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Electric Vehicles The Benefits and Barriers *BoD - Books on Demand* In this book, theoretical basis and design guidelines for electric vehicles have been emphasized chapter by chapter with valuable contribution of many researchers who work on both technical and regulatory sides of the field. Multidisciplinary research results from electrical engineering, chemical engineering and mechanical engineering were examined and merged together to make this book a guide for industry, academia and policy maker. MoU and Agreement Current Affairs Ebook- Download Free CA Notes PDF here MoU and Agreement Current Affairs for June. Know the latest agreements signed around the world. *Testbook.com* Get the MoU and Agreement Current Affairs News as Ebook here. Know about the various agreements signed between countries, banks, etc. for the month of June. Download the free PDF to support your preparation for Current Affairs section in the exam Solar Powered Charging Infrastructure for Electric Vehicles A Sustainable Development *CRC Press* The Paris Agreement on Climate Change adopted on December 12, 2015 is a voluntary effort to reduce greenhouse gas emissions. In order to reach the goals of this agreement, there is a need to generate electricity without greenhouse gas emissions and to electrify transportation. An infrastructure of SPCSs can help accomplish both of these transitions. Globally, expenditures associated with the generation, transmission, and use of electricity are more than one trillion dollars per year. Annual transportation expenditures are also more than one trillion dollars per year. Almost everyone will be impacted by these changes in transportation, solar power generation, and smart grid developments. The benefits of reducing greenhouse gas emissions will differ with location, but all will be impacted. This book is about the benefits associated with adding solar panels to parking lots to generate electricity, reduce greenhouse gas emissions, and provide shade and shelter from rain and snow. The electricity can flow into the power grid or be used to charge electric vehicles (EVs). Solar powered charging stations (SPCSs) are already in many parking lots in many countries of the world. The prices of solar panels have decreased recently, and about 30% of the new U.S. electrical generating capacity in 2015 was from solar energy. More than one million EVs are in service in 2016, and there are significant benefits associated with a convenient charging infrastructure of SPCSs to support transportation with electric vehicles. Solar Powered Charging Infrastructure for Electric Vehicles: A Sustainable Development aims to share information on pathways from our present situation to a world with a more sustainable transportation system with EVs, SPCSs, a modernized smart power grid with energy storage, reduced greenhouse gas emissions, and better urban air quality. Covering 200 million parking spaces with solar panels can generate about 1/4 of the electricity that was generated in 2014 in the United States. Millions of EVs with 20 to 50 kWh of battery storage can help with the transition to wind and solar power generation through owners responding to time-of-use prices. Written for all audiences, high school and college teachers and students, those in industry and government, and those involved in community issues will benefit by learning more about the topics addressed in the book. Those working with electrical power and transportation, who will be in the middle of the transition, will want to learn about all of the challenges and developments that are addressed here. **Battery Technology for Electric Vehicles** Public science and private innovation *Routledge* Electric drive vehicles (EDVs) are seen on American roads in increasing numbers. Related to this market trend and critical for it to increase are improvements in battery technology. **Battery Technology for Electric Vehicles** examines in detail at the research support from the U.S. Department of Energy (DOE) for the development of nickel-metal-hydride (NiMH) and lithium-ion (Li-ion) batteries used in EDVs. With public support comes accountability of the social outcomes associated with public investments. The book overviews DOE investments in advanced battery technology, documents the adoption of these batteries in EDVs on the road, and calculates the economic benefits associated with these improved technologies. It provides a detailed global evaluation of the net social benefits associated with DOE investments, the results of the benefit-to-cost ratio of over 3.6-to-1, and the life-cycle approach that allows adopted EDVs to remain on the road over their expected future life, thus generating economic and environmental health benefits into the future. **Handbook of Performability Engineering** *Springer Science & Business Media* Dependability and cost effectiveness are primarily seen as instruments for conducting international trade in the free market environment. These factors cannot be considered in isolation of each other. This handbook considers all aspects of performability engineering. The book provides a holistic view of the entire life cycle of activities of the product, along with the associated cost of environmental preservation at each stage, while maximizing the performance. **Introduction to Energy, Renewable Energy and Electrical Engineering Essentials for Engineering Science (STEM) Professionals and Students** *John Wiley & Sons* A great resource for beginner students and professionals alike **Introduction to Energy, Renewable Energy and Electrical Engineering: Essentials for Engineering Science (STEM) Professionals and Students** brings together the fundamentals of Carnot's laws of thermodynamics, Coulomb's law, electric circuit theory, and semiconductor technology. The book is the perfect introduction to energy-related fields for undergraduates and non-electrical engineering students and professionals with knowledge of Calculus III. Its unique combination of foundational concepts and advanced applications delivered with focused examples serves to leave the reader with a practical and comprehensive overview of the subject. The book includes: A combination of analytical and software solutions in order to relate aspects of electric circuits at an accessible level A thorough description of compensation of flux weakening (CFW) applied to inverter-fed, variable-speed drives not seen anywhere else in the literature Numerous application examples of solutions using PSPICE, Mathematica, and finite difference/finite element solutions such as detailed magnetic flux distributions **Manufacturing of electric energy in power systems with integrated renewable energy sources where three-phase inverter supply energy to interconnected, smart power systems** **Connecting the energy-related technology and application discussions with urgent issues of energy conservation and renewable energy—such as photovoltaics and ground-water heat pump resulting in a zero-emissions dwelling—Introduction to Energy, Renewable Energy, and Electrical Engineering** crafts a truly modern and relevant approach to its subject matter. **Advances in Power and Control Engineering Proceedings of GUCON 2019** *Springer Nature* The book features selected high-quality papers presented at the International Conference on Computing, Power and Communication Technologies 2019 (GUCON 2019), organized by Galgotias University, India, in September 2019. Divided into three sections, the book discusses various topics in the fields of power electronics and control engineering, power and energy systems, and machines and renewable energy. This interesting compilation is a valuable resource for researchers, engineers and students. **Green Intelligent Transportation Systems Proceedings of the 7th International Conference on Green Intelligent Transportation System and Safety** *Springer* These proceedings collect selected papers from the 7th International Conference on Green Intelligent Transportation System and Safety held in Nanjing on July 1-4, 2016. The selected works, which include state-of-the-art studies, are intended to promote the development of green mobility and intelligent transportation technology to achieve interconnectivity, resource sharing, flexibility and higher efficiency. They offer valuable insights for researchers and engineers in the fields of Transportation Technology and Traffic Engineering, Automotive and Mechanical Engineering, Industrial and System Engineering, and Electrical Engineering. **Smart Charging Solutions for Hybrid and Electric Vehicles** *John Wiley & Sons* **SMART CHARGING SOLUTIONS** The most comprehensive and up-to-date study of smart charging solutions for hybrid and electric vehicles for engineers, scientists, students, and other professionals. As our dependence on fossil fuels continues to wane all over the world, demand for dependable and economically feasible energy sources continues to grow. As environmental regulations become more stringent, energy production is relying more and more heavily on locally available renewable resources. Furthermore, fuel consumption and emissions are facilitating the transition to sustainable transportation. The market for electric vehicles (EVs) has been increasing steadily over the past few years throughout the world. With the increasing popularity of EVs, a competitive market between charging stations (CSS) to attract more EVs is expected. This outstanding new volume is a resource for engineers, researchers, and practitioners interested in getting acquainted with smart charging for electric vehicles technologies. It includes many chapters dealing with the state-of-the-art studies on EV smart charging along with charging infrastructure. Whether for the veteran engineer or student, this is a must-have volume for any library. **Smart Charging Solutions for Hybrid and Electric Vehicles: Presents the state of the art of smart charging for hybrid and electric vehicles, from a technological point of view** **Focuses on optimization and prospective solutions for practical problems** **Covers the most important recent developmental technologies related to renewable energy, to keep the engineer up to date and well informed** **Includes economic considerations, such as business models and price structures** **Covers standards and regulatory frameworks for smart charging solutions** **Energy Management Strategies for Electric and Plug-in Hybrid Electric Vehicles** *Springer Science & Business Media* This book addresses the practical issues for commercialization of current and future electric and plug-in hybrid electric vehicles (EVs/PHEVs). The volume focuses on power electronics and motor drives based solutions for both current as well as future EV/PHEV technologies. Propulsion system requirements and motor sizing for EVs is also discussed, along with practical system sizing examples. PHEV power system architectures are discussed in detail. Key EV battery technologies are explained as well as corresponding battery management issues are summarized. **Advanced power electronic converter topologies for current and future charging infrastructures will also be discussed in detail.** **EV/PHEV interface with renewable energy is discussed in detail, with practical examples.** **Batteries for Electric Vehicles** *Cambridge University Press* The first practical guide to optimizing battery usage in electric vehicles, covering materials, electrochemistry, implementation and control. **Wireless Power Transfer for Electric Vehicles: Foundations and Design Approach** *Springer Nature* This book describes the fundamentals and applications of wireless power transfer (WPT) in electric vehicles (EVs). Wireless power transfer (WPT) is a technology that allows devices to be powered without having to be connected to the electrical grid by a cable. Electric vehicles can greatly benefit from WPT, as it does away with the need for users to manually recharge the vehicles' batteries, leading to safer charging operations. Some wireless chargers are available already, and research is underway to develop even more efficient and practical chargers for EVs. This book brings readers up to date on the state-of-the-art worldwide. In particular, it provides: • The fundamental principles of WPT for the wireless charging of electric vehicles (car, bicycles and drones), including compensation topologies, bi-directionality and coil topologies. • Information on international standards for EV wireless charging. • Design procedures for EV wireless chargers, including software files to help readers test their own designs. • Guidelines on the components and materials for EV wireless chargers. • Review and analysis of the main control algorithms applied to EV wireless chargers. • Review and analysis of commercial EV wireless charger products coming to the market and the main research projects on this topic being carried out worldwide.

The book provides essential practical guidance on how to design wireless chargers for electric vehicles, and supplies MATLAB files that demonstrate the complexities of WPT technology, and which can help readers design their own chargers. Process and Chemical Engineering Electric Vehicle Engineering *McGraw Hill Professional* A complete guide to electric vehicle design, operation, and adoption This hands-on resource thoroughly explains the technologies and techniques involved in the design and operation of today's electric vehicles. Originally written for use in a course co-taught by the authors at Stanford University, Electric Vehicle Engineering discusses the physics of vehicle motion; the electrical principles on which motors rely; the chemistry, operation, and charging of lithium-ion batteries; the design and operation of motor controllers; the energy efficiency and environmental impact of electric vehicles; and the policy and economics affecting their adoption. After teaching you the theory, the authors will guide you through a hands-on project in which you will build a model electric car from the ground up with a hand-wound electric motor of your own design. Coverage includes: Introduction to electric vehicles Electric vehicle history Vehicle dynamics Electric motors Lithium-ion batteries Controllers Well-to-wheels energy and emissions analysis Electric vehicle policies and economics Future prospects Fundamentals of Electric Power Engineering *World Scientific* Electric power engineering has always been an integral part of electrical engineering education. Providing a unique alternative to existing books on the market, this text presents a concise and rigorous exposition of the main fundamentals of electric power engineering. Contained in a single volume, the materials can be used to teach three separate courses — electrical machines, power systems and power electronics, which are in the mainstream of the electrical engineering curriculum of most universities worldwide. The book also highlights an in-depth review of electric and magnetic circuit theory with emphasis on the topics which are most relevant to electric power engineering. Contents: Review of Electric and Magnetic Circuit Theory: Basic Electric Circuit Theory Analysis of Electric Circuits with Periodic Non-sinusoidal Sources Magnetic Circuit Theory Power Systems: Introduction to Power Systems Fault Analysis Transformers Synchronous Generators Power Flow Analysis and Stability of Power Systems Induction Machines Power Electronics: Power Semiconductor Devices Rectifiers Inverters DC-to-DC Converters (Choppers) Keywords: Power Systems; Electrical Machines; Power Electronics SSC General Awareness Topic-wise LATEST 35 Solved Papers (2010-2016) *Disha Publications* Topic-wise Solved Paper SSC General Awareness consists of past solved papers of SSC CGL, 10+2 CHSL, Sub-Inspector, Multi Tasking, and Stenographer from 2010 to 2016. • The coverage of the papers has been kept RECENT (2010 to 2016) as they actually reflect the changed pattern of the SSC exams. Thus the papers prior to 2010 have not been included in the book. • In all there are 35 Question papers from 2010 to 2016 which have been provided topic-wise along with detailed solutions. • Practicing these questions, aspirants will come to know about the pattern and toughness of the questions asked in the examination. In the end, this book will make the aspirants competent enough to crack the uncertainty of success in the Entrance Examination. • The strength of the book lies in the originality of its question papers and Errorless Solutions. The solution of each and every question is provided in detail (step-by-step) so as to provide 100% concept clarity to the students. Electric and Hybrid Cars A History, 2d ed. *McFarland* This illustrated history chronicles electric and hybrid cars from the late 19th century to today's fuel cell and plug-in automobiles. It describes the politics, technology, marketing strategies, and environmental issues that have impacted electric and hybrid cars' research and development. The important marketing shift from a "woman's car" to "going green" is discussed. Milestone projects and technologies such as early batteries, hydrogen and bio-mass fuel cells, the upsurge of hybrid vehicles, and the various regulations and market forces that have shaped the industry are also covered. Electric Vehicle Technology Explained *John Wiley & Sons* Energy Storage Systems and Power Conversion Electronics for E-Transportation and Smart Grid *MDPI* This is a reprint in book form of the *Energies* MDPI Journal Special Issue, entitled "Energy Storage Systems and Power Conversion Electronics for E-Transportation and Smart Grid". The Special Issue was managed by two Guest Editors from Italy and Norway: Professor Sergio Saponara from the University of Pisa and Professor Lucian MIHET-POPA from Østfold University College, in close cooperation with the Editors from *Energies*. The papers published in this SI are related to the emerging trends in energy storage and power conversion electronic circuits and systems, with a specific focus on transportation electrification, and on the evolution from the electric grid to a smart grid. An extensive exploitation of renewable energy sources is foreseen for the smart grid, as well as a close integration with the energy storage and recharging systems of the electrified transportation era. Innovations at the levels of both algorithmic and hardware (i.e., power converters, electric drives, electronic control units (ECU), energy storage modules and charging stations) are proposed. Research and technology transfer activities in energy storage systems, such as batteries and super/ultra-capacitors, are essential for the success of electric transportation, and to foster the use of renewable energy sources. Energy storage systems are the key technology to solve these issues, and to increase the adoption of renewable energy sources in the smart grid. Proceedings of the International Conference Engineering Innovations and Sustainable Development *Springer Nature* This book contains contributions from the international conference "Engineering Innovations and Sustainable Development," organized by three Russian universities on June 17-18, 2021. By presenting international research on various sustainability issues, it includes topics such as current trends in industrial and agricultural development, innovations in the construction and transport sectors, problems concerning the financing of innovative activities and governmental support for innovations, and engineering competences and skills in the era of new technologies. It also covers the economic, environmental, and informational aspects of sustainable development in the context of innovations. Finally, the book addresses theoretical and practical aspects by studying the phenomenon of sustainability and engineering development in terms of comparing international experiences. It provides significant value for scientists, teachers, and students of higher educational institutions, and specialists, who are researching sustainable development issues in the era of engineering innovations. Reverse Engineering Technology of Reinvention *CRC Press* The process of reverse engineering has proven infinitely useful for analyzing Original Equipment Manufacturer (OEM) components to duplicate or repair them, or simply improve on their design. A guidebook to the rapid-fire changes in this area, *Reverse Engineering: Technology of Reinvention* introduces the fundamental principles, advanced methodologies, and other essential aspects of reverse engineering. The book's primary objective is twofold: to advance the technology of reinvention through reverse engineering and to improve the competitiveness of commercial parts in the aftermarket. Assembling and synergizing material from several different fields, this book prepares readers with the skills, knowledge, and abilities required to successfully apply reverse engineering in diverse fields ranging from aerospace, automotive, and medical device industries to academic research, accident investigation, and legal and forensic analyses. With this mission of preparation in mind, the author offers real-world examples to: Enrich readers' understanding of reverse engineering processes, empowering them with alternative options regarding part production Explain the latest technologies, practices, specifications, and regulations in reverse engineering Enable readers to judge if a "duplicated or repaired" part will meet the design functionality of the OEM part This book sets itself apart by covering seven key subjects: geometric measurement, part evaluation, materials identification, manufacturing process verification, data analysis, system compatibility, and intelligent property protection. Helpful in making new, compatible products that are cheaper than others on the market, the author provides the tools to uncover or clarify features of commercial products that were either previously unknown, misunderstood, or not used in the most effective way. Intelligent Systems Applications in Software Engineering Proceedings of 3rd Computational Methods in Systems and Software 2019, Vol. 1 *Springer Nature* This book presents real-world problems and exploratory research that describes novel approaches in software engineering, cybernetics and algorithms in the context of intelligent systems. It constitutes the refereed proceedings of the 3rd Computational Methods in Systems and Software 2019 (CoMeSySo 2019) conference, a groundbreaking online conference that provides an international forum for discussing the latest high-quality research results. Encyclopedia of Environmental Science and Engineering, Sixth Edition (Print Version) *CRC Press* "The authors ... continue the pursuit of new knowledge, calculated to bring new fruits of health, safety, and comfort to man and his environs. The charms, as well as the subtle hazards, of the terms 'conservation, preservation, and ecology' need to be crystallized so that the public and their decision-makers practice this complex art with clearer conception and perception than is apparent in recent bitter confrontations." —From the Foreword to the Fourth Edition by Abel Wolman What's New in This Edition: New entries on environmental and occupational toxicology, geoengineering, and lead abatement Twenty-five significantly updated entries, including expanded discussion of water supplies and waste water treatment, biomass and renewable energy, and international public health issues An expanded list of acronyms and abbreviations Encyclopedia of Environmental Science and Engineering, Sixth Edition is still the most comprehensive, authoritative reference available in the field. This monumental two-volume encyclopedia now includes entries on topics ranging from acid rain, air pollution, and community health to environmental law, instrumentation, modeling, alternative energy, radioactive waste, and water treatment. The broad coverage includes highly specialized topics as well as those that transcend traditional disciplinary boundaries, reflecting the interdisciplinary skills and knowledge required by environmental researchers and engineers. Featuring expert contributors representing industry, academia, and government agencies, the encyclopedia presents fundamental concepts and applications in environmental science and engineering. The entries are supported by extensive figures, photographs, tables, and equations. This sixth edition includes new material on water supplies and wastewater treatment, biomass and renewable energy, and international public health issues. New entries cover environmental and occupational toxicology, geoengineering, and lead abatement. The Encyclopedia of Environmental Science and Engineering provides a view of the field that helps readers understand, manage, and respond to threats to the human environment. Contact us to inquire about subscription options and print/online combination packages. US: (Tel) 1.888.318.2367 / (email) e-reference@taylorandfrancis.com International: (Tel) +44 (0) 20 7017 6062 / (email) online.sales@tandf.co.uk Plug-In Electric Vehicles What Role for Washington? *Brookings Institution Press* Plug-in electric vehicles are coming. Major automakers plan to commercialize their first models soon, while Israel and Denmark have ambitious plans to electrify large portions of their vehicle fleets. No technology has greater potential to end the United States' crippling dependence on oil, which leaves the nation vulnerable to price shocks, supply disruptions, environmental degradation, and national security threats including terrorism. What does the future hold for this critical technology, and what should the U.S. government do to promote it? Hybrid vehicles now number more than one million on America's roads, and they are in high demand from consumers. The next major technological step is the plug-in electric vehicle. It combines an internal combustion engine and electric motor, just as hybrids do. But unlike their precursors, PEVs can be recharged from standard electric outlets, meaning the vehicles would no longer be dependent on oil. Widespread growth in the use of PEVs would dramatically reduce oil dependence, cut driving costs and reduce pollution from vehicles. National security would be enhanced, as reduced oil dependence decreases the leverage and resources of petroleum exporters. Brookings fellow David Sandalow heads up an authoritative team of experts including former government officials, private-sector analysts, academic experts, and nongovernmental advocates. Together they explain the current landscape for PEVs: the technology, the economics, and the implications for national security and the environment. They examine how the national interest could be served by federal promotion and investment in PEVs. For example, can tax or procurement policy advance the cause of PEVs? Should the public sector contribute to greater research and development? Should the government insist on PEVs to replenish its huge fleet of official vehicles? Plug-in electric vehicles are coming. But how soon, in what numbers, and to what effect? Federal policies in the years ahead will go a long way toward answering those questions. David Sandalow and his colleagues examine what could be done in that regard, as well as what should be done. Handbook of Fire and the Environment Impacts and Mitigation *Springer Nature* The fundamental purpose of this handbook is to raise awareness about environmental impacts of fire and fire suppression, primarily within the fire engineering and firefighting communities, but also within the environmental engineering and planning disciplines. The Handbook provides readers with a fundamental understanding of the problem and its magnitude and includes a set of tools and methods for assessing environmental, social and financial impacts, and a set of tools for identifying and selecting appropriate mitigation options. Computation in Economics, Finance, and Engineering Economic Systems : a Proceedings Volume from the IFAC Symposium, Cambridge, UK, 29 June - 1 July 1998 *Pergamon* This volume contains papers

that were presented at the Symposium on Computation in Economics and Finance organised under the auspices of the International Federation of Automatic Control and the Society for Computational Economics. The Conference was held at Cambridge University, UK, from 29th June to the 1st July 1998. It attracted many members of the international academic and research community in computational economics, finance and econometrics. This volume brings together a number of papers that demonstrate the use of computational methods in a variety of areas in economics and finance. The contributions to the Symposium reflect the various shifts in the profession and the increasing use of computationally intensive techniques for the analysis of economic processes. Papers have been grouped into sections, according to their context rather than in the order in which they were presented. Section 1 groups papers in the area of Finance including both theoretical and empirical studies. Section 2 reflects a fast growing interest in seeking to model economic processes in novel ways drawing on the emerging literature in artificial intelligence and genetic adaptation. Section 3 demonstrates the growing use of computational languages as a tool for the analysis and modelling of economic systems. Subsequent sections range across many areas involving game theory, policy co-ordination, agent based models, time series and econometrics, neural networks, nonlinearities and simulation methods. The preparation and selection of this volume owes much to the assistance and advice of both Berç Rustem and David Kendrick and the steering committee of the Society for Computational Economics.

Reliability Engineering and Services *Wiley* Offers a holistic approach to guiding product design, manufacturing, and after-sales support as the manufacturing industry transitions from a product-oriented model to service-oriented paradigm This book provides fundamental knowledge and best industry practices in reliability modelling, maintenance optimization, and service parts logistics planning. It aims to develop an integrated product-service system (IPSS) synthesizing design for reliability, performance-based maintenance, and spare parts inventory. It also presents a lifecycle reliability-inventory optimization framework where reliability, redundancy, maintenance, and service parts are jointly coordinated. Additionally, the book aims to report the latest advances in reliability growth planning, maintenance contracting and spares inventory logistics under non-stationary demand condition. Reliability Engineering and Service provides in-depth chapter coverage of topics such as: Reliability Concepts and Models; Mean and Variance of Reliability Estimates; Design for Reliability; Reliability Growth Planning; Accelerated Life Testing and Its Economics; Renewal Theory and Superimposed Renewals; Maintenance and Performance-Based Logistics; Warranty Service Models; Basic Spare Parts Inventory Models; Repairable Inventory Systems; Integrated Product-Service Systems (IPSS), and Resilience Modeling and Planning Guides engineers to design reliable products at a low cost Assists service engineers in providing superior after-sales support Enables managers to respond to the changing market and customer needs Uses end-of-chapter case studies to illustrate industry best practice Lifecycle approach to reliability, maintenance and spares provisioning Reliability Engineering and Service is an important book for graduate engineering students, researchers, and industry-based reliability practitioners and consultants.

Electric and Hybrid Vehicles Power Sources, Models, Sustainability, Infrastructure and the Market *Elsevier* Electric and Hybrid Vehicles: Power Sources, Models, Sustainability, Infrastructure and the Market reviews the performance, cost, safety, and sustainability of battery systems for hybrid electric vehicles (HEVs) and electric vehicles (EVs), including nickel-metal hydride batteries and Li-ion batteries. Throughout this book, especially in the first chapters, alternative vehicles with different power trains are compared in terms of lifetime cost, fuel consumption, and environmental impact. The emissions of greenhouse gases are particularly dealt with. The improvement of the battery, or fuel cell, performance and governmental incentives will play a fundamental role in determining how far and how substantial alternative vehicles will penetrate into the market. An adequate recharging infrastructure is of paramount importance for the diffusion of vehicles powered by batteries and fuel cells, as it may contribute to overcome the so-called range anxiety. Thus, proposed battery charging techniques are summarized and hydrogen refueling stations are described. The final chapter reviews the state of the art of the current models of hybrid and electric vehicles along with the powertrain solutions adopted by the major automakers. Contributions from the worlds leading industry and research experts Executive summaries of specific case studies Information on basic research and application approaches Electric Vehicles: Prospects and Challenges *Elsevier* Electric Vehicles: Prospects and Challenges looks at recent design methodologies and technological advancements in electric vehicles and the integration of electric vehicles in the smart grid environment, comprehensively covering the fundamentals, theory and design, recent developments and technical issues involved with electric vehicles. Considering the prospects, challenges and policy status of specific regions and vehicle deployment, the global case study references make this book useful for academics and researchers in all engineering and sustainable transport areas. Presents a systematic and integrated reference on the essentials of theory and design of electric vehicle technologies Provides a comprehensive look at the research and development involved in the use of electric vehicle technologies Includes global case studies from leading EV regions, including Nordic and European countries China and India Advanced Electric Drive Vehicles *CRC Press* Electrification is an evolving paradigm shift in the transportation industry toward more efficient, higher performance, safer, smarter, and more reliable vehicles. There is in fact a clear trend to move from internal combustion engines (ICEs) to more integrated electrified powertrains. Providing a detailed overview of this growing area, Advanced Electric Drive Vehicles begins with an introduction to the automotive industry, an explanation of the need for electrification, and a presentation of the fundamentals of conventional vehicles and ICEs. It then proceeds to address the major components of electrified vehicles—i.e., power electronic converters, electric machines, electric motor controllers, and energy storage systems. This comprehensive work: Covers more electric vehicles (MEVs), hybrid electric vehicles (HEVs), plug-in hybrid electric vehicles (PHEVs), range-extended electric vehicles (REEVs), and all-electric vehicles (EVs) including battery electric vehicles (BEVs) and fuel cell vehicles (FCVs) Describes the electrification technologies applied to nonpropulsion loads, such as power steering and air-conditioning systems Discusses hybrid battery/ultra-capacitor energy storage systems, as well as 48-V electrification and belt-driven starter generator systems Considers vehicle-to-grid (V2G) interface and electrical infrastructure issues, energy management, and optimization in advanced electric drive vehicles Contains numerous illustrations, practical examples, case studies, and challenging questions and problems throughout to ensure a solid understanding of key concepts and applications Advanced Electric Drive Vehicles makes an ideal textbook for senior-level undergraduate or graduate engineering courses and a user-friendly reference for researchers, engineers, managers, and other professionals interested in transportation electrification. Ontology-Driven Software Development *Springer Science & Business Media* This book is about a significant step forward in software development. It brings state-of-the-art ontology reasoning into mainstream software development and its languages. Ontology Driven Software Development is the essential, comprehensive resource on enabling technologies, consistency checking and process guidance for ontology-driven software development (ODSD). It demonstrates how to apply ontology reasoning in the lifecycle of software development, using current and emerging standards and technologies. You will learn new methodologies and infrastructures, additionally illustrated using detailed industrial case studies. The book will help you: Learn how ontology reasoning allows validations of structure models and key tasks in behavior models. Understand how to develop ODSD guidance engines for important software development activities, such as requirement engineering, domain modeling and process refinement. Become familiar with semantic standards, such as the Web Ontology Language (OWL) and the SPARQL query language. Make use of ontology reasoning, querying and justification techniques to integrate software models and to offer guidance and traceability supports. This book is helpful for undergraduate students and professionals who are interested in studying how ontologies and related semantic reasoning can be applied to the software development process. In addition, it will also be useful for postgraduate students, professionals and researchers who are going to embark on their research in areas related to ontology or software engineering. A Textbook of Strength of Materials (in S.I. Units) *Laxmi Publications* International Handbook of Earthquake & Engineering Seismology *Elsevier* The two volume International Handbook of Earthquake and Engineering Seismology represents the International Association of Seismology and Physics of the Earth's Interior's (IASPEI) ambition to provide a comprehensive overview of our present knowledge of earthquakes and seismology. This state-of-the-art work is the only reference to cover all aspects of seismology--a "resource library" for civil and structural engineers, geologists, geophysicists, and seismologists in academia and industry around the globe. Part B, by more than 100 leading researchers from major institutions of science around the globe, features 34 chapters detailing strong-motion seismology, earthquake engineering, quake prediction and hazards mitigation, as well as detailed reports from more than 40 nations. Also available is The International Handbook of Earthquake and Engineering Seismology, Part A. Authoritative articles by more than 100 leading scientists Extensive glossary of terminology plus 2000+ biographical sketches of notable seismologists Programming .NET Components Design and Build .NET Applications Using Component-Oriented Programming "O'Reilly Media, Inc." 'Programming .NET Components', second edition, updated to cover .NET 2.0., introduces the Microsoft .NET Framework for building components on Windows platforms. From its many lessons, tips, and guidelines, readers will learn how to use the .NET Framework to program reusable, maintainable, and robust components. Engineering Materials 1 An Introduction to Their Properties and Applications Environmental Engineering-1 Environmental Science *New Age International* Newnes Electrical Pocket Book *Taylor & Francis* Newnes Electrical Pocket Book is the ideal daily reference source for electrical engineers, electricians and students. First published in 1932 this classic has been fully updated in line with the latest technical developments, regulations and industry best practice. Providing both in-depth knowledge and a broad overview of the field this pocket book is an invaluable tool of the trade. A handy source of essential information and data on the practice and principles of electrical engineering and installation. The 23rd edition has been updated by engineering author and consultant electrical engineer, Martin Heathcote. Major revisions have been made to the sections on semiconductors, power generation, transformers, building automation systems, electric vehicles, electrical equipment for use in hazardous areas, and electrical installation (reflecting the changes introduced to the IEE Wiring Regulations BS7671: 2001). Safety and Health for Engineers *John Wiley & Sons* SAFETY AND HEALTH FOR ENGINEERS A comprehensive resource for making products, facilities, processes, and operations safe for workers, users, and the public Ensuring the health and safety of individuals in the workplace is vital on an interpersonal level but is also crucial to limiting the liability of companies in the event of an onsite injury. The Bureau of Labor Statistics reported over 4,700 fatal work injuries in the United States in 2020, most frequently in transportation-related incidents. The same year, approximately 2.7 million workplace injuries and illnesses were reported by private industry employers. According to the National Safety Council, the cost in lost wages, productivity, medical and administrative costs is close to 1.2 trillion dollars in the US alone. It is imperative—by law and ethics—for engineers and safety and health professionals to drive down these statistics by creating a safe workplace and safe products, as well as maintaining a safe environment. Safety and Health for Engineers is considered the gold standard for engineers in all specialties, teaching an understanding of many components necessary to achieve safe workplaces, products, facilities, and methods to secure safety for workers, users, and the public. Each chapter offers information relevant to help safety professionals and engineers in the achievement of the first canon of professional ethics: to protect the health, safety, and welfare of the public. The textbook examines the fundamentals of safety, legal aspects, hazard recognition and control, the human element, and techniques to manage safety decisions. In doing so, it covers the primary safety essentials necessary for certification examinations for practitioners. Readers of the fourth edition of Safety and Health for Engineers readers will also find: Updates to all chapters, informed by research and references gathered since the last publication The most up-to-date information on current policy, certifications, regulations, agency standards, and the impact of new technologies, such as wearable technology, automation in transportation, and artificial intelligence New international information, including U.S. and foreign standards agencies, professional societies, and other organizations worldwide Expanded sections with real-world applications, exercises, and 164 case studies An extensive list of references to help readers find more detail on chapter contents A solution manual available to qualified instructors Safety and Health for Engineers is an ideal textbook for courses in safety engineering around the world in undergraduate or graduate studies, or in professional development learning. It also is a useful reference for professionals in engineering, safety, health, and associated fields who are preparing for credentialing examinations in safety and health. Code of Practice for Electric Vehicle Charging

Equipment Installation *et Standards* The Code of Practice for Electric Vehicle Charging Equipment Installation, 3rd Edition has been updated to align with the current requirements of BS 7671. This includes updated guidance on the electrical installation requirements of BS 7671:2018 (Section 722 Electric vehicle charging installations) to be published in July 2018. The Code of Practice provides an overview of electric vehicle charging equipment, considerations needed prior to installation, physical installation requirements, relevant electrical installation requirements of BS 7671:2018 and specific requirements when installing electric vehicle charging equipment in location's such as dwellings, on-street locations, commercial and industrial premises. Also included are useful installation checklists and risk assessment templates. Therefore this publication provided useful guidance for anyone interested in the installation of electric vehicle charging points. This is a practical guide for use by anyone planning to install electric vehicle charging equipment. It provides specific electrical installation requirements for electrical contractors as well as essential guidance for anyone planning to specify, procure or manage the installation of such equipment.