

Basic Electronics By Navneet Kumar Gupta Bing

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Ambient Communications and Computer Systems Gregorio Martinez Perez 2018-03-20
This book includes high-quality, peer-reviewed papers from the International Conference on Recent Advancement in Computer, Communication and Computational Sciences (RACCCS-2017), held at Aryabhata College of Engineering & Research Center, Ajmer, India on September 2-3, 2017, presenting the latest developments and technical solutions in computational sciences. Data science, data- and knowledge engineering require networking and communication as a backbone and have a wide scope of implementation in engineering sciences. Keeping this ideology in mind, the book offers insights that reflect the advances in these fields from upcoming researchers and leading academicians across the globe. Covering a variety of topics, such as intelligent hardware and software design, advanced communications, intelligent computing technologies, advanced software engineering, the web and informatics, and intelligent image processing, it helps those in the computer industry and academia use the advances of next-generation communication and computational technology to shape real-world applications.

The Case for Marriage Linda Waite 2002-03-05 A groundbreaking look at marriage, one of the most basic and universal of all human institutions, which reveals the emotional, physical, economic, and sexual benefits that marriage brings to individuals and society as a

whole. The Case for Marriage is a critically important intervention in the national debate about the future of family. Based on the authoritative research of family sociologist Linda J. Waite, journalist Maggie Gallagher, and a number of other scholars, this book's findings dramatically contradict the anti-marriage myths that have become the common sense of most Americans. Today a broad consensus holds that marriage is a bad deal for women, that divorce is better for children when parents are unhappy, and that marriage is essentially a private choice, not a public institution. Waite and Gallagher flatly contradict these assumptions, arguing instead that by a broad range of indices, marriage is actually better for you than being single or divorced- physically, materially, and spiritually. They contend that married people live longer, have better health, earn more money, accumulate more wealth, feel more fulfillment in their lives, enjoy more satisfying sexual relationships, and have happier and more successful children than those who remain single, cohabit, or get divorced. The Case for Marriage combines clearheaded analysis, penetrating cultural criticism, and practical advice for strengthening the institution of marriage, and provides clear, essential guidelines for reestablishing marriage as the foundation for a healthy and happy society. "A compelling defense of a sacred union. The Case for Marriage is well written and well argued, empirically rigorous and learned, practical and commonsensical." -- William J. Bennett, author of

The Book of Virtues "Makes the absolutely critical point that marriage has been misrepresented and misunderstood." -- The Wall Street Journal www.broadwaybooks.com

Unmanned Aerial Vehicles for Internet of Things (IoT) Vandana Mohindru 2021-08-03
UNMANNED AERIAL VEHICLES FOR INTERNET OF THINGS This comprehensive book deeply discusses the theoretical and technical issues of unmanned aerial vehicles for deployment by industries and civil authorities in Internet of Things (IoT) systems. Unmanned aerial vehicles (UAVs) has become one of the rapidly growing areas of technology, with widespread applications covering various domains. UAVs play a very important role in delivering Internet of Things (IoT) services in small and low-power devices such as sensors, cameras, GPS receivers, etc. These devices are energy-constrained and are unable to communicate over long distances. The UAVs work dynamically for IoT applications in which they collect data and transmit it to other devices that are out of communication range. Furthermore, the benefits of the UAV include deployment at remote locations, the ability to carry flexible payloads, reprogrammability during tasks, and the ability to sense for anything from anywhere. Using IoT technologies, a UAV may be observed as a terminal device connected with the ubiquitous network, where many other UAVs are communicating, navigating, controlling, and surveilling in real time and beyond line-of-sight. The aim of the 15 chapters in this book help to realize the full potential of UAVs for the IoT by addressing its numerous concepts, issues and challenges, and develops conceptual and technological solutions for handling them. Applications include such fields as disaster management, structural inspection, goods delivery, transportation, localization, mapping, pollution and radiation monitoring, search and rescue, farming, etc. In addition, the book covers: Efficient energy management systems in UAV-based IoT networks IoE enabled UAVs Mind-controlled UAV using Brain-Computer Interface (BCI) The importance of AI in realizing autonomous and intelligent flying IoT Blockchain-based solutions for various security issues in UAV-enabled IoT The challenges and

threats of UAVs such as hijacking, privacy, cyber-security, and physical safety. Audience: Researchers in computer science, Internet of Things (IoT), electronics engineering, as well as industries that use and deploy drones and other unmanned aerial vehicles.

Handbook of Electronics V. K. Puri 1994
CO₂ as a Building Block in Organic Synthesis Shoubhik Das 2020-09-16 A guide to the fascinating application of CO₂ as a building block in organic synthesis This important book explores modern organic synthesis' use of the cheap, non-toxic and abundant chemical CO₂ as an attractive C1 building block. With contributions from an international panel of experts, CO₂ as Building Block in Organic Synthesis offers a review of the most important reactions which use CO₂ as a building block in organic synthesis. The contributors examine a wide-range of CO₂ reactions including methylation reactions, CH bond functionalization, carboxylation, cyclic carbonate synthesis, multicomponent reactions, and many more. The book reviews the most recent developments in the field and also: Presents the most important reactions like CH-bond functionalization, carboxylation, carbonate synthesis and many more Contains contributions from an international panel of experts Offers a comprehensive resource for academics and professionals in the field Written for organic chemists, chemists working with or on organometallics, catalytic chemists, pharmaceutical chemists, and chemists in industry, CO₂ as Building Block in Organic Synthesis contains an analysis of the most important reactions which use CO₂ as an effective building block in organic synthesis.
Methodologies in Amine Synthesis Alfredo Ricci 2021-04-26 Discover a comprehensive overview of efficient synthetic routes to an important compound class in organic and pharmaceutical chemistry Methodologies in Amine Synthesis: Challenges and Applications delivers powerful and state-of-the-art methods for the efficient preparation of amines. The text summarizes recent advances in the electrophilic amination reaction, hydroamination, C-H amination and newly developed photocatalytic approaches. The distinguished editor has included resources that discuss organocatalytic

and enzymatic routes to the generation of amines under mild and environmentally friendly conditions. The book also highlights the relevance of the amino function in bioactive molecules, drugs, and smart materials, as well as the palladium-catalyzed aromatic amination reaction. It presents efficient and practical synthetic methods, highlights the opportunities and challenges associated with each, and discusses their possible applications in pharmaceutical chemistry and materials science. Edited by the expert who wrote *Modern Amination Methods and Amino Group Chemistry*, the book includes a breadth and depth of material essential to the practice of academic and industrial chemists working in organic synthesis and catalysis. Readers will also benefit from the inclusion of: A thorough introduction to new openings and perspectives in the electrophilic amination Discussions of asymmetric catalysed hydroaminomethylation and amino organocatalysis A treatment of the synthetic application of transaminase or MAO biocatalysis to the synthesis of amines An exploration of recent developments in C-H amination, as well as photocatalytic approaches to the synthesis of amines An examination of primary amines from renewable bio-based resources Perfect for organic, natural product, catalytic, medicinal, and polymer chemists, *Methodologies in Amine Synthesis: Challenges and Applications* will also earn a place in the libraries of materials scientists and chemists working with organometallics who desire a one-stop reference edited by a well-known expert in the field.

Geriatric Urology Tomas Lindor Griebing 2014-05-02 Geriatric Urology outlines important topics in the care of elderly urology patients. The first section covers the biology of aging, the genitourinary system and disease screening including urologic conditions serving as warning signs of other disorders. Section two covers geriatric syndromes and urology including frailty, polypharmacy, dementia, wound healing, osteoporosis and endocrinology. Urologic conditions in older adults are explored in detail including urinary incontinence, pelvic organ prolapse, urinary tract infection, nocturia, and benign prostate diseases. Other topics covered include obtaining informed consent,

development of advance directives, palliative medicine and care of the dying patient. Geriatric Urology is of great value to urologists, geriatricians, internists, residents and family practitioners.

Carbon-Based Metal-Free Catalysts Liming Dai 2018-08-29 Offering comprehensive coverage of this hot topic, this two-volume handbook and ready reference treats a wide range of important aspects, from synthesis and catalytic properties of carbon materials to their applications as metal-free catalysts in various important reactions and industrial processes. Following a look at recent advances in the development of carbon materials as carbon-based metal-free catalysts, subsequent sections deal with a mechanistic understanding for the molecular design of efficient carbon-based metal-free catalysts, with a special emphasis on heteroatom-doped carbon nanotubes, graphene, and graphite. Examples of important catalytic processes covered include clean energy conversion and storage, environmental protection, and synthetic chemistry. With contributions from world-leading scientists, this is an indispensable source of information for academic and industrial researchers in catalysis, green chemistry, electrochemistry, materials science, nanotechnology, energy technology, and chemical engineering, as well as graduates and scientists entering the field.

Computational Collective Intelligence Ngoc Thanh Nguyen 2019-10-04 This two-volume set (LNAI 11683 and LNAI 11684) constitutes the refereed proceedings of the 11th International Conference on Computational Collective Intelligence, ICCCI 2019, held in Hendaye France, in September 2019. The 117 full papers presented were carefully reviewed and selected from 200 submissions. The papers are grouped in topical sections on: computational collective intelligence and natural language processing; machine learning in real-world data; distributed collective intelligence for smart manufacturing; collective intelligence for science and technology; intelligent management information systems; intelligent sustainable smart cities; new trends and challenges in education: the university 4.0; intelligent processing of multimedia in web systems; and big data streaming, applications and security.

Advanced Informatics for Computing Research Dharm Singh 2017-07-21 This book constitutes the refereed proceedings of the First International Conference on Advanced Informatics for Computing Research , ICAICR 2017, held in Jalandhar, India, in March 2017. The 32 revised full papers presented were carefully reviewed and selected from 312 submissions. The papers are organized in topical sections on computing methodologies, information systems, security and privacy, network services.

Catalysis for Clean Energy and Environmental Sustainability K. K. Pant 2022-04-12 This book is part of a two-volume work that offers a unique blend of information on realistic evaluations of catalyst-based synthesis processes using green chemistry principles and the environmental sustainability applications of such processes for biomass conversion, refining, and petrochemical production. The volumes provide a comprehensive resource of state-of-the-art technologies and green chemistry methodologies from researchers, academics, and chemical and manufacturing industrial scientists. The work will be of interest to professors, researchers, and practitioners in clean energy catalysis, green chemistry, chemical engineering and manufacturing, and environmental sustainability. This volume focuses on the potentials, recent advances, and future prospects of catalysis for biomass conversion and value-added chemicals production via green catalytic routes. Readers are presented with a mechanistic framework assessing the development of product selective catalytic processes for biomass and biomass-derived feedstock conversion. The book offers a unique combination of contributions from experts working on both lab-scale and industrial catalytic processes and provides insight into the use of various catalytic materials (e.g., mineral acids, heteropolyacid, metal catalysts, zeolites, metal oxides) for clean energy production and environmental sustainability.

The Comprehensive Cancer Center Mahmoud Aljurf 2021-10-29 This open access book provides a valuable resource for hospitals, institutions, and health authorities worldwide in their plans to set up and develop comprehensive cancer care centers. The development and

implementation of a comprehensive cancer program allows for a systematic approach to evidence-based strategies of prevention, early detection, diagnosis, treatment, and palliation. Comprehensive cancer programs also provide a nexus for the running of clinical trials and implementation of novel cancer therapies with the overall aim of optimizing comprehensive and holistic care of cancer patients and providing them with the best opportunity to improve quality of life and overall survival. This book's self-contained chapter format aims to reinforce the critical importance of comprehensive cancer care centers while providing a practical guide for the essential components needed to achieve them, such as operational considerations, guidelines for best clinical inpatient and outpatient care, and research and quality management structures. Intended to be wide-ranging and applicable at a global level for both high and low income countries, this book is also instructive for regions with limited resources.

The Comprehensive Cancer Center: Development, Integration, and Implementation is an essential resource for oncology physicians including hematologists, medical oncologists, radiation oncologists, surgical oncologists, and oncology nurses as well as hospitals, health departments, university authorities, governments and legislators.

Laser-Induced Graphene Ruquan Ye 2020-11-29 LIG is a revolutionary technique that uses a common CO₂ infrared laser scribe, like the one used in any machine shop, for the direct conversion of polymers into porous graphene under ambient conditions. This technique combines the preparation and patterning of 3D graphene in a single step, without the use of wet chemicals. The ease in the structural engineering and excellent mechanical properties of the 3D graphene obtained have made LIG a versatile technique for applications across many fields. This book compiles cutting-edge research on LIG by different research groups all over the world. It discusses the strategies that have been developed to synthesize and engineer graphene, including controlling its properties such as porosity, composition, and surface characteristics. The authors are pioneers in the discovery and development of LIG and the book will appeal to anyone involved in

nanotechnology, chemistry, environmental sciences, and device development, especially those with an interest in the synthesis and applications of graphene-based materials.

Analog Communication Uday A. Bakshi 2009
Communication / Pulse Modulation Block schematic of Communication System, Base Band Signals and their bandwidth requirements, RF Bands, Types and Communication Channels (Transmission Lines, Parallel Wires, Co-axial Cables, Waveguides and Optical Fiber).
Necessity of Modulation, Types of Modulation : AM, FM, PM and Pulse Modulation. Block schematic of PAM, PWM, PPM. Multiplexing : TDM, FDM. Amplitude Modulation Mathematical treatment and expression for AM, Frequency Spectrum, Modulation Index, Power Relation as applied to Sinusoidal Signals, Representation of AM wave, Mathematical treatment as applied to general signals in Communication, Generation of AM using non-linear property. Types of AM Transmitters DSB-FC, DSB-SC, SSB, ISB & VSB, their generation methods and Comparison in terms of Bandwidth and Transmission Power requirements & Complexity (Block diagram treatment only) Angle Modulation Mathematical analysis of FM and PM using Sinusoidal Signals, Frequency spectrum, Mathematical treatment as applied to general non-sinusoidal Signals, Modulation index, Bandwidth requirements (all three relations). Narrowband and Wideband FM, Comparison of FM and PM, Direct and Indirect methods of FM generation, Need for Pre-emphasis, Comparison of AM and FM. AM & FM Receivers Block diagram of AM and FM receivers, Superheterodyne Receiver, Performance characteristics : Sensitivity, Selectivity, Fidelity, Image Frequency Rejection, IFRR, Tracking, De-emphasis, Mixers. AM Detection Envelope detection, Synchronous detection, Practical diode detection, AGC. SSB and DSB detection methods. FM Detection Phase discriminator and Ratio Detector, Mathematical analysis of FM Detection. Noise Sources of Noise, Types of Noise, White Noise, SNR, Noise Figure, Noise Temperature, Friis formula for Noise Figure, Noise Bandwidth, Performance of AM (DSB, SSB & VSB) and FM in presence of Noise : Mathematical treatment Radiation and Propagation Concept of Radiation, Basic Antenna System (Dipole), Antenna parameters,

Yagi Antenna. Mechanism of Propagation : Ground Wave, Sky Wave, Space Wave, Duct, Tropospheric Scatter and Extraterrestrial Propagation. Concept of Fading and diversity reception.

Platform Chemical Biorefinery Satinder Kaur Brar 2016-06-02 Platform Chemical Biorefinery: Future Green Chemistry provides information on three different aspects of platform chemical biorefinery. The book first presents a basic introduction to the industry beneficial for university students, then provides engineering details of existing or potential platform chemical biorefinery processes helpful to technical staff of biorefineries. Finally, the book presents a critical review of the entire platform chemical biorefinery process, including extensive global biorefinery practices and their potential environmental and market-related consequences. Platform chemicals are building blocks of different valuable chemicals. The book evaluates the possibility of renewable feedstock-based platform chemical production and the fundamental challenges associated with this objective. Thus, the book is a useful reference for both academic readers and industry technical workers. The book guides the research community working in the field of platform chemical biorefinery to develop new pathways and technologies in combination with their market value and desirability. Offers comprehensive coverage of platform chemicals biorefineries, recent advances and technology developments, potential issues for preventing commercialization, and solutions Discusses existing technologies for platform chemicals production, highlighting benefits as well their possible adverse effects on the environment and food security Includes a global market analysis of platform chemicals and outlines industry opportunities Serves as a useful reference for both academic readers and industry technical workers

Recent Findings in Intelligent Computing Techniques Pankaj Kumar Sa 2019 This three volume book contains the Proceedings of 5th International Conference on Advanced Computing, Networking and Informatics (ICACNI 2017). The book focuses on the recent advancement of the broad areas of advanced computing, networking and informatics. It also

includes novel approaches devised by researchers from across the globe. This book brings together academic scientists, professors, research scholars and students to share and disseminate information on knowledge and scientific research works related to computing, networking, and informatics to discuss the practical challenges encountered and the solutions adopted. The book also promotes translation of basic research into applied investigation and convert applied investigation into practice.

Lignin Valorization Gregg T. Beckham
2018-03-29 A comprehensive, interdisciplinary picture of how lignocellulosic biorefineries could potentially employ lignin valorization technologies.

Handbook of Biomass Valorization for Industrial Applications Shahid Ul-Islam
2022-01-05 HANDBOOK of BIOMASS VALORIZATION for INDUSTRIAL APPLICATIONS The handbook provides a comprehensive view of cutting-edge research on biomass valorization, from advanced fabrication methodologies through useful derived materials, to current and potential application sectors. Industrial sectors, such as food, textiles, petrochemicals and pharmaceuticals, generate massive amounts of waste each year, the disposal of which has become a major issue worldwide. As a result, implementing a circular economy that employs sustainable practices in waste management is critical for any industry. Moreover, fossil fuels, which are the primary sources of fuel in the transportation sector, are also being rapidly depleted at an alarming rate. Therefore, to combat these global issues without increasing our carbon footprint, we must look for renewable resources to produce chemicals and biomaterials. In that context, agricultural waste materials are gaining popularity as cost-effective and abundantly available alternatives to fossil resources for the production of a variety of value-added products, including renewable fuels, fuel components, and fuel additives. Handbook of Biomass Valorization for Industrial Applications investigates current and emerging feedstocks, as well as provides in-depth technical information on advanced catalytic processes and technologies that enable the development of all possible alternative energy

sources. The 22 chapters of this book comprehensively cover the valorization of agricultural wastes and their various uses in value-added applications like energy, biofuels, fertilizers, and wastewater treatment. Audience The book is intended for a very broad audience working in the fields of materials sciences, chemical engineering, nanotechnology, energy, environment, chemistry, etc. This book will be an invaluable reference source for the libraries in universities and industrial institutions, government and independent institutes, individual research groups, and scientists working in the field of valorization of biomass. Metal Oxide Powder Technologies Yarub Al-Douri 2020-06-02 Metal Oxide Powder Technologies: Fundamentals, Processing Methods and Applications reviews the fundamentals, processing methods and applications of this key materials system. Topics addressed comprehensively cover chemical and physical properties, synthesis, preparation, both accepted and novel processing methods, modeling and simulation. The book provides fundamental information on the key properties that impact performance, such as particle size and crystal structure, along with methods to measure, analyze and evaluate. Finally, important applications are covered, including biomedical, energy, electronics and materials applications. Provides a comprehensive overview of key topics both on the theoretical side and the experimental Discusses important properties that impact metal oxide performance, processing methods (both novel and accepted), and important applications Reviews the most relevant applications, such as biomedical, energy, electronics and materials applications First International Conference on Artificial Intelligence and Cognitive Computing Raju Surampudi Bapi 2018-11-04 This book presents original research works by researchers, engineers and practitioners in the field of artificial intelligence and cognitive computing. The book is divided into two parts, the first of which focuses on artificial intelligence (AI), knowledge representation, planning, learning, scheduling, perception-reactive AI systems, evolutionary computing and other topics related to intelligent systems and computational intelligence. In turn, the second part focuses on

cognitive computing, cognitive science and cognitive informatics. It also discusses applications of cognitive computing in medical informatics, structural health monitoring, computational intelligence, intelligent control systems, bio-informatics, smart manufacturing, smart grids, image/video processing, video analytics, medical image and signal processing, and knowledge engineering, as well as related applications.

Innovative Pest Management Approaches for the 21st Century 2020 Several Integrated Pest Management (IPM) approaches are available for managing pests of varied kinds, including individual and integrated methods for pest suppression. Recently the focus has shifted to pest management tools that act on insect systems selectively, are compatible with the environment, and are not harmful for ecosystems. Other approaches target specific biochemical and physiological aspects of insect metabolism, and involve biotechnological and genetic manipulation. Still other approaches include the use of nanotechnology, endophytes, optical and sonic manipulation to detect and control pest insects. Unfortunately, conventional forms of pest management do not focus on technology transfer to the ground level workers and farmers. As a result, farmers are incurring huge losses of crops and revenues. This book highlights the importance of using communication tools in pest management and demonstrates some success stories of utilizing automated unmanned technologies in this context. The content is divided into three sections, the first of which, "Pest Population Monitoring: Modern Tools," covers long and short-range pest population monitoring techniques and tools such as satellites, unmanned aerial vehicles/drones, remote sensing, digital tools like GIS, GPS for mapping, lidar, mobile apps, software systems, artificial diet designs and functional diversity of info-chemicals. The second section of the book is devoted to "Emerging Areas in Pest Management" and offers a glimpse of diversified tactics that have been developed to contain and suppress pest populations such as endophytes, insect vectors of phytoplasma, Hymenopterans parasitoids, mass production and utilization of NPV etc. In turn, the third section focuses on

"Integrated Pest Management" and presents farming situations that illustrate how research in diversified aspects has helped to find solutions to specific pest problems, and how some new and evolving tactics can be practically implemented. Given its scope, the book offers a valuable asset for entomology and plant pathology researchers, students of zoology and plant protection, and readers whose work involves agriculture, horticulture, forestry and other ecosystems. .

Proceedings of the International Conference on Recent Cognizance in Wireless Communication & Image Processing

Nitin Afzalpulkar 2016-04-28 This volume comprises the proceedings of the International Conference on Recent Cognizance in Wireless Communication & Image Processing. It brings together content from academicians, researchers, and industry experts in areas of Wireless Communication and Image Processing. The volume provides a snapshot of current progress in computational creativity and a glimpse of future possibilities. The proceedings include two kinds of paper submissions: (i) regular papers addressing foundation issues, describing original research on creative systems development and modeling; and (ii) position papers describing work-in-progress or research directions for computational creativity. This work will be useful to professionals and researchers working in the core areas of wireless communications and image processing.

Solid State Physics and Electronics RK Puri | VK Babbar 2008 The present edition is brought up to incorporate the useful suggestions from a number of readers and teachers for the benefit of students. A topic on common-collector configuration is added to the chapter XIII. A new chapter on logic gates is introduced at the end. Keeping in view the present style of university Question papers, a number of very short, short and long thoroughly revised and corrected to remove the errors which crept into earlier editions.

Handbook of Operational Amplifier Circuit Design David F. Stout 1976 Introduction to operational amplifiers. Fundamentals of circuit design using op amps. Feedback stability. Amplifiers. Comparators. Converters. Demodulators and discriminators. Detectors.

Differential amplifiers. Low-pass filters. High-pass filters. Bandpass filters. Bandstop filters. Frequency control. Integrators and differentiators. Limiters and rectifiers. Logarithmic circuits. Modulators. Oscillators. Parameter enhancement and simulation. Power circuits. Regulators. Sampling circuits. Time and phase circuits. Waveform generators. Appendix: Operational amplifier parameters. Operational amplifier maximum ratings. Circuit fabrication techniques. Notation used in handbook. Decibel calculations. RC circuit characteristics.

Heterogeneous Catalysts Wey Yang Teoh

2021-02-23 Presents state-of-the-art knowledge of heterogeneous catalysts including new applications in energy and environmental fields. This book focuses on emerging techniques in heterogeneous catalysis, from new methodology for catalysts design and synthesis, surface studies and operando spectroscopies, ab initio techniques, to critical catalytic systems as relevant to energy and the environment. It provides the vision of addressing the foreseeable knowledge gap unfilled by classical knowledge in the field. *Heterogeneous Catalysts: Advanced Design, Characterization and Applications* begins with an overview on the evolution in catalysts synthesis and introduces readers to facets engineering on catalysts; electrochemical synthesis of nanostructured catalytic thin films; and bandgap engineering of semiconductor photocatalysts. Next, it examines how we are gaining a more precise understanding of catalytic events and materials under working conditions. It covers bridging pressure gap in surface catalytic studies; tomography in catalysts design; and resolving catalyst performance at nanoscale via fluorescence microscopy. Quantum approaches to predicting molecular reactions on catalytic surfaces follows that, along with chapters on Density Functional Theory in heterogeneous catalysis; first principles simulation of electrified interfaces in electrochemistry; and high-throughput computational design of novel catalytic materials. The book also discusses embracing the energy and environmental challenges of the 21st century through heterogeneous catalysis and much more. Presents recent developments in heterogeneous catalysis with emphasis on new fundamentals and emerging techniques

Offers a comprehensive look at the important aspects of heterogeneous catalysis. Provides an applications-oriented, bottom-up approach to a high-interest subject that plays a vital role in industry and is widely applied in areas related to energy and environment. *Heterogeneous Catalysts: Advanced Design, Characterization and Applications* is an important book for catalytic chemists, materials scientists, surface chemists, physical chemists, inorganic chemists, chemical engineers, and other professionals working in the chemical industry.

Computing, Communication and Signal

Processing Brijesh Iyer 2018-09-14 This book highlights cutting-edge research on various aspects of human-computer interaction (HCI). It includes selected research papers presented at the Third International Conference on Computing, Communication and Signal Processing (ICASP 2018), organized by Dr. Babasaheb Ambedkar Technological University in Lonere-Raigad, India on January 26-27, 2018. It covers pioneering topics in the field of computer, electrical, and electronics engineering, e.g. signal and image processing, RF and microwave engineering, and emerging technologies such as IoT, cloud computing, HCI, and green computing. As such, the book offers a valuable guide for all scientists, engineers and research students in the areas of engineering and technology.

Green Organic Reactions Gopinathan

Anilkumar 2021-03-27 This book presents important developments and applications of green chemistry, especially in the field of organic chemistry. The chapters give a brief account of green organic reactions in water, green organic reactions using microwave and in solvent-free conditions. In depth discussions on the green aspects of ionic liquids, flow reactions, and recoverable catalysts are provided in this book. An exclusive chapter devoted to green Lewis acid is also included. The potential of supercritical fluids as green solvents in various areas of organic reactions is explained as well. This book will be a valuable reference for beginners as well as advanced researchers interested in green organic chemistry.

Biomass Valorization Davide Ravelli

2021-07-19 Explore the potential of biomass-based chemicals with this comprehensive new

reference from leading voices in the field With the depletion of fossil raw materials a readily ascertainable inevitability, the exploitation of biomass-based renewable derivatives becomes ever more practical and realistic. In *Biomass Valorization: Sustainable Methods for the Production of Chemicals*, accomplished researchers and authors Davide Ravelli and Chiara Samori deliver a thorough compilation of state-of-the-art techniques and most advanced strategies used to convert biomass into useful building blocks and commodity chemicals. Each chapter in this collection of insightful papers begins by detailing the core components of the described technology, along with a fulsome description of its advantages and limitations, before moving on to a discussion of recent advancements in the field. The discussions are grouped by the processed biomass, such as terrestrial biomass, aquatic biomass, and biomass-deriving waste. Readers will also benefit from the inclusion of: A thorough introduction to the role of biomass in the production of chemicals An exploration of biomass processing via acid, base and metal catalysis, as well as biocatalysis A practical discussion of biomass processing via pyrolysis and thermochemical-biological hybrid processes A concise treatment of biomass processing assisted by ultrasound and via electrochemical, photochemical and mechanochemical means Perfect for chemical engineers, catalytic chemists, biotechnologists, and polymer chemists, *Biomass Valorization: Sustainable Methods for the Production of Chemicals* will also earn a place in the libraries of environmental chemists and professionals working with organometallics and natural products chemists.

Recent Trends in Computational Intelligence Ali Sadollah 2020-05-06 Traditional models struggle to cope with complexity, noise, and the existence of a changing environment, while Computational Intelligence (CI) offers solutions to complicated problems as well as reverse problems. The main feature of CI is adaptability, spanning the fields of machine learning and computational neuroscience. CI also comprises biologically-inspired technologies such as the intellect of swarm as part of evolutionary computation and encompassing wider areas such as image

processing, data collection, and natural language processing. This book aims to discuss the usage of CI for optimal solving of various applications proving its wide reach and relevance. Bounding of optimization methods and data mining strategies make a strong and reliable prediction tool for handling real-life applications.

Optimal Planning of Smart Grid With Renewable Energy Resources Jain, Naveen

2021-12-10 Understanding the recent developments in renewable energy is crucial for a range of fields in today's society. As environmental awareness and the need for a more sustainable future continues to grow, the uses of renewable energy, particularly in areas such as smart grid, must be considered and studied thoroughly to be implemented successfully and move society toward a more sustainable future. *Optimal Planning of Smart Grid With Renewable Energy Resources* offers a detailed guide to the new problems and opportunities for sustainable growth in engineering by focusing on modeling diverse problems occurring in science and engineering as well as novel effective theoretical methods and robust optimization theories, which can be used to analyze and solve multiple types of problems. Covering topics such as electric drives and energy systems, this publication is ideal for researchers, academicians, industry professionals, engineers, scholars, instructors, and students.

Smart Trends in Information Technology and Computer Communications A.V.

Deshpande 2018-08-20 This book constitutes the refereed proceedings of the Second International Conference on Smart Trends in Information Technology and Computer Communications, SmartCom 2017, held in Pune, India, in August 2017. The 38 revised papers presented were carefully reviewed and selected from 310 submissions. The papers address issues on smart and secure systems; smart and service computing; smart data and IT innovations.

Advances in Communication, Devices and Networking Rabindranath Bera 2018-05-23 The book provides insights of International Conference in Communication, Devices and Networking (ICCDN 2017) organized by the

Department of Electronics and Communication Engineering, Sikkim Manipal Institute of Technology, Sikkim, India during 3 - 4 June, 2017. The book discusses latest research papers presented by researchers, engineers, academicians and industry professionals. It also assists both novice and experienced scientists and developers, to explore newer scopes, collect new ideas and establish new cooperation between research groups and exchange ideas, information, techniques and applications in the field of electronics, communication, devices and networking.

Dandelion Gabbie Hanna 2020-10-13 New York Times bestselling author Gabbie Hanna delivers everything from curious musings to gut-wrenching confessionals in her long-awaited sophomore collection of illustrated poetry. This edition includes a collection of uncomfortably honest personal essays about Gabbie's childhood and relationships. In this visually thrilling installment of the inner-workings of Gabbie's mind, we're taken on a journey of self-loathing, self-reflection, and ultimately, self-acceptance through deeply metaphorical imagery, chilling twists on child-like rhymes, and popular turns of phrase turned on their heads. Through raw, provocative tidbits, *Dandelion* explores what it means to struggle with a declining mental health in a world where mental health is both stigmatized and trivialized. The poems range from topics of rage and despair to downright silliness, so if you don't know whether to laugh or cry, just laugh until you cry.

Advanced Informatics for Computing Research Ashish Kumar Luhach 2019-09-16 This two-volume set (CCIS 1075 and CCIS 1076) constitutes the refereed proceedings of the Third International Conference on Advanced Informatics for Computing Research, ICAICR 2019, held in Shimla, India, in June 2019. The 78 revised full papers presented were carefully reviewed and selected from 382 submissions. The papers are organized in topical sections on computing methodologies; hardware; information systems; networks; software and its engineering.

COVID-19 Moones Rahmandoust 2022-08-15 This book highlights the overview of the COVID-19 pandemic from both the scientific and the social perspectives. The scientific part

presents key facts of COVID-19, including the structure of the virus and the techniques for the diagnosis, treatment, and vaccine development against the disease, covering state-of-the-art findings and achievements worldwide. The social part is written by WHO professionals who worked on the frontier of the fight against the disease. It covers the global security situation during the pandemic, the WHO and governmental-level risk management measures, and the estimated impact that COVID-19 will eventually create on social life after it is globally controlled.

Advances in Computing and Data Sciences Mayank Singh 2017-07-19 This book constitutes the refereed proceedings of the First International Conference on Advances in Computing and Data Sciences, ICACDS 2016, held in Ghaziabad, India, in November 2016. The 64 full papers were carefully reviewed and selected from 502 submissions. The papers are organized in topical sections on Advanced Computing; Communications; Informatics; Internet of Things; Data Sciences.

Chemical Catalysts for Biomass Upgrading Mark Crocker 2020-03-09 A comprehensive reference to the use of innovative catalysts and processes to turn biomass into value-added chemicals *Chemical Catalysts for Biomass Upgrading* offers detailed descriptions of catalysts and catalytic processes employed in the synthesis of chemicals and fuels from the most abundant and important biomass types. The contributors?noted experts on the topic?focus on the application of catalysts to the pyrolysis of whole biomass and to the upgrading of bio-oils. The authors discuss catalytic approaches to the processing of biomass-derived oxygenates, as exemplified by sugars, via reactions such as reforming, hydrogenation, oxidation, and condensation reactions. Additionally, the book provides an overview of catalysts for lignin valorization via oxidative and reductive methods and considers the conversion of fats and oils to fuels and terminal olefins by means of esterification/transesterification, hydrodeoxygenation, and decarboxylation/decarbonylation processes. The authors also provide an overview of conversion processes based on terpenes and chitin, two emerging feedstocks with a rich chemistry, and

summarize some of the emerging trends in the field. This important book: -Provides a comprehensive review of innovative catalysts, catalytic processes, and catalyst design -Offers a guide to one of the most promising ways to find useful alternatives for fossil fuel resources - Includes information on the most abundant and important types of biomass feedstocks - Examines fields such as catalytic cracking, pyrolysis, depolymerization, and many more Written for catalytic chemists, process engineers, environmental chemists, bioengineers, organic chemists, and polymer chemists, *Chemical Catalysts for Biomass Upgrading* presents deep insights on the most important aspects of biomass upgrading and their various types.

Emerging Carbon Materials for Catalysis

Samah Sadjadi 2020-09-24 *Emerging Carbon Materials for Catalysis* covers various carbon-based materials with a focus on their utility for catalysis. Each chapter examines the photo and electrocatalytic applications of a material, including hybrid systems composed of carbon materials. The range of chemical reactions that can be catalyzed with each material—as well as the potential drawbacks of each—are discussed. Covering nanostructured systems, as well as other microstructured materials, the book reviews emerging carbon-based structures, including carbon organic frameworks. Written by a global team of experts, this volume is ideal for graduate students and researchers working in organic chemistry, catalysis, nanochemistry, and nanomaterials. Introduces novel and emerging carbon materials with utility for photocatalysis and electrocatalysis Covers a wide range of photochemical and electrochemical processes that can be catalyzed by carbon-based catalysts Addresses the hybrid systems composed of carbon materials for catalysis Serves as an ideal reference for graduate students and researchers working in organic chemistry, catalysis, nanochemistry, and nanomaterials.

Diseases of Ear, Nose & Throat Mohan Bansal 2018-05-31 This book is a complete guide to the diagnosis and management of ENT diseases for

undergraduate medical students and trainees in otolaryngology. Divided into nine sections, the text begins with an overview of the anatomy and physiology of each part of the otolaryngologic system and explains bacteria, antibiotics, fungi and viruses, and HIV. The following sections cover numerous diseases and disorders in each otolaryngologic region – ear, nose and sinuses, oral cavity and salivary glands, pharynx and oesophagus, larynx, trachea and bronchus; and neck. The final chapters discuss surgical procedures, imaging, radio- and chemotherapy, anaesthesia, and laser surgery. The second edition has been fully revised to provide students with the latest information, and features many new topics, including a clinical highlights section to assist preparation for examinations, and a comprehensive appendix of 101 clinical secrets, problem-oriented clinical cases, and miscellaneous key points. The book is accompanied by a complimentary online resource featuring the full text as an ebook, MCQs with image-based questions, live surgery videos, and animation. Key points Fully revised, second edition providing comprehensive guide to ENT diseases Includes clinical highlights section and comprehensive appendix to assist with exam preparation Accompanied by free online resource featuring ebook, MCQs, and surgical videos Previous edition (9789350259436) published in 2012

Biomedical Natural Language Processing

Kevin Bretonnel Cohen 2014-02-15 *Biomedical Natural Language Processing* is a comprehensive tour through the classic and current work in the field. It discusses all subjects from both a rule-based and a machine learning approach, and also describes each subject from the perspective of both biological science and clinical medicine. The intended audience is readers who already have a background in natural language processing, but a clear introduction makes it accessible to readers from the fields of bioinformatics and computational biology, as well. The book is suitable as a reference, as well as a text for advanced courses in biomedical natural language processing and text mining.