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Artificial Intelligence and Machine Learning in Smart City Planning - Vedik Basetti 2023-01-11
Artificial Intelligence and Machine Learning in Smart City Planning shows the reader practical applications of AIML techniques and describes recent advancements in this area in various sectors. Owing to the multidisciplinary nature, this book primarily focuses on the concepts of AIML and its methodologies such as evolutionary techniques, neural networks, machine learning, deep learning, block chain technology, big data analytics, and image processing in the context of smart cities. The text also discusses possible solutions to different challenges posed by smart cities by presenting cutting edge AIML techniques using different methodologies, as well as future directions for those same techniques. Reviews the smart city concept and teaches how it can contribute to achieving urban development priorities Explains soft computing techniques for smart city applications Describes how to model problems for effective analysis,

intelligent decision making, and optimal operation and control in the smart city paradigm Teaches how to carry out independent projects using soft computing techniques in a vast range of areas in diverse fields like engineering, management, and sciences
Physical Metallurgy - Prof. Vijendra Singh 2005-01-01
Physical Metallurgy deals primarily with the products of process metallurgy and their physical, chemical and mechanical properties. This book explain basic principles of physical metallurgy including the practical applications. The book should prove to be an invaluable and easily accessible friend to understand the theory and practice of physical metallurgy by mechanical, production, chemical and specially the metallurgical engineering students.
Student-staff Directory - University of Illinois at Urbana-Champaign 2009
Materials Science Compendium - Dr. A. K. Shrivastva
The study of science of materials has become in recent years an integral

part of virtually all university courses in engineering. The subject of material science is an essential component of engineering education. It was with this in mind that present book was written. This book is primarily aimed at explaining the basic concepts of the science of materials. This is an elementary textbook on material science for graduate students of science and engineering. This book is suitable for students and engineers working in the material science field. A design engineer must have a sound knowledge of the basic concepts of material science. The presentation is concise, clear and lucid. The book covers the syllabus of undergraduate engineering courses of Indian Universities. A number of solved numerical problems have been included in the book to help the students in their learning and understanding process.

The Indian Concrete Journal - 1990

Annual Index/abstracts of SAE Technical Papers - 1996

India's Changing Innovation System - National Research Council 2007-07-27
As part of its review of Comparative National Innovation Policies: Best Practice for the 21st Century, the Board on Science, Technology, and Economic Policy convened a major symposium in Washington to examine the policy changes that have contributed to India's enhanced innovative capacity. This major event, organized in cooperation with the Confederation of Indian Industry, was particularly timely given President Bush's March 2006 visit to India and the Joint Statement issued with the Indian government calling for strategic cooperation in innovation and the development of advanced technologies. The conference, which brought together leading figures from the public and

private sectors from both India and the United States, identified accomplishments and existing challenges in the Indian innovation system and reviewed synergies and opportunities for enhanced cooperation between the Indian and U.S. innovation systems. This report on the conference contains three elements: a summary of the key symposium presentations, an introductory chapter analyzing the policy issues raised at the symposium, and a research paper providing a detailed examination of India's knowledge economy, placing it in terms of overall global trends and analyzing its challenges and opportunities.

Applied Physics , Second Edition - P K Mittal 2008-01-01

The present book is designed for the first year engineering students of Jawaharlal Nehru Technology University, Hyderabad. The Salient Features of the book are: * It covers all the topics of the prescribed syllabus. * The different concepts and propositions are developed in terms of simple physical phenomenon supplemented with theoretical derivations in a concise and explanatory manner * A set of solved examples are given at the end of each chapter. * At the end of each chapter, a set of review questions, numerical questions and multiple choice questions have been given.
Advances in Automotive Technologies - M. Razi Nalim 2020-09-01

This book contains selected papers from the International Conference on Progress in Automotive Technologies (ICPAT) 2019. The contents focus on several aspects of the automobile industry from design to manufacture, and the challenges involved therein. The book covers latest research trends in the automotive domain including topics such as aerodynamic design, vehicle sensors and

electronics, engine combustion modeling, noise and vibration in vehicles, electric and hybrid vehicles, automotive tribology, and battery and fuel cell technologies. The book highlights the use of emerging technologies to tackle the growing environmental challenges. This book will be of interest to students, researchers as well as professionals working in automotive engineering and allied fields.

Advances in Lightweight Materials and Structures - A. Praveen Kumar
2020-10-13

This book presents select proceedings of the International Conference on Advanced Lightweight Materials and Structures (ICALMS) 2020, and discusses the triad of processing, structure, and various properties of lightweight materials. It provides a well-balanced insight into materials science and mechanics of both synthetic and natural composites. The book includes topics such as nano composites for lightweight structures, impact and failure of structures, biomechanics and biomedical engineering, nanotechnology and micro-engineering, tool design and manufacture for producing lightweight components, joining techniques for lightweight structures for similar and dissimilar materials, design for manufacturing, reliability and safety, robotics, automation and control, fatigue and fracture mechanics, and friction stir welding in lightweight sandwich structures. The book also discusses latest research in composite materials and their applications in the field of aerospace, construction, wind energy, automotive, electronics and so on. Given the range of topics covered, this book can be a useful resource for beginners, researchers and professionals interested in the wide ranging applications of lightweight structures.

Plasticulture Engineering and Technology - Rohitashw Kumar
2022-05-06

The utilization of successful plasticulture engineering technology can ideally optimize crop yields and provide both economic and environmental benefits, such as reducing the need for water and fertilizer. This book discusses the myriad important aspects of crop production that utilize plastic, such as micro-irrigation, water management, plastic mulch films, protected cultivation and low tunnels, crop covers, canal linings, silage bags, and more. It also examines the latest methods for vertical farming and technological aspects, such as smart agriculture using the internet of things (IoT). The current state of the art, as well as potential future uses, of plastics is discussed in addition to the benefits and limitations of plastics applications in agriculture generally. Features Illustrates application of plastic in protected cultivation, water management, aquaculture, and hi-tech horticulture using innovative technologies to enhance water use efficiency and crop productivity Presents precision farming for climate-resilient technologies Includes real-world examples to present practical insights of plastic engineering for climate change mitigation strategies. Plasticulture Engineering and Technology will serve as a useful resource for students, professionals, and researchers in agriculture and agricultural engineering, hydrology, hydraulics, water resources engineering, irrigation engineering, and environmental science.

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.

Principles of Engineering Physics 2 - Md Nazoor Khan 2017-03-06

This textbook is a follow-up to the volume Principles of Engineering Physics 1 and aims for an introductory course in engineering physics. It provides a balance between theoretical concepts and their applications. Fundamental concepts of crystal structure including lattice directions and planes, atomic packing factor, diffraction by crystal, reciprocal lattices and intensity of diffracted beam are extensively discussed in the book. The book also covers topics related to superconductivity, optoelectronic devices, dielectric materials, semiconductors, electron theory of solids and energy bands in solids. The text is written in a logical and coherent manner for easy understanding by students. Emphasis has been given to an understanding of the basic concepts and their applications to a number of engineering problems. Each topic is discussed in detail both conceptually and mathematically, so that students will not face comprehension difficulties. Derivations and solved

problems are provided in a step-by-step approach.

Making Innovations Happen - Prof. (Dr.) P.B. Sharma 2015-10-01

The proceedings of this conclave include invited talks from nearly a dozen persons of eminence from across the country including the Industry, academia and the Government organisations. This Conclave Brought together all the stake-holders, viz., Industry, Academic, Innovators, Entrepreneurs, R&D organisations, and Policy makers to synergistically discuss, share, display and learn about the cutting edge innovations and technologies that can help enhancing the productivity, improve quality of production, enhance self-reliance and act as a catalyst to the economic growth of the country.

Advances in Image and Data Processing Using VLSI Design - Kusum Lata 2022-01-30

Fungi Bio-prospects in Sustainable Agriculture, Environment and Nanotechnology - Vijay Kumar Sharma 2020-10-24

Fungi Bio-prospects in Sustainable Agriculture, Environment and Nanotechnology, Volume Two: Extremophilic Fungi and Myco-mediated Environmental Management explores varied aspects of fungal biology and their relevance in microbiology and agriculture, thus allowing for better insights on basic and advanced biotechnological application in human welfare and sustainable agriculture. Chapters throw light on different sectors of fungi, including fungi in extreme circumstances, bioremediation, complex and toxic effluents, and mycoremediation. The book was designed to explore the possibility of huge fungal diversity for present and future generation in different sectors of human life. Volume Two focuses on extremophilic fungi and myco-mediated environmental

management. Summarizes various aspects of fungi in the field of microbiology, sustainable agriculture, nano-technology and environment Describes the molecular approaches and gene expression of fungi Provides a deeper understanding of fungi that could be articulated in various fields

Indian Science Abstracts - 1992-10

Bio-Fiber Reinforced Composite

Materials - K. Palanikumar 2022-03-02

This book provides an overview on the latest technology and applications of bio-based fiber composite materials. It covers the mechanical and thermal properties of bio-fibers for polymeric resins and explains the different pre-treatment methods used by the researchers for the enhancement. In addition, this book also presents a complete analysis on the tribological behavior of bio-fiber reinforced polymer composites to appreciate the friction and wear behavior. This book would be a handy to the industrial practitioners and researchers in the direction of achieving optimum design for the components made of natural fiber based polymer matrix composites.

Dynamics of Smart Structures - Ranjan Vepa 2010-03-10

Dynamics of Smart Structures is a practical, concise and integrated text that provides an introduction to the fundamental principles of a field that has evolved over the recent years into an independent and identifiable subject area. Bringing together the concepts, techniques and systems associated with the dynamics and control of smart structures, it comprehensively reviews the differing smart materials that are employed in the development of the smart structures and covers several recent developments in the field of structural dynamics. *Dynamics of Smart Structures* has been developed

to complement the author's new interdisciplinary programme of study at Queen Mary, University of London that includes courses on emerging and new technologies such as biomimetic robotics, smart composite structures, micro-electro-mechanical systems (MEMS) and their applications and prosthetic control systems. It includes chapters on smart materials and structures, transducers for smart structures, fundamentals of structural control, dynamics of continuous structures, dynamics of plates and plate-like structures, dynamics of piezoelectric media, mechanics of electro-actuated composite structures, dynamics of thermo-elastic media: shape memory alloys, and controller designs for flexible structures.

Universities Handbook - 2010

Recent Advancements in Geotechnical Engineering - B. Soundara 2021-10-15

Geotechnical engineering has become an important discipline of civil engineering due to its rapid advancements and environmental challenges. Special emphasis is placed on innovative materials in the fields of geotechnical engineering, pavement engineering, health monitoring of structures and sustainability. Keywords: Green Building Materials, Cement Based Materials, Concrete Applications, Photocatalytic Effect on Paver Blocks, Stabilization of Black Cotton Soil, Concrete Filled Steel Tube Columns, Cenosphere, Fly Ash Brick, Stone Columns, Reinforced Concrete Beams, Interlocking Masonry Units, Lightweight Filler Materials, Soil Stabilization Using Fibres, Friction Stir Welding of Aluminum and Magnesium.

Cloud IoT Systems for Smart Agricultural Engineering - Saravanan Krishnan 2022-02-14

Agriculture plays a vital role in a

country's growth. Modern-day technologies drive every domain toward smart systems. The use of traditional agricultural procedures to satisfy modern-day requirements is a challenging task. Cloud IoT Systems for Smart Agricultural Engineering provides substantial coverage of various challenges of the agriculture domain through modern technologies such as the Internet of Things (IoT), cloud computing, and many more. This book offers various state-of-the-art procedures to be deployed in a wide range of agricultural activities. The concepts are discussed with the necessary implementations and clear examples. Necessary illustrations are depicted in the chapters to ensure the effective delivery of the proposed concepts. It presents the rapid advancement of the technologies in the existing agricultural model by applying the cloud IoT techniques. A wide variety of novel architectural solutions are discussed in various chapters of this book. This book provides comprehensive coverage of the most essential topics, including: New approaches on urban and vertical farming Smart crop management for Indian farmers Smart livestock management Precision agriculture using geographical information systems Machine learning techniques combined with IoT for smart agriculture Effective use of drones in smart agriculture This book provides solutions for the diverse domain of problems in agricultural engineering. It can be used at the basic and intermediary levels for agricultural science and engineering graduate students, researchers, and practitioners.

Theory and Applications of Computational Chemistry - Clifford Dykstra 2011-10-13

Computational chemistry is a means of applying theoretical ideas using computers and a set of techniques for

investigating chemical problems within which common questions vary from molecular geometry to the physical properties of substances. Theory and Applications of Computational Chemistry: The First Forty Years is a collection of articles on the emergence of computational chemistry. It shows the enormous breadth of theoretical and computational chemistry today and establishes how theory and computation have become increasingly linked as methodologies and technologies have advanced. Written by the pioneers in the field, the book presents historical perspectives and insights into the subject, and addresses new and current methods, as well as problems and applications in theoretical and computational chemistry. Easy to read and packed with personal insights, technical and classical information, this book provides the perfect introduction for graduate students beginning research in this area. It also provides very readable and useful reviews for theoretical chemists. * Written by well-known leading experts * Combines history, personal accounts, and theory to explain much of the field of theoretical and computational chemistry * Is the perfect introduction to the field

Advances in Manufacturing Processes -

K. S. Vijay Sekar 2018-09-10

This book comprises selected proceedings of the International Conference on Engineering Materials, Metallurgy and Manufacturing (ICEMMM 2018). It discusses innovative manufacturing processes, such as rapid prototyping, nontraditional machining, advanced computer numerical control (CNC) machining, and advanced metal forming. The book particularly focuses on finite element simulation and optimization, which aid in reducing experimental costs and time. This book is a

valuable resource for students, researchers, and professionals alike.

Supply Chain Engineering - A. Ravi Ravindran 2016-04-19

Winner of 2013 IIE/Joint Publishers Book-of-the-Year Award Emphasizing a quantitative approach, Supply Chain Engineering: Models and Applications provides state-of-the-art mathematical models, concepts, and solution methods important in the design, control, operation, and management of global supply chains.

The text provides an understanding of **Machine Learning in Chemistry** - Hugh M Cartwright 2020-07-15

Progress in the application of machine learning (ML) to the physical and life sciences has been rapid. A decade ago, the method was mainly of interest to those in computer science departments, but more recently ML tools have been developed that show significant potential across wide areas of science. There is a growing consensus that ML software, and related areas of artificial intelligence, may, in due course, become as fundamental to scientific research as computers themselves. Yet a perception remains that ML is obscure or esoteric, that only computer scientists can really understand it, and that few meaningful applications in scientific research exist. This book challenges that view. With contributions from leading research groups, it presents in-depth examples to illustrate how ML can be applied to real chemical problems. Through these examples, the reader can both gain a feel for what ML can and cannot (so far) achieve, and also identify characteristics that might make a problem in physical science amenable to a ML approach. This text is a valuable resource for scientists who are intrigued by the power of machine learning and want to learn more about how it can be applied in their own field.

Membership Directory - Materials Research Society 1997

Engineered Materials - S. Hampshire 1993

This volume gives a demonstration of the diversity of contemporary materials science. The eight conference of the Irish Materials Forum marks a decade in the span of a series of conferences, where state-of-the-art findings from researchers in Ireland, Europe and all over the world are reported to a younger generation of Irish engineers and materials specialists.

Who's who in America - 2000

Metal Foams - Nihad Dukhan 2013

- Covers all phases of metal foam theory and technology
- Techniques linking pore structure to custom properties
- New applications in transportation, energy absorption, and orthopedic implants
- Foams from a variety of metals as well as special shapes and lotus-type

Studying Early India - Brajadulal Chattopadhyaya 2006

This volume of essays focuses on the fresh set of problems that post-Independence historiography has brought to the fore. It covers areas such as the integration of archaeology with narratives of early Indian history; the trajectories of social change and social formation; the historical position of ideology and its shifts; and, importantly, how ways of communicating knowledge of the past is now increasingly under non-academic fundamentalist onslaught. Studying Early India also investigates the profound impact of colonialism on the study of India's early past, the new methods and premises introduced into India by colonial studies and the variety of departures from traditional, pre-colonial modes of history-writing. This new book on the methodological

changes that confront the historian of pre-colonial India will consolidate Professor Chattopadhyaya's reputation as one of the foremost thinkers in his area of ancient and early medieval history. **IBM Journal of Research and Development** - 1989

Electrical Properties of Materials - Laszlo Solymar 2009-10-22

An informal and highly accessible writing style, a simple treatment of mathematics, and clear guide to applications, have made this book a classic text in electrical and electronic engineering. Students will find it both readable and comprehensive. The fundamental ideas relevant to the understanding of the electrical properties of materials are emphasized; in addition, topics are selected in order to explain the operation of devices having applications (or possible future applications) in engineering. The mathematics, kept deliberately to a minimum, is well within the grasp of a second-year student. This is achieved by choosing the simplest model that can display the essential properties of a phenomenon, and then examining the difference between the ideal and the actual behaviour. The whole text is designed as an undergraduate course. However most individual sections are self contained and can be used as background reading in graduate courses, and for interested persons who want to explore advances in microelectronics, lasers, nanotechnology and several other topics that impinge on modern life. *India's Long Road* - Vijay Joshi 2017 "India's surge in high, well-sustained economic growth captured the world's attention for much of the period from the 1990s to the early 2010s. Often paired with China as being at the leading edge of emerging

economies, the last few years have witnessed shortfalls in India's performance, which have also occurred in the cases of other "BRICS," namely, Brazil, Russia, and South Africa. India is now facing a possible fiscal crisis, higher inflation, greater concentration of economic wealth, and a slowdown in productivity. While its business sector remains vigorous, the Indian state has not yet found a viable way to fund food subsidies or come to grips with the costs of its employment guarantee program. Corruption also hinders growth at many turns. All these factors bring into question how feasible or wise it is for India to pursue a path toward global political power rather than concentrate on improved economic engagement worldwide. Dr. Joshi believes India's economic problems are serious and systemic, not a temporary blip. His analysis sets forth that the only way the country can truly prosper is to find the means to return to the earlier levels of growth through massive economic reform. This policy reorientation calls for eliminating price controls as well as both explicit and hidden subsidies to industries, introduction of direct cash transfers to the poor in place of the state's own costly production of goods and services, and an aggressive move toward privatization rather than over-reliance on family firms and widely-held corporations. Without these, the requisites of economic stability cannot be fully established, let alone propel significant growth"-- Body Language by VIJAYA KUMAR - VIJAYA KUMAR 2012-06-01

"Do you wish you could understand the communicative signals of others better? • The Language • Recognising gestures and expressions • The Message • Understanding what a person wants to convey A complete guide to

the language spoken through the body. It is a wonder how much we express through the unspoken language of the body – the gestures of the hands, the legs, the head and expressions of the face. This book is a comprehensive guide to the language of body postures and gestures. It makes interesting reading, and has pictures detailing the gestures and the meanings they convey. It enables you to interpret the body language of yourself and others. A must for success in effective communication. Table of Content... 1. What is Body Language? 2. Facial Expressions and Hand Gestures 3. Palm Gestures 4. Hand and Arm Gestures 5. Hand-to-face Gestures 6. Limb Barriers 7. Eye Signals 8. Other Popular Gestures 9. Attitudes 10. Courtship Gestures 11. Territorial and Ownership Gestures 12. Mirror Images 13. Pointers 14. Influence of Spatial Zones and Culture "

Handbook of Troubleshooting Plastics Processes - John R. Wagner, Jr.
2012-09-19

This handbook provides a framework for understanding how to characterize plastic manufacturing processes for use in troubleshooting problems. The 21 chapters are authored by well-known and experienced engineers who have specialized knowledge about the processes covered in this practical guide. From the Preface: "In every chapter, the process is described and the most common problems are discussed along with the root causes and potential technical solutions. Numerous case studies are provided that illustrate the troubleshooting process. Mark A. Spalding, The Dow Chemical Company
Materials Science - 2003

Handbook of Thermoset Plastics - Hanna Dodiuk 2021-10-25
Handbook of Thermoset Plastics, Fourth Edition provides complete

coverage of the chemical processes, manufacturing techniques and design properties of each polymer, along with its applications. This new edition has been expanded to include the latest developments in the field, with new chapters on radiation curing, biological adhesives, vitrimers, and 3D printing. This detailed handbook considers the practical implications of using thermoset plastics and the relationships between processing, properties and applications, as well as analyzing the strengths and weakness of different methods and applications. The aim of the book is to help the reader to make the right decision and take the correct action on the basis of informed analysis – avoiding the pitfalls the authors' experience has uncovered. In industry, the book supports engineers, scientists, manufacturers and R&D professionals working with plastics. The information included will also be of interest to researchers and advanced students in plastics engineering, polymer chemistry, adhesives and coatings. Offers a systematic approach, guiding the reader through chemistry, processing methods, properties and applications of thermosetting polymers Includes thorough updates that discuss current practice and the new developments on biopolymers, nanotechnology, 3D printing, radiation curing and biological adhesives Uses case studies to demonstrate how particular properties make different polymers suitable for different applications Covers end-use and safety considerations

Advances in Biomaterials for Biomedical Applications - Anuj Tripathi 2017-01-24

This book highlights recent advances in the field of biomaterials design and the state of the art in biomaterials applications for

biomedicine. Addressing key aspects of biomaterials, the book explores technological advances at multi-scale levels (macro, micro, and nano), which are used in applications related to cell and tissue regeneration. The book also discusses the future scope of bio-integrated systems. The contents are supplemented by illustrated examples, and schematics of molecular and cellular interactions with biomaterials/scaffolds are included to promote a better understanding of the complex biological mechanisms involved in material-to-biomolecule interactions. The book also covers factors that govern cell growth, differentiation, and regeneration in connection with the treatment and recovery of native biological systems. Tissue engineering, drug screening and delivery, and electrolyte complexes for biomedical applications are also covered in detail. This book offers a comprehensive reference guide for multi-disciplinary communities working in the area of biomaterials, and will benefit researchers and graduate students alike.

Groundwater Assessment, Modeling, and Management - M. Thangarajan

2016-09-15

Your Guide to Effective Groundwater Management Groundwater Assessment, Modeling, and Management discusses a variety of groundwater problems and outlines the solutions needed to sustain surface and ground water resources on a global scale. Contributors from around the world lend their expertise and provide an international perspective on groundwater management. They address the management of groundwater resources and pollution, waste water treatment methods, and the impact of climate change on groundwater and water availability (specifically in arid and semi-arid regions such as

India and Africa). Incorporating management with science and modeling, the book covers all areas of groundwater resource assessment, modeling, and management, and combines hands-on applications with relevant theory. For Water Resource Managers and Decision Makers The book describes techniques for the assessment of groundwater potential, pollution, prevention, and remedial measures, and includes a new approach for groundwater modeling based on connections (network theory). Approximately 30 case studies and six hypothetical studies are introduced reflecting a range of themes that include: groundwater basics and the derivation of groundwater flow equations, exploration and assessment, aquifer parameterization, augmentation of aquifer, water and environment, water and agriculture, the role of models and their application, and water management policies and issues. The book describes remote sensing (RS) applications, geographical information systems (GIS), and electrical resistivity methods to delineate groundwater potential zones. It also takes a look at: Inverse modeling (pilot-points method) Simulation optimization models Radionuclide migration studies through mass transport modeling Modeling for mapping groundwater potential Modeling for vertical 2-D and 3-D groundwater flow Groundwater Assessment, Modeling, and Management explores the management of water resources and the impact of climate change on groundwater. Expert contributors provide practical information on hydrologic engineering and groundwater resources management for students, researchers, scientists, and other practicing professionals in environmental engineering, hydrogeology, irrigation, geophysics, and

environmental science.