

Computer Networks By Sanjay Sharma

Sustainable innovation requires more than a clear vision and commitment. It requires effective execution and implementation based on an ongoing systematic process of engaging stakeholders to generate the evolving information critical for guiding decision-making, developing and implementing business logic for sustainable innovation, overcoming decision-making biases by managers, creating an opportunity framework to spark creativity, and developing effective organizational capabilities to build a sustainable innovation DNA within the organization. Such a capacity provides an organization with the ability to anticipate and overcome internal and external barriers and achieve competitive advantage through sustainable innovation of products, services, and business models. Based on original research, current state-of-the-knowledge, and relevant examples, this book comprehensively outlines and describes the process that managers can undertake to effectively and successfully implement a sustainability strategy that will help them attract and retain managerial talent; increase operating legitimacy and reduce compliance costs; boost stakeholder support; reduce costs through increased efficiency, quality, reliability, safety, and responsiveness of existing operations; foster radical innovations in processes, products, services, and new markets; and promote competitive imagination of future products, services, and business models.

This book provides an in-depth analysis of industrial consultancy on a variety of issues and aspects including operations and services. This book: Looks at both individual-level consultancy and consultancy for firms, companies, or institutions. Uses observations, examples, and case studies to bring together key themes: consulting approach; production operations vs. services consulting; location and facilities criteria; human-machine interaction; lead time objective; outsourcing decisions and management; and infrastructure influence along with consultancy objectives, strategic considerations, and conflict resolution. Presents a comprehensive understanding of industrial consultancy and services offered to a wide range of industries, across type, size, and scale, including manufacturing, pharmaceutical, fabrication, and transformer industries. The first of its kind, this book will be a useful resource for industry and management professionals as well as scholars and researchers of business management, business economics, operations, entrepreneurship and organizational behaviour, and engineering.

The present volume is a collection of scholarly written essays in honour of Dr. D.C. Ojha by the eminent librarians, Director, Professors, Information Scientists working in INFLIBNET, Universities including National University, DRDO, ICAR, including Agricultural Universities, CSSR, BITS and AICTE and MNIT Colleges of India. The application of Information Technology (IT) and Information Communication Technology (ICT) in libraries have brought the revolutionary changes in the entire concept of library operations, services and management. To peep into it, library and information science professionals, used to get ready to face the challenges emerging due to the adoption of newer technologies. An attempt has been made in the present volume to synthesize all aspects of IT and to put them in the systematic order at one place to understand the conceptual phenomena and to render the better and effective services to clientele. This book not only deals with the theoretical aspects about the application of IT in all types of libraries but there are also some case studies which show the path to march forward. The emergence of Internet, particularly the World Wide Web (WWW) as a new media of information delivery and digitization and virtual libraries, have been discussed, in one way or the other, in almost all chapters of the proposed book. A full chapter has been given on Cyber Crime and Indian Cyber Law. Few important topics covered in this volume are: • Information & Communication Technology (ICT) in Academic Libraries. • Marketing of e-resources. • Evaluation of Indian Library Software Packages. • Information Management in DRDO Libraries. • Digital Libraries. • Library 2.0 • RFID Ssystem for Libraries • Open Source Software for Libraries • IARI Library: A profile • Government Knowledge Centre: A Model for State Public Library. • Cyber Crime and Indian Cyber Law. The book is suppose to be useful for participating librarians, Information Scientists, Research Scholars, Teachers and students of library and information science and to those who feel concerned with modernization and digitization of library resources.

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Enterprise Networking: Multilayer Switching and Applications offers up to date information relevant for the design of modern corporate networks and for the evaluation of new networking equipment. The book describes the architectures, standards high-availability and network policies that are requirements of modern switched networks.

IPv6 for Enterprise Networks The practical guide to deploying IPv6 in campus, WAN/branch, data center, and virtualized environments Shannon McFarland, CCIE® No. 5245 Muninder Sambhi, CCIE No. 13915 Nikhil Sharma, CCIE No. 21273 Sanjay Hooda, CCIE No. 11737 IPv6 for Enterprise Networks brings together all the information you need to successfully deploy IPv6 in any campus, WAN/branch, data center, or virtualized environment. Four leading Cisco IPv6 experts present a practical approach to organizing and executing your large-scale IPv6 implementation. They show how IPv6 affects existing network designs, describe common IPv4/IPv6 coexistence mechanisms, guide you in planning, and present validated configuration examples for building labs, pilots, and production networks. The authors first review some of the drivers behind the acceleration of IPv6 deployment in the enterprise. Next, they introduce powerful new IPv6 services for routing, QoS, multicast, and management, comparing them with familiar IPv4 features and behavior. Finally, they translate IPv6 concepts into usable configurations. Up-to-date and practical, IPv6 for Enterprise Networks is an indispensable resource for every network engineer, architect, manager, and consultant who must evaluate, plan, migrate to, or manage IPv6 networks. Shannon McFarland, CCIE No. 5245, is a Corporate Consulting Engineer for Cisco serving as a technical consultant for enterprise IPv6 deployment and data center design with a focus on application deployment and virtual desktop infrastructure. For more than 16 years, he has worked on large-scale enterprise campus, WAN/branch, and data center network design and optimization. For more than a decade, he has spoken at IPv6 events worldwide, including Cisco Live. Muninder Sambhi, CCIE No. 13915, is a Product Line Manager for Cisco Catalyst 4500/4900 series platform, is a core member of the Cisco IPv6 development council, and a key participant in IETF's IPv6 areas of focus. Nikhil Sharma, CCIE No. 21273, is a Technical Marketing Engineer at Cisco Systems where he is responsible for defining new features for both hardware and software for the Catalyst 4500 product line. Sanjay Hooda, CCIE No. 11737, a Technical Leader at Cisco, works with embedded systems, and helps to define new product architectures. His current areas of focus include high availability and messaging in large-scale distributed switching systems. n Identify how IPv6 affects enterprises n Understand IPv6 services and the IPv6 features that make them possible n Review the most common transition

mechanisms including dual-stack (IPv4/IPv6) networks, IPv6 over IPv4 tunnels, and IPv6 over MPLS n Create IPv6 network designs that reflect proven principles of modularity, hierarchy, and resiliency n Select the best implementation options for your organization n Build IPv6 lab environments n Configure IPv6 step-by-step in campus, WAN/branch, and data center networks n Integrate production-quality IPv6 services into IPv4 networks n Implement virtualized IPv6 networks n Deploy IPv6 for remote access n Manage IPv6 networks efficiently and cost-effectively This book is part of the Networking Technology Series from Cisco Press®, which offers networking professionals valuable information for constructing efficient networks, understanding new technologies, and building successful careers.

This reference text discusses models and analyzes cases that are useful for material requirements planning (MRP), just-in-time (JIT) environments and supply chain environments, as well as traditional production-inventory systems. It covers important concepts, including production-inventory systems, optimal purchase quantity, optimal production quantity, instantaneous procurement, multiple input items, sensitivity analysis, multiproduct manufacturing, determination of optimum cycle time, fractional backlogging, and incorporating input item procurement and flexibility in the production rate. Aimed at senior undergraduate and graduate students, and professionals in the field of industrial engineering, production engineering and manufacturing science, this text: Provides detailed models/analysis pertaining to various cases which are useful for material requirements planning and supply chain environments Elaborates manufacturing rate flexibility, demand variation and production rate variation Discusses the multi-item manufacturing environment and presents models with backorders, as well as fractional backlogging Analyzes flexible production rates, along with upward and downward variations

The key parameter that needs to be considered when planning the management of resources in futuristic wireless networks is a balanced approach to resource distribution. A balanced approach is necessary to provide an unbiased working environment for the distribution, sharing, allocation, and supply of resources among the devices of the wireless network. Equal resource distribution also maintains balance and stability between the operations of communication systems and thus improves the performance of wireless networks. Managing Resources for Futuristic Wireless Networks is a pivotal reference source that presents research related to the control and management of key parameters of bandwidth, spectrum sensing, channel selection, resource sharing, and task scheduling, which is necessary to ensure the efficient operation of wireless networks. Featuring topics that include vehicular ad-hoc networks, resource management, and the internet of things, this publication is ideal for professionals and researchers working in the field of networking, information and knowledge management, and communication sciences. Moreover, the book will provide insights and support executives concerned with the management of expertise, knowledge, information, and organizational development in different types of work communities and environments.

Artificial Intelligence: Technologies, Applications, and Challenges is an invaluable resource for readers to explore the utilization of Artificial Intelligence, applications, challenges, and its underlying technologies in different applications areas. Using a series of present and future applications, such as indoor-outdoor securities, graphic signal processing, robotic surgery, image processing, character recognition, augmented reality, object detection and tracking, intelligent traffic monitoring, emergency department medical imaging, and many more, this publication will support readers to get deeper knowledge and implementing the tools of Artificial Intelligence. The book offers comprehensive coverage of the most essential topics, including: Rise of the machines and communications to IoT (3G, 5G). Tools and Technologies of Artificial Intelligence Real-time applications of artificial intelligence using machine learning and deep learning. Challenging Issues and Novel Solutions for realistic applications Mining and tracking of motion based object data image processing and analysis into the unified framework to understand both IoT and Artificial Intelligence-based applications. This book will be an ideal resource for IT professionals, researchers, under or post-graduate students, practitioners, and technology developers who are interested in gaining insight to the Artificial Intelligence with deep learning, IoT and machine learning, critical applications domains, technologies, and solutions to handle relevant challenges.

Key Clinical Topics in Cardiology presents a brand new addition to the Key Clinical Topics series. The book provides a comprehensive overview of the subject, comprising over 60 carefully selected topics in alpha order that together provide an extensive understanding of the management of cardiovascular disorders. This collection of highly practical guides systematically addresses management techniques for a large number of clinical settings. Edited by experienced specialists, with contributions from consultants who have recognised expertise in their field, this book provides an authoritative and up-to-date guide on cardiovascular medicine. Designed to enable rapid access to core information, KCT Cardiology offers effective exam revision and the ideal quick reference for day-to-day practice. Key points Over 60 topics presented in alpha order, from acute advanced life support to tumours Effective exam revision for postgraduate trainees in cardiology preparing for certification Succinct coverage of cardiac treatment modalities and complications Includes clinical photos and diagrams to improve understanding of concepts Contributions from experienced specialists to ensure authoritative, accurate content

The digital revolution is characterized by the convergence of technologies, rapidly advancing the 4th industrial revolution thereby blurring the lines between physical, digital and biological objects. The speed of the fourth revolution which evolves at an exponential rate cannot by any means be compared with any previous technologies. AI and IoT employ the interactions and operations in various fields such as home appliances, autonomous vehicles, nanotechnology, robotics, cognitive systems, self-driving cars and wearable devices. The potential of blockchain technology is realized in many sectors as security plays a crucial role everywhere. This book deeply discusses two of the most critical emerging fields of machine learning: blockchain technology and the Internet of Things.

Originally intended for desktop mapping and analysis, Geographic Information Systems have been coupled to other technologies, due to the limitations in commercially available systems, and has occurred in areas including visualisation, simulation, data storage and management and decision support. This book, written by an international group of experts, focuses on the use of GIS and the technology it has been allied to. A companion website offers additional materials and links.

Details descriptions of the principles associated with each layer and presents many examples drawn the Internet and wireless networks.

This book includes broad coverage of production and associated services. Since the success of manufacturing operations depends on the demand information and costs and revenue, qualitative and quantitative techniques of demand forecasting and also financial analysis are covered in this book. Topics such as facilities layout, inventory, project management, production, planning and management are explained in detail. Additional topics include quality control and work study.

This handbook introduces the basic principles and fundamentals of cyber security towards establishing an understanding of how to protect computers from hackers and adversaries. The highly informative subject matter of this handbook, includes various concepts, models, and terminologies along with examples and illustrations to demonstrate substantial technical details of the field. It motivates the readers to exercise better protection and defense mechanisms to deal with attackers and mitigate the situation. This handbook also outlines some of the exciting areas of future research where the existing approaches can be implemented. Exponential increase in the use of computers as a

means of storing and retrieving security-intensive information, requires placement of adequate security measures to safeguard the entire computing and communication scenario. With the advent of Internet and its underlying technologies, information security aspects are becoming a prime concern towards protecting the networks and the cyber ecosystem from variety of threats, which is illustrated in this handbook. This handbook primarily targets professionals in security, privacy and trust to use and improve the reliability of businesses in a distributed manner, as well as computer scientists and software developers, who are seeking to carry out research and develop software in information and cyber security. Researchers and advanced-level students in computer science will also benefit from this reference.

This book provides comprehensive details of all Swarm Intelligence based Techniques available till date in a comprehensive manner along with their mathematical proofs. It will act as a foundation for authors, researchers and industry professionals. This monograph will present the latest state of the art research being done on varied Intelligent Technologies like sensor networks, machine learning, optical fiber communications, digital signal processing, image processing and many more.

The definitive guide for ensuring data privacy and GDPR compliance Privacy regulation is increasingly rigorous around the world and has become a serious concern for senior management of companies regardless of industry, size, scope, and geographic area. The Global Data Protection Regulation (GDPR) imposes complex, elaborate, and stringent requirements for any organization or individuals conducting business in the European Union (EU) and the European Economic Area (EEA)—while also addressing the export of personal data outside of the EU and EEA. This recently-enacted law allows the imposition of fines of up to 5% of global revenue for privacy and data protection violations. Despite the massive potential for steep fines and regulatory penalties, there is a distressing lack of awareness of the GDPR within the business community. A recent survey conducted in the UK suggests that only 40% of firms are even aware of the new law and their responsibilities to maintain compliance. The Data Privacy and GDPR Handbook helps organizations strictly adhere to data privacy laws in the EU, the USA, and governments around the world. This authoritative and comprehensive guide includes the history and foundation of data privacy, the framework for ensuring data privacy across major global jurisdictions, a detailed framework for complying with the GDPR, and perspectives on the future of data collection and privacy practices. Comply with the latest data privacy regulations in the EU, EEA, US, and others Avoid hefty fines, damage to your reputation, and losing your customers Keep pace with the latest privacy policies, guidelines, and legislation Understand the framework necessary to ensure data privacy today and gain insights on future privacy practices The Data Privacy and GDPR Handbook is an indispensable resource for Chief Data Officers, Chief Technology Officers, legal counsel, C-Level Executives, regulators and legislators, data privacy consultants, compliance officers, and audit managers.

Rapid technological advancement has given rise to new ethical dilemmas and security threats, while the development of appropriate ethical codes and security measures fail to keep pace, which makes the education of computer users and professionals crucial. The Encyclopedia of Information Ethics and Security is an original, comprehensive reference source on ethical and security issues relating to the latest technologies. Covering a wide range of themes, this valuable reference tool includes topics such as computer crime, information warfare, privacy, surveillance, intellectual property and education. This encyclopedia is a useful tool for students, academics, and professionals.

This two-volume set (CCIS 150 and CCIS 151) constitutes the refereed proceedings of the Second International Conference on Ubiquitous Computing and Multimedia Applications, UCMA 2011, held in Daejeon, Korea, in April 2011. The 86 revised full papers presented were carefully reviewed and selected from 570 submissions. Focusing on various aspects of advances in multimedia applications and ubiquitous computing with computational sciences, mathematics and information technology the papers present current research in the area of multimedia and ubiquitous environment including models and systems, new directions, novel applications associated with the utilization, and acceptance of ubiquitous computing devices and systems.

This book presents new communication and networking technologies, an area that has gained significant research attention from both academia and industry in recent years. It also discusses the development of more intelligent and efficient communication technologies, which are an essential part of current day-to-day life, and reports on recent innovations in technologies, architectures, and standards relating to these technologies. The book includes research that spans a wide range of communication and networking technologies, including wireless sensor networks, big data, Internet of Things, optical and telecommunication networks, artificial intelligence, cryptography, next-generation networks, cloud computing, and natural language processing. Moreover, it focuses on novel solutions in the context of communication and networking challenges, such as optimization algorithms, network interoperability, scalable network clustering, multicasting and fault-tolerant techniques, network authentication mechanisms, and predictive analytics.

The Department of Electronics and Communication Engineering of KIET Group of Institutions, Delhi-NCR organized the 4th International Conference ICCE-2020 during November 28-29, 2020. Information compiled in this book is based on the 114 research papers of excellent quality covering different domains of Electronics and Communication Engineering, Computer Science Engineering, Information Technology, Electrical Engineering, Electronics and Instrumentation Engineering. The subject areas treated in the book are: Satellite, Radar and Microwave Techniques, Secure, Smart, and Reliable Networks, Next Generation Networks, Devices & Circuits, Signal & Image Processing, New Emerging Technologies, having the central focus on Recent Trends in Communication & Electronics (ICCE-2020). In addition, a few themes based on Special Sessions have also been conducted in ICCE-2020. The objective of the book resulting from the 4th International Conference on Recent Trends in Communication & Electronics (ICCE-2020) is to provide a resource for the study and research work for an interested audience comprising of researchers, students, audience, and practitioners in the areas of Communications

& Computing Systems.

The book is a compilation of best papers presented at International Conference on Recent Advancement in Computer and Communication (ICRAC 2017) organized by IMPLab Research and Innovation Foundation, Bhopal, India. The book covers all aspects of computers and communication techniques including pervasive computing, distributed computing, cloud computing, sensor and adhoc network, image, text and speech processing, pattern recognition and pattern analysis, digital signal processing, digital electronics, telecommunication technologies, robotics, VLSI technologies, embedded system, satellite communication, digital signal processing, and digital communication. The papers included are original research works of experts from industry, government centers and academic institutions; experienced in engineering, design and research.

This book includes high-quality, peer-reviewed papers from the International Conference on Recent Advancement in Computer, Communication and Computational Sciences (RACCCS-2018), held at Aryabhata College of Engineering & Research Center, Ajmer, India on August 10–11, 2018, presenting the latest developments and technical solutions in computational sciences. Networking and communication are the backbone of data science, data- and knowledge engineering, which have a wide scope for implementation in engineering sciences. This 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 in next-generation communication and computational technology to shape real-world applications.

Inventory Planning with Innovation: A Cost Focus discusses inventory planning concepts with major emphasis on innovation to reduce cost in a single volume. Provides an understanding of innovation efforts and linking it with inventory planning in reducing cost. Offers various factors influencing innovation efforts, knowledge of investment or expenditure that might be estimated before starting the innovation efforts, purchase inventory, and the manufacturing inventory. Covers important concepts including innovation efforts, strategic period, procurement inventory, total cost estimation, production inventory, related total cost planning, multiple products, multiple items procurements, and multiple items manufacture. This reference is primarily written for senior undergraduate, graduate students, and professionals in the field of industrial engineering, production engineering, and manufacturing science.

This volume constitutes the refereed proceedings of the International Conferences, FGICN and DCA 2012, held as part of the Future Generation Information Technology Conference, FGIT 2012, Kangwondo, Korea, in December 2012. The papers presented were carefully reviewed and selected from numerous submissions and focus on the various aspects of future generation communication and networking, and digital contents and applications.

This book constitutes selected and revised papers from the First International Conference on Cybersecurity in Emerging Digital Era, ICCEDE 2020, held in Greater Noida, India, in October 2020. Due to the COVID-19 pandemic the conference was held online. The 9 full papers and 2 short papers presented in this volume were thoroughly reviewed and selected from 193 submissions. The papers are organized in topical sections on ?cyber security issues and challenges in emerging digital era; security resilience in contemporary applications.

Computer Networks & Communications (NetCom) is the proceedings from the Fourth International Conference on Networks & Communications. This book covers theory, methodology and applications of computer networks, network protocols and wireless networks, data communication technologies, and network security. The proceedings will feature peer-reviewed papers that illustrate research results, projects, surveys and industrial experiences that describe significant advances in the diverse areas of computer networks & communications.

This book is an invaluable resource with 400 self-assessment cases and data interpretation questions covering all aspects of internal medicine. It has great breadth of coverage, superb illustration, lively presentation, precise answers and detailed discussion.

This book constitutes selected and revised papers of the First International Conference on Artificial Intelligence and Sustainable Computing for Smart City, AIS2C2 2021, held in Greater Noida, India, in March 2021. Due to the COVID-19 pandemic the conference was held online. The 17 full papers and 3 short papers included were thoroughly reviewed and selected from 204 submissions. They are organized in the following topical sections: sentimental and emotions analysis for smart cities; smart specialization strategies for smart cities; security in smart cities; advances applications for future smart cities; healthcare in smart cities; machine learning applications in smart cities.

This book gathers high-quality papers presented at the 2nd International Conference on Communication, Devices & Computing (ICCDC 2019), held at Haldia Institute of Technology from March 14–15, 2019. The papers are divided into three main areas: communication technologies, electronics circuits & devices and computing. Written by students and researchers from around the world, they accurately reflect the global status quo.

ICT technologies have contributed to the advances in wireless systems, which provide seamless connectivity for worldwide communication. The growth of interconnected devices and the need to store, manage, and process the data from them has led to increased research on the intersection of the internet of things and cloud computing. The Handbook of Research on the IoT, Cloud Computing, and Wireless Network Optimization is a pivotal reference source that provides the latest research findings and solutions for the design and augmentation of wireless systems and cloud computing. The content within this publication examines data mining, machine learning, and software engineering, and is designed for IT specialists, software engineers, researchers, academicians, industry professionals, and students.

The purpose of this edited book is to present and showcase the basic fundamentals, applications, and integration of both IoT and Blockchain. The trend of applying Blockchain to IoT is rapidly growing because it helps to overcome various challenges faced by IoT, from smart manufacturing to unmanned aerial vehicles. This book aims to showcase the basics of both IoT and Blockchain as well as the integration and challenges for existing practitioners. This book initiates conversations among technologists, engineers, scientists, and clinicians to synergize their efforts in producing low-cost, high-performance, highly efficient, deployable IoT systems. This book is theory-based and is useful for engineers from various disciplines, including industrial engineering, computer science, electronics, telecommunications, electrical, agricultural, and cybersecurity, along with researchers, professionals, and students.

Maintaining a practical perspective, Python Programming: A Practical Approach acquaints you with the wonderful world of programming. The book is a starting point for those who want to learn Python programming. The backbone of any programming, which is the data structure and components such as strings, lists, etc., have been illustrated with many examples and enough practice problems to instill a level of self-confidence in the reader. Drawing on knowledge gained directly from teaching Computer Science as a subject and working on a wide range of projects related to ML, AI, deep learning, and blockchain, the authors have tried their best to present the necessary skills for a Python programmer. Once the foundation of Python programming is built and the readers are aware of the exact structure, dimensions, processing, building blocks, and representation of data, they can readily take up their specific problems from the area of interest and solve them with the help of Python. These include, but are not

limited to, operators, control flow, strings, functions, module processing, object-oriented programming, exception and file handling, multithreading, synchronization, regular expressions, and Python database programming. This book on Python programming is specially designed to keep readers busy with learning fundamentals and generates a sense of confidence by attempting the assignment problems. We firmly believe that explaining any particular technology deviates from learning the fundamentals of a programming language. This book is focused on helping readers attempt implementation in their areas of interest through the skills imparted through this book. We have attempted to present the real essence of Python programming, which you can confidently apply in real life by using Python as a tool. Salient Features ? Based on real-world requirements and solution. ? Simple presentation without avoiding necessary details of the topic. ? Executable programs on almost every topic. ? Plenty of exercise questions, designed to test readers' skills and understanding. Purposefully designed to be instantly applicable, Python Programming: A Practical Approach provides implementation examples so that the described subject matter can be immediately implemented due to the well-known versatility of Python in handling different data types with ease.

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