basic principles in differential geometry and convex analysis as needed
- Covers a wide range of industrial and social applications and bridges the gap between core theory and costly experiments through simulations and modeling
- Focuses on manifold ranging from stability of fluid flows, nanofluids, drug delivery, and security of image data to pandemic modeling, etc.

This book is primarily aimed at advanced undergraduates and postgraduate students studying computer science, mathematics, and statistics. Researchers and professionals will also find this book useful.

Recent Advances in Mechanical Engineering - Mohammad Muzammil 2020-12-28

This book presents selected peer-reviewed papers presented at the International Conference on Innovative Technologies in Mechanical Engineering (ITME) 2019. The book discusses a wide range of topics in mechanical engineering such as mechanical systems, materials engineering, micro-machining, renewable energy, systems engineering, thermal engineering, additive manufacturing, automotive technologies, rapid prototyping, computer aided design and manufacturing. This book, in addition to assisting students and researchers working in various areas of mechanical engineering, can also be useful to researchers and professionals working in various allied and interdisciplinary fields.

Advances in Mechanical and Industrial Engineering - Muhamad Mat Noor 2022-07-01

The International Conference on ADVANCES IN MECHANICAL AND INDUSTRIAL ENGINEERING (ICAMIE -2020) aims to solidify knowledge of sister branches of research on Mechanical Engineering applied to Industry, Health Sectors, Energy Sector, Agricultural Sector etc. Mechanical Engineering is a core branch of Engineering with its own peculiarities and very diverse areas of action. (ICAMIE -2020) will widen the scope of bringing together innovators, researchers and industries under a common goal - creating, evaluating, implementing and benefiting from innovations in the areas of engineering applications. It will thus support innovative projects and bring benefits to all involved participants. Participants from Universities, Institutes, Associations, Companies, Consultancies, R&Ds etc. from India and abroad will be invited. The aim of (ICAMIE -2020) is to be one of the most influential channels for transferring innovative ideas from academia to industry thereby these ideas may start to generate consultancy, projects and collaborations. The novel idea to conduct this type of conference is to discuss social and industrial problems and try to find a way to resolve their solutions by advanced methods and methodologies like soft computing techniques, Multi-criteria decision making algorithms, Internet of Things, technologies, Artificial intelligence, Robotics etc. (ICAMIE -2020) will be successful being the multidisciplinary conference of its first kind and aims to be one of the most influential channels transferring innovative ideas from academia to industry thereby these ideas may start to generate consultancy, projects and collaborations.

Recent Trends in Thermal Engineering - Ritunesh Kumar 2021-09-05

This book presents the select proceedings of the International Conference on Advances in Sustainable Technologies (ICAST 2020), organized by Lovely Professional University, Punjab, India. It gives an overview of recent developments in the field of fluid dynamics and thermal engineering. Some of the topics covered in this book include HVAC systems, alternative fuels, renewable energy, nano fluids, industrial advancements in energy systems, energy storage, multiphase transport and phase change, conventional and non-conventional energy theoretical and experimental fluid dynamics, numerical methods in heat transfer and fluid mechanics, different modes of heat transfer, fluid machinery, turbo machinery, and fluid power. The book will be useful for researchers and professionals working in the field of fluid dynamics and thermal engineering.

Advancement in Materials, Manufacturing and Energy Engineering, Vol. II - Puneet Verma 2022-01-18

This book (Vol. II) presents select proceedings of the conference on "Advancement in Materials, Manufacturing, and Energy Engineering (ICAMME 2021)." It discusses the latest 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, bending, welding and casting techniques, recycling and re-manufacturing of materials and components, materials processing, characterization and applications, materials, composites and polymer manufacturing, powder metallurgy and ceramic forming, numerical modeling and simulation, advanced machining processes, functionally graded materials, non-destructive examination, optimization techniques, engineering materials, heat treatment, material testing, MEMS integration, energy materials, bio-materials, metamaterials, metallography, nanomaterial, SMART materials, bioenergy, fuel cell, and superalloys. The book will be useful for students, researchers, and professionals interested in interdisciplinary topics in the areas of materials, manufacturing, and energy sectors.

Mechanical Engineering for Sustainable Development: State-of-the-Art Research - C.S.P. Rao 2019-01-04

This volume provides valuable insight into diverse topics related to mechanical engineering and presents state-of-the-art work on sustainable development being carried out throughout the world by budding researchers and scientists. Divided into three sections, the volume covers machine design, materials and manufacturing, and thermal engineering. It presents innovative research work on machine design that is of relevance to such varied fields as the automotive industry, agriculture, and human anatomy. The second section addresses materials characterization, an important tool in assessing proper materials for application-oriented jobs, and emerging unconventional machining processes that are important in design engineering for new products and tools. The section on thermal engineering broadly covers the use of viable alternate fuels, such as HHO, biodiesel, etc., with the objective of reducing the burden on petroleum reserves and the environment.

Pharmaceutics - Av Yadav 2016-06-16

Introduction to Pharmaceutics and its Scope - Development of a New Drug - Introduction to Dosage Forms of Drugs - History and Development of Profession of Pharmacy - Introduction to Pre-formulation - Biopharmaceutics - Good Manufacturing Practices - Introduction to Pre-formulation - Biopharmaceutics - Good Manufacturing Practices - Introduction to Alternative Systems of Medicines - Drug Delivery Systems - Biological Products - Packaging of Pharmaceuticals - Bibliography - Index

Advances in Fluid and Thermal Engineering - Pankaj Saha 2019-04-23

This book comprises select proceedings of the International Conference on Future Learning Aspects of Mechanical Engineering (FLAME 2018). The book gives an overview of recent developments in the field of thermal and fluid engineering, and covers theoretical and experimental fluid dynamics, numerical methods in heat transfer and fluid mechanics, different modes of heat transfer, multiphase transport and phase change, fluid machinery, turbo machinery, and fluid power. The book is primarily intended for researchers and professionals working in the field of fluid dynamics and thermal engineering.

Recent Advances in Mechanical Engineering - Premananda Pradhan 2022

This book presents select proceedings of the International Conference on Recent Advances in Mechanical Engineering Research and Development (ICRAMERD 21). It covers the latest research trends in various branches of mechanical engineering. The topics covered include materials engineering, industrial system engineering, manufacturing systems engineering, automotive engineering, thermal systems, smart composite materials, manufacturing processes, industrial automation, and energy system. The book will be a valuable reference for beginners, researchers, engineers, and industry professionals working in the various fields of mechanical engineering. .

Sustainability in Energy and Buildings - Robert J. Howlett 2010-11-29

This volume represents the proceedings of the Second International Conference on Sustainability in Energy and Buildings, SEB'10, held in the City of Brighton and Hove in the United Kingdom, and organised by KES International. Organised by the KES International organisation, SEB'10 formed a welcome opportunity for researchers in subjects related to sustainability, renewable energy technology, and applications in the built environment to mix with other scientists, industrialists and

stakeholders in the field. SEB'10 attracted papers on a range of renewable energy and sustainability related topics and in addition the conference explored two innovative themes:- · The application of intelligent sensing, control, optimisation and modelling techniques to sustainability and · The technology of sustainable buildings. These techniques could ultimately be applied to the intelligent building SEB'10 attracted about 100 submissions from around the world. These were subjected to a two-stage blind peer-review process. With the objective of producing a high quality conference, the best 30% of these were selected for presentation at the conference and publication in this volume of proceedings. The papers in this volume are grouped into the five themes under which they were presented: Building Sustainability, Sustainable Power Generation, Sustainable Energy Policy and Strategy, Energy Monitoring and Management and Solar Energy Technology. These proceedings form an interesting and informative collection of papers, useful as a resource for further research, and a valuable source of information for those interested in the subject.

Modeling and Simulation in Chemical Engineering - Christo Boyadjiev 2022

This book presents a theoretical analysis of the modern methods used for modeling various chemical engineering processes. Currently, the two primary problems in the chemical industry are the optimal design of new devices and the optimal control of active processes. Both of these problems are often solved by developing new methods of modeling. These methods for modeling specific processes may be different, but in all cases, they bring the mathematical description closer to the real processes by using appropriate experimental data. In this book, the authors detail a new approach for the modeling of chemical processes in column apparatuses. Further, they describe the types of neural networks that have been shown to be effective in solving important chemical engineering problems. Readers are also presented with mathematical models of integrated bioethanol supply chains (IBSC) that achieve improved economic and environmental sustainability. The integration of energy and mass processes is one of the most powerful tools for creating sustainable and energy efficient production systems. This book defines the main approaches for the thermal integration of periodic processes, direct and indirect, and the recent integration of small-scale solar thermal dryers with phase change materials as energy accumulators. An exciting overview of new approaches for the modeling of chemical engineering processes, this book serves as a guide for the important innovations being made in theoretical chemical engineering.

Advances in Fluid and Thermal Engineering - Basant Singh Sikarwar 2021-04-21

This book comprises the select proceedings of the International Conference on Future Learning Aspects of Mechanical Engineering (FLAME 2020). This volume focuses on current research in fluid and thermal engineering and covers topics such as heat transfer enhancement and heat transfer equipment, heat transfer in nuclear applications, microscale and nanoscale transport, multiphase transport and phase change, multi-mode heat transfer, numerical methods in fluid mechanics and heat transfer, refrigeration and air conditioning, thermodynamics, space heat transfer, transport phenomena in porous media, turbulent transport, theoretical and experimental fluid dynamics, flow measurement techniques and instrumentation, computational fluid dynamics, fluid machinery, turbo machinery and fluid power. Given the scope of its contents, this book will be interesting for students, researchers as well as industry professionals.

Innovations in Energy, Power and Thermal Engineering - Muthukumar Palanisamy 2021-10-08

This book presents the select proceedings of International Conference on Innovations in Thermo-Fluid Engineering and Sciences (ICITFES 2020). It covers the theoretical and experimental research works carried out in the field of energy and power engineering. Various topics covered include fluid mechanics, gas turbines and dynamics, heat transfer, humidity and control, multiphase flow, ocean engineering, power and energy, refrigeration and air conditioning, renewable energy, and thermodynamics. The book will be helpful for the researchers, scientists, and professionals working in the field of energy, power engineering, and thermal engineering.

Recent Advances in Mechanical Engineering - K.M. Pandey 2021-01-10
This book presents the select proceedings of the International Conference on Recent Advancements in Mechanical Engineering (ICRAME 2020). It provides a comprehensive overview of the various technical challenges faced, their systematic investigation, contemporary developments, and future perspectives in the domain of mechanical

engineering. The book covers a wide array of topics including fluid flow techniques, compressible flows, waste management and waste disposal, bio-fuels, renewable energy, cryogenic applications, computing in applied mechanics, product design, dynamics and control of structures, fracture and failure mechanics, solid mechanics, finite element analysis, tribology, nano-mechanics and MEMS, robotics, supply chain management and logistics, intelligent manufacturing system, rapid prototyping and reverse engineering, quality control and reliability, conventional and non-conventional machining, and ergonomics. This book can be useful for students and researchers interested in mechanical engineering and its allied fields.

Recent Advances in Mechanical Engineering - S. Narendranth 2022-05-24

The book presents the select proceedings of the Third International Conference on Emerging Research in Civil, Aeronautical and Mechanical Engineering (ERCAM 2021) and focuses on the broad themes of mechanical and aeronautical engineering. The book covers research developments in the field of materials, mechanics, structures, systems and sustainability. Various topics covered in this book include smart and multifunctional composite materials, nano materials, computational mechanics, solid mechanics, kinematics and dynamics, fatigue, fracture and life cycle analysis, smart structures-vibration and noise control, vibration, acoustics and condition monitoring, thermal/fluid systems and analysis. The book will be useful for students, researchers and professionals working in the various areas of mechanical engineering.

Recent Advances in Mechanical Engineering - Anil Kumar 2021-05-25

This book presents the select proceedings of the second International Conference on Recent Advances in Mechanical Engineering (RAME 2020). The topics covered include aerodynamics and fluid mechanics, automation, automotive engineering, composites, ceramics and polymers processing, computational mechanics, failure and fracture mechanics, friction, tribology and surface engineering, heating and ventilation, air conditioning system, industrial engineering, IC engines, turbomachinery and alternative fuels, machinability and formability of materials, mechanisms and machines, metrology and computer-aided inspection, micro- and nano-mechanics, modelling, simulation and optimization, product design and development, rapid manufacturing technologies and prototyping, solid mechanics and structural mechanics, thermodynamics and heat transfer, traditional and non-traditional machining processes, vibration and acoustics. The book also discusses various energy-efficient renewable and non-renewable resources and technologies, strategies and technologies for sustainable development and energy & environmental interaction. The book is a valuable reference for beginners, researchers, and professionals interested in sustainable construction and allied fields.

Trends in Materials Engineering - Inderdeep Singh 2019-07-12

This book comprises select proceedings of the International Conference on Futuristic Trends in Materials and Manufacturing (ICFTMM 2018). The book includes latest research on conventional materials, advanced metals and alloys, polymeric materials and composites. In addition to the characterization of different advanced materials, the book also discusses their applications in various fields such as marine, automotive, aerospace, sporting equipment, and infrastructure. The book offers an insight into the manufacturing of cost-effective and high performance materials products. The contents of this book will be useful for students, academicians, and researchers working in the field of materials science and engineering.

Applied Thermodynamics - R. K. Rajput 2009-12

Recent Trends in Thermal Engineering - L. M. Das 2021-09-15

This book presents select proceedings of the 3rd International Conference on Computational and Experimental Methods in Mechanical Engineering (ICCEMME 2021). It gives an overview of recent developments in the field of fluid dynamics and thermal engineering. Topics covered include case studies in thermal engineering, combustion engines, computational fluid dynamics (cfD), cooling systems, energy conservation, energy conversion, renewable energy, bio fuels, gas turbines, heat exchangers and heat transfer systems, heat pipes and pumps, heat transfer augmentation, refrigeration and HVAC systems, fluids engineering, energy and process, and thermal power plants. The book will be useful for researchers and professionals working in the area of thermal engineering and allied fields.

Membrane-Distillation in Desalination - Farid Benyahia 2019-05-30
Membrane-Distillation in Desalination is an attempt to provide the latest knowledge, state of the art and demystify outstanding issues that delay

the deployment of the technology on a large scale. It includes new updates and comprehensive coverage of the fundamentals of membrane distillation technology and explains the energy advantage of membrane distillation for desalination when compared to traditional techniques such as thermal or reverse osmosis. The book includes the latest pilot test results from around the world on membrane distillation desalination.

Recent Advances in Mechanical Engineering - Gaurav Manik
2022-10-10

This book presents the select proceedings of 2nd International Congress on Advances in Mechanical and Systems Engineering (CAMSE 2021). It focuses on the recent advances in mechanical and systems engineering and their growing demands for increase in several design and development activities. The contents in this book cover a blend of mechanical engineering, computer-aided engineering, control engineering, and systems engineering to design and manufacture useful products. Various additional topics covered include mechanics, machines, materials science, thermo-fluids, and control with state-of-the-art computational methods to analyse, innovate, design, implement and operate complex systems which are economic, reliable, efficient and sustainable. Given the contents, this book will be useful for researchers and professionals working in the field of mechanical engineering and allied fields.

Nanofluid Technologies and Thermal Convection Techniques - Chand, Ramesh 2017-01-10

Emerging developments in nanofluid research have enhanced its range of various industrial applications. When implemented effectively, the use of such fluids offer numerous benefits, particularly in cooling processes.

Nanofluid Technologies and Thermal Convection Techniques is a pivotal source of information for theoretical perspectives and investigations on the thermal instability of nanofluids and its various effects. Highlighting relevant studies relating to stationary, double diffusive, and oscillatory convection, this book is ideally designed for professionals, researchers, and practitioners seeking material on the industrial usage of nanofluid technologies.

Mechanical Engineering - S.K. Yadav 2006

The present title Mechanical Engineering has been design for all engineering students of Indian Universities to meet out the basic requirement of the students in making their concepts clear. In order to provide the reader with practice interpreting truth tables and logic symbols, the method of perfect induction is used to prove most of the theorems. For the most part, real commercially available device characteristics are employed. In this way the reader may become familiar with the order of magnitude of device parameters, and the variability of these parameters within a given type. This book is written in a single and easy to follow language, so that even an average student can grasp subject by self study. Special effort has also been made to indicate the shortest analysis of a wide variety of problems. In the preparation of this book large number of books and research papers have been consulted. So no authenticity is claimed. The author wishes to express his deepest appreciation to the many people who have contributed in one way or the other to the preparation of this title. Contents: Fundamental Concept and Definition, Ideal Gas, Laws of Thermodynamics, First Law of Thermodynamics, The Second Law of Thermodynamics, Vapour Power Cycles, Thermodynamics Cycles, Simple Stress and Strain, Bending and Shearing Stress, Torsion.