

## Modern Zoology Dr Ramesh Gupta

Set in the world of the New York Times–bestselling Winner’s Trilogy, Marie Rutkoski’s *The Midnight Lie* is an epic LGBTQ romantic fantasy about learning to free ourselves from the lies others tell us—and the lies we tell ourselves. Where Nirrim lives, crime abounds, a harsh tribunal rules, and society’s pleasures are reserved for the High Kith. Life in the Ward is grim and punishing. People of her low status are forbidden from sampling sweets or wearing colors. You either follow the rules, or pay a tithe and suffer the consequences. Nirrim keeps her head down, and a dangerous secret close to her chest. But then she encounters Sid, a rakish traveler from far away, who whispers rumors that the High Kith possess magic. Sid tempts Nirrim to seek that magic for herself. But to do that, Nirrim must surrender her old life. She must place her trust in this sly stranger who asks, above all, not to be trusted.

The history and rapid development of minor planet discovery In addition to citing the bibliographic source of the names, coveries constitute a fascinating story and one with a long history, we also provide the source of numbering. A spectacular rather breathtaking evolution. By October 2005, the official concordance list will enable the evaluation of the total of numbered planets exceeded the remarkable record respective publication dates. The complete work is, cornerstone of 100,000 objects and only three years later of course, a thoroughly revised and considerably enhanced in November 2008 we are even faced with minor planet larged data collection and every effort has been made ( ) 200000 . This dramatic evolution must be compared to check and correct each single piece of information ( ) with the huge time span of two centuries 1801–2000 again. For even more detailed information on the discovery that was necessary to detect and to refine the orbits of every circumstances of numbered but unnamed planets only the first 20,000 minor planets. Nowadays, we need less, the reader is referred to the extensive data files even less than 13 months for the same quantity! At the end compiled by the Minor Planet Center. end of 2005, we had achieved a total of 12,804 named ( According to a resolution of IAU Division III 2000, minor planets a fraction of less than 11 per cent of ) Manchester IAU General Assembly DMPN attained all numbered minor planets.

This book explores the role of the social and natural sciences in supporting the development of indigenous knowledge systems. It looks at how indigenous knowledge systems can impact on the transformation of knowledge generating institutions such as scientific and higher education institutions on the one hand, and the policy domain on the other.

Rapidly increasing aging population and environmental stressors are the two main global concerns of increasing incidence of a variety of pathologies in the modern society. The complex etiologies and pathologies cause major challenges to disease treatment. On the other hand, several herbs are known for their health-caring and disease-curing activities. Ashwagandha, a popular herb in Indian traditional home medicine, Ayurveda, has gathered increasing recognition in recent years when the chemically synthesized drugs for single target therapies showed limited success and adverse toxic effects. Ashwagandha is known as a powerful adaptogen and trusted to enhance function of the brain, reproductive system, cell-mediated immunity and increase the body's defense against disease, and possess anti-inflammatory, anticancer and anti-arthritic activities. In this book, for the first time, we provide a complete portrait on scientific understanding of the effects of Ashwagandha and its active principles for a variety of preventive and therapeutic activities.

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, Hymenoptera 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.

The improvement of crop species has been a basic pursuit since cultivation began thousands of years ago. To feed an ever increasing world population will require a great increase in food production. Wheat, corn, rice, potato and few others are expected to lead as the most important crops in the world. Enormous efforts are made all over the world to document as well as use these resources. Everybody knows that the introgression of genes in wheat provided the foundation for the “Green Revolution”. Later also demonstrated the great impact that genetic resources have on production. Several factors are contributing to high plant performance under different environmental conditions, therefore an effective and complementary use of all available technological tools and resources is needed to meet the challenge.

For B.Sc. and B.Sc(hons.) students of all Indian Universities & Also as per UGC Model Curriculum. The multicoloured figures and arrestingly natural photographs effectively complement the standard text matter. The target readers shall highly benefit by correlating the content with the multicoloured figures and photographs The book has been further upgraded with addition of important questions: long, short, very short and multiple questions in all chapters. A complete comprehensive source for the subject matter of various university examinations.

This book presents a collection of articles on various aspects of current research on aging. These include model systems, cellular, biochemical and molecular aspects of experimental aging research, as well as selected intervention studies on age-related diseases. Aging is a global challenge to human society. Children are always in a hurry to become adults, while adults produce offspring and add to the gene pool. However, after adulthood or the attainment of reproductive maturity, all physiological parameters of the living organism start to undergo

the aging process. Old age sets in slowly but surely, and usually continues for a prolonged period. If vigor and vitality are the main advantages of adulthood, old age offers the rewards of experience and maturity. Biologists ask questions such as: Why do we age? How do we become old? Is it possible to slow down, postpone or even prevent aging? In turn, medical experts ask: What are the diseases associated with old age? Are there medicines that can help affected elderly patients? In fact both groups are asking themselves how can we add more health to old age. Healthy aging is the dream of every individual. But to achieve this, it is fundamental that we first understand the cellular, biochemical and molecular basis of the aging process in mammalian cells, tissues and intact living organisms, which can serve as experimental model systems in Biomedical Gerontology. Once the biology of aging is understood at the genetic and molecular levels, interventional approaches to aging and its associated diseases may be easier to plan and implement at the preclinical level.

Microbiology as a science has expanded by leaps and bounds in the past few decades due to advancements in sophisticated instrumentation and recombinant DNA technology, which added a new dimension and revealed an understanding of the subject at the molecular level.

Microorganisms are highly ubiquitous in nature and manifold in their activity. Interest in microbiology increased quite significantly due to the wide application of microorganisms in studying different biological processes. An attempt has been made to introduce the readers to several areas of microbiology and microbial biotechnology, and to provide insight into basic concepts of biology and practical applications of microorganisms. To assist the readers in understanding the text, several illustrations and figures have been incorporated in the current volume. The topics covered in this volume are arranged in such a way as to maintain the thread of continuity with Volumes One and Two as well as to make it easy for those who are not acquainted with Volumes One and Two of the series. The editors believe that the previous book of the series, Recent Advances in Microbiology, Volumes One and Two, would also be helpful to readers in strengthening their concepts about different areas of microbiology and microbial biotechnology. The present volume has been compiled with the help of leading microbiologists from India and other countries, with an objective of providing current developments in the field of microbiology. This book will be useful for under- and postgraduate students, academicians, researchers and laboratory personnel from disciplines like microbiology, biochemistry, veterinary science, medicine, pharmaceuticals, agriculture, food science, environmental science, industrial microbiology and other allied biological sciences.

This book sheds new light on the use of nanoparticles in the fields of parasitology and public and animal health. Nanotechnology has been used in many fields of research and in practical applications. A special subgroup is represented by the so-called nanobiotechnology, which is a multidisciplinary integration of biotechnology, nanotechnology, chemical processing, material science and engineering. In the fields of parasitology and public and animal health this technology has been used to develop systems, wherein acaricides and insecticides are included. This technique avoids direct contact of the hosts of parasites (animals, humans) with the insecticides/acaricides and thus minimizes effects on their health and also the development of resistances of the vectors (ticks, mosquitos, flies etc.). Since actually many original articles on the use of nanoparticles bearing arthropodocides appear in different journals – as well as in Parasitology Research of Springer - it seems reasonable to check the status quo and to elucidate possible chances of progress. This book will appeal to a wide readership, from researchers through veterinarians to professionals working in the conservation, public health, or sustainable agriculture area.

Discover how the application of novel multidisciplinary, integrative approaches and technologies are dramatically changing our understanding of the pathogenesis of infectious diseases and their treatments. Each article presents the state of the science, with a strong emphasis on new and emerging medical applications. The Encyclopedia of Infectious Diseases is organized into five parts. The first part examines current threats such as AIDS, malaria, SARS, and influenza. The second part addresses the evolution of pathogens and the relationship between human genetic diversity and the spread of infectious diseases. The next two parts highlight the most promising uses of molecular identification, vector control, satellite detection, surveillance, modeling, and high-throughput technologies. The final part explores specialized topics of current concern, including bioterrorism, world market and infectious diseases, and antibiotics for public health. Each article is written by one or more leading experts in the field of infectious diseases. These experts place all the latest findings from various disciplines in context, helping readers understand what is currently known, what the next generation of breakthroughs is likely to be, and where more research is needed. Several features facilitate research and deepen readers' understanding of infectious diseases: Illustrations help readers understand the pathogenesis and diagnosis of infectious diseases Lists of Web resources serve as a gateway to important research centers, government agencies, and other sources of information from around the world Information boxes highlight basic principles and specialized terminology International contributions offer perspectives on how infectious diseases are viewed by different cultures A special chapter discusses the representation of infectious diseases in art With its multidisciplinary approach, this encyclopedia helps point researchers in new promising directions and helps health professionals better understand the nature and treatment of infectious diseases.

It's no secret that certain social groups have predominated India's business and trading history, with business traditionally being the preserve of particular 'Bania' communities. However, the past four or so decades have seen a widening of the social base of Indian capital, such that the social profile of Indian business has expanded beyond recognition, and entrepreneurship and commerce in India are no longer the exclusive bastion of the old mercantile castes. In this meticulously researched book – acclaimed for being the first social history to document and understand India's new entrepreneurial groups – Harish Damodaran looks to answer who the new 'wealth creators' are, as he traces the transitional entry of India's middle and lower peasant castes into the business world. Combining analytical rigour with journalistic flair, India's New Capitalists is an essential read for anyone seeking to understand the culture and evolution of business in contemporary South Asia.

Provides a comprehensive overview of the role of cotton in the economy and cotton production around the world This book offers a complete look at the world's largest fiber crop: cotton. It examines its effect on the global economy—its uses and products, harvesting and processing, as well as the major challenges and their solutions, recent trends, and modern technologies involved in worldwide production of cotton.

Cotton Production presents recent developments achieved by major cotton producing regions around the world, including China, India, USA, Pakistan, Turkey and Europe, South America, Central Asia, and Australia. In addition to origin and history, it discusses the recent advances in management practices, as well as the agronomic challenges and the solutions in the major cotton producing areas of the world. Keeping a focus on global context, the book provides sufficient details regarding the management of cotton crops. These details are not limited to the choice of cultivar, soil management, fertilizer and water management, pest control, cotton harvesting, and processing. The first book to cover all aspects of cotton production in a global context Details the role of cotton in the economy, the uses and products of cotton, and its harvesting and processing Discusses the current state of cotton management practices and issues within and around the world's cotton producing areas Provides insight into the ways to improve cotton productivity in order to keep pace with the growing needs of an increasing population Cotton Production is an essential book for students taking courses in agronomy and cropping systems as well as a reference for agricultural advisors, extension specialists, and professionals throughout the industry.

Our Earth is considered as a natural system which organizes and controls itself. However, the present scale of anthropogenic activity is unprecedented in the history of mankind compelling the intelligentsia to ponder over the scientific causes of the problems, processes and sustainable and pragmatic solutions. The current rate of resource use and consumption pattern are depleting the planet's finite resources and damaging life-supporting ecosystems. A large number of toxic substances are increasingly found in air, water, soil, and flora and fauna. We are in the midst of a period of increasing interconnected and complex global challenges that seek action across temporal and spatial scales, diverse sectors, and concerted efforts from global citizens. The environment on account of human's action has been experiencing

imbalances and ecological catastrophe. Environmental issues like global climate change, biodiversity loss, the rapid depletion of natural resources, degradation of global commons, stratospheric ozone depletion have been restricting the safe operating space and transgressing the planetary boundaries endangering the existence of human societies. The global environmental problems if not scientifically managed may end up in the civilizational collapse. Nevertheless, the underlying commonality among these environmental issues is interrelatedness, complexity, and difficulty in identifying and implementing solutions. The global environmental challenges can be managed by adopting sustainable green technologies which dovetails the principles of environmental sustainability with social and ecological sustainability. Green growth is construed as a new development paradigm that sustains economic growth while at the same time ensuring environmental sustainability.

Bioinformatics, computational biology, is a relatively new field that applies computer science and information technology to biology. In recent years, the discipline of bioinformatics has allowed biologists to make full use of the advances in Computer sciences and Computational statistics for advancing the biological data. Researchers in life sciences generate, collect and need to analyze an increasing number of different types of scientific data, DNA, RNA and protein sequences, in-situ and microarray gene expression including 3D protein structures and biological pathways. This book is aiming to provide information on bioinformatics at various levels. The chapters included in this book cover introductory to advanced aspects, including applications of various documented research work and specific case studies related to bioinformatics. This book will be of immense value to readers of different backgrounds such as engineers, scientists, consultants and policy makers for industry, government, academics and social and private organisations.

This comprehensive and well known textbook deals with the characteristics, classification and life cycle of different species of fungi. While it provides a detailed account of bacteria, viruses, mycoplasma and lichens, it also discusses elementary plant pathology.

"Maize is one of the most important and widely grown cereal crops in the world and is a staple food for almost a billion people, particularly in the developing world. It has been estimated that maize yields need to increase by 60% by 2050. There is an urgent need to increase yields in the face of such challenges as climate change, threats from pests and diseases and the need to make cultivation more resource-efficient and sustainable. Drawing on an international range of expertise, this collection focuses on ways of improving the cultivation of maize at each step in the value chain, from breeding to post-harvest storage. Volume 2 reviews research on improvements in cultivation techniques such as nutrient management, crop rotation, intercropping and other aspects of conservation agriculture. It also discusses developments in methods for combatting pests and diseases. Achieving sustainable cultivation of maize Volume 2: Cultivation techniques, pest and disease control will be a standard reference for cereal scientists in universities, government and other research centres and companies involved in maize cultivation. It is accompanied by Volume 1 which reviews developments in breeding and ways research can be translated into effective outcomes for smallholders in the developing world."--Provided by publisher.

Competition Science Vision (monthly magazine) is published by Pratiyogita Darpan Group in India and is one of the best Science monthly magazines available for medical entrance examination students in India. Well-qualified professionals of Physics, Chemistry, Zoology and Botany make contributions to this magazine and craft it with focus on providing complete and to-the-point study material for aspiring candidates. The magazine covers General Knowledge, Science and Technology news, Interviews of toppers of examinations, study material of Physics, Chemistry, Zoology and Botany with model papers, reasoning test questions, facts, quiz contest, general awareness and mental ability test in every monthly issue.

\*The Instant New York Times Bestseller\* "A book historians will relish."--Peggy Noonan, Wall Street Journal Must read. I've read every book about the Trump presidency. This is the best.--Bill Press An account like no other, from the White House reporter who has known President Donald Trump for more than 25 years. We have never seen a president like this...norm-breaking, rule-busting, dangerously reckless to some and an overdue force for change to others. One thing is clear: We are witnessing the reshaping of the presidency. Jonathan Karl brings us into the White House in a powerful book unlike any other on the Trump administration. He's known and covered Donald Trump longer than any other White House reporter. With extraordinary access to Trump during the campaign and at 1600 Pennsylvania Avenue, Karl delivers essential new reporting and surprising insights. These are the behind-the-scenes moments that define Trump's presidency--an extraordinary look at the president, the person, and those closest to him. This is the real story of Trump's unlikely rise; of the struggles and battles of those who work in the administration and those who report on it; of the plots and schemes of a senior staff enduring stunning and unprecedented unpredictability. Karl takes us from a TV set turned campaign office to the strange quiet of Trump's White House on Inauguration Day to a high-powered reelection campaign set to change the country's course. He shows us an administration rewriting the role of the president on the fly and a press corps that has never been more vital. Above all, this book is only possible because of the surprisingly open relationship Donald Trump has had with Jonathan Karl, a reporter he has praised, fought, and branded an enemy of the people. This is Front Row at the Trump Show.

FOR B.Sc & B.Sc.(Hons) CLASSES OF ALL INDIAN UNIVERSITIES AND ALSO AS PER UGC MODEL

CURRICULUM Contents: CONTENTS:Protochordates:Hemichordata 1.Urochordata Cephalochordata Vertebrates : Cyclostomata 3. Agnatha, Pisces Amphibia 4. Reptilia 5. Aves Mammalia 7 Comparative Anatomy:Integumentary System 8 Skeletal System Coelom and Digestive System 10 Respiratory System 11. Circulatory System Nervous System 13. Receptor Organs 14 Endocrine System 15 Urinogenital System 16 Embryology Some Comparative Charts of Protochordates 17 Some Comparative Charts of Vertebrate Animal Types 18 Index.

Publisher Description

Charles Robert Darwin was born on 12th February, 1809 in Shrewsbury, England. Darwin shares his birthday with U. S. President Abraham Lincoln. Both were crusaders against slavery: Darwin disliked slavery and Lincoln abolished it. Darwin was a born naturalist and showed keen

interest in nature from the very beginning. A breakthrough came when he was selected as a naturalist on the H. M. S. Beagle ship. His 5-year voyage on the Beagle started in 1831 and was completed in 1836. This was followed by publication of his research findings that challenged creationist views of the church. Darwin conducted a study of fossils and geological records and concluded rightly, that all life forms emerged over millions of years of evolution through the force of natural selection. In 1859 Darwin published his work on evolution in a book titled "On the Origin of Species by Means of Natural Selection or the Preservation of Favored Races". The book was received as a scientific bomb shell and has since changed the human understanding of life forever. Today Darwin's ideas on evolution provide foundation to modern biology. Darwin died of a heart attack on the 19th April 1882 and was buried in Westminster Abbey near the grave of Sir Isaac Newton. The scientific community is celebrating Darwin's bicentenary worldwide in honor of his ingenuity, scientific thought, conviction and courage.

Featuring key pieces of art from the text, this coloring book allows students to engage with the material in a hands-on manner. Integrated areas ask students to explain the processes attached to the figures in their own words to improve retention.

The text begins by reviewing, in a simple and precise manner, the physical principles of three pillars of Refrigeration and Air Conditioning, namely thermodynamics, heat transfer, and fluid mechanics. Following an overview of the history of refrigeration, subsequent chapters provide exhaustive coverage of the principles, applications and design of several types of refrigeration systems and their associated components such as compressors, condensers, evaporators, and expansion devices. Refrigerants too, are studied elaboratively in an exclusive chapter. The second part of the book, beginning with the historical background of air conditioning in Chapter 15, discusses the subject of psychrometrics being at the heart of understanding the design and implementation of air conditioning processes and systems, which are subsequently dealt with in Chapters 16 to 23. It also explains the design practices followed for cooling and heating load calculations. Each chapter contains several worked-out examples that clarify the material discussed and illustrate the use of basic principles in engineering applications. Each chapter also ends with a set of few review questions to serve as revision of the material learned.

Over the last decade considerable progress has been made in white biotechnology research and further major scientific and technological breakthroughs are expected in the future. The first large-scale industrial applications of modern biotechnology have been in the areas of food and animal feed production (agricultural/green biotechnology) and in pharmaceuticals (medical/red biotechnology). In contrast, the productions of bio-active compounds through fermentation or enzymatic conversion are known as industrial or white biotechnology. The fungi are ubiquitous in nature and have been sorted out from different habitats, including extreme environments (high temperature, low temperature salinity and pH); and associated with plants (Epiphytic, Endophytic and Rhizospheric). The fungal strains are beneficial as well as harmful for human beings. The beneficial fungal strains may play important roles in the agricultural, industrial, and medical sectors. The fungal strains and its product (enzymes, bioactive compounds, and secondary metabolites) are very useful for industry (e.g., the discovery of penicillin from *Penicillium chrysogenum*). This discovery was a milestone in the development of white biotechnology as the industrial production of penicillin and antibiotics using fungi moved industrial biotechnology into the modern era, transforming it into a global industrial technology. Since then, white biotechnology has steadily developed and now plays a key role in several industrial sectors providing both high value nutraceutical and pharmaceutical products. The fungal strains and bioactive compounds also play an important role in environmental cleaning. This volume covers the latest research developments related to value-added products in white biotechnology through fungi.

1. Introduction to Laboratory 2. Experiments in Plant Physiology 3. Biochemistry 4. Biotechnology 5. Ecology 6. Plant Utilization 7. Project Reports Appendix.

This book focuses on successful application of microbial biotechnology in areas such as medicine, agriculture, environment and human health.

ADVANCED PRACTICAL ZOOLOGY For B.Sc. III Yr, B.Sc.(H) and M.Sc. Students of All Indian University

This Open Access volume aims to methodologically improve our understanding of biodiversity by linking disciplines that incorporate remote sensing, and uniting data and perspectives in the fields of biology, landscape ecology, and geography. The book provides a framework for how biodiversity can be detected and evaluated--focusing particularly on plants--using proximal and remotely sensed hyperspectral data and other tools such as LiDAR. The volume, whose chapters bring together a large cross-section of the biodiversity community engaged in these methods, attempts to establish a common language across disciplines for understanding and implementing remote sensing of biodiversity across scales. The first part of the book offers a potential basis for remote detection of biodiversity. An overview of the nature of biodiversity is described, along with ways for determining traits of plant biodiversity through spectral analyses across spatial scales and linking spectral data to the tree of life. The second part details what can be detected spectrally and remotely. Specific instrumentation and technologies are described, as well as the technical challenges of detection and data synthesis, collection and processing. The third part discusses spatial resolution and integration across scales and ends with a vision for developing a global biodiversity monitoring system. Topics include spectral and functional variation across habitats and biomes, biodiversity variables for global scale assessment, and the prospects and pitfalls in remote sensing of biodiversity at the global scale.

The South Asian subcontinent is home to nearly a billion people and has been the site of fierce historical contestation. It is a panoply of languages and religions with a rich and complex history and culture. Drawing on the newest and most sophisticated historical research and scholarship in the field, *Modern South Asia* is written in an accessible style for all those with an intellectual curiosity about the region. After sketching the pre-modern history of the subcontinent, the book concentrates on the last three centuries from c.1700 to the present. Jointly written by two leading Indian and Pakistani historians, it offers a rare depth of historical understanding of the politics, cultures and economies that shape the lives of more than a fifth of humanity. In this comprehensive study, the authors debate and challenge the striking developments in contemporary South Asian history and historical writing. The book provides new insights into the structure and ideology of the British raj, the meaning of subaltern resistance, the refashioning of social relations along lines of caste, class, community and gender, the different strands of anti-colonial nationalism and the dynamics of decolonization. This book is a work of synthesis and interpretation covering the entire spectrum of modern South Asian history - social, economic and political. The authors offer an understanding of this strategically and economically vital part of the world.

This introductory textbook covers the fundamentals of engineering mechanics (solid mechanics and fluid mechanics) and thermodynamics. The solid mechanics chapters cover the basic topics on statics, dynamics, and strength of materials.

The fluid mechanics chapters deal with elementary aspects of fluid at rest and in motion. The last chapters discuss thermodynamic principles. The contents include solved examples in an attempt to clarify the topics.

### Competition Science Vision

Microgrid technology is an emerging area, and it has numerous advantages over the conventional power grid. A microgrid is defined as Distributed Energy Resources (DER) and interconnected loads with clearly defined electrical boundaries that act as a single controllable entity concerning the grid. Microgrid technology enables the connection and disconnection of the system from the grid. That is, the microgrid can operate both in grid-connected and islanded modes of operation. Microgrid technologies are an important part of the evolving landscape of energy and power systems. Many aspects of microgrids are discussed in this volume, including, in the early chapters of the book, the various types of energy storage systems, power and energy management for microgrids, power electronics interface for AC & DC microgrids, battery management systems for microgrid applications, power system analysis for microgrids, and many others. The middle section of the book presents the power quality problems in microgrid systems and its mitigations, gives an overview of various power quality problems and its solutions, describes the PSO algorithm based UPQC controller for power quality enhancement, describes the power quality enhancement and grid support through a solar energy conversion system, presents the fuzzy logic-based power quality assessments, and covers various power quality indices. The final chapters in the book present the recent advancements in the microgrids, applications of Internet of Things (IoT) for microgrids, the application of artificial intelligent techniques, modeling of green energy smart meter for microgrids, communication networks for microgrids, and other aspects of microgrid technologies. Valuable as a learning tool for beginners in this area as well as a daily reference for engineers and scientists working in the area of microgrids, this is a must-have for any library.

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