Basic Computer Engineering Sanjay Silakari

This book focuses on soft computing and how it can be applied to solve real-world problems arising in various domains, ranging from medicine and healthcare, to supply chain management, image processing and cryptanalysis. It gathers high-quality papers presented at the International Conference on Soft Computing: Theories and Applications (SoCTA 2020), organized online. The book is divided into two volumes and offers valuable insights into soft computing for teachers and researchers alike; the book will inspire further research in this dynamic field.

Market_Desc: Primary Market· Undergraduate I Year Engineering student of RGPV, Bhopal (More than 1 lac intake)Course: Basic Computer EngineeringCourse Code: B.E. - 205Secondary Market· Undergraduate first year students of various universities, such as· UPTU (ECS-101/ECS-201 : Computer Concepts and Programming in C)· UTU (Fundamentals of Computer & Programming)· PTU (CS-101 Fundaments of Computer Programming and Information Technology)· RTU (Computer Systems and Programming [104])· GTU (Computer Programming and Utilization)· Anna (GE2112 Fundamentals of Computing and Programming)· JNTU (C Programming and Data Structures)· BPUT (BCSE 3101 PROGRAMMING IN C)· VTU (10CCP13/10CCP23 Computer Concepts and C Programming)· CSVTU (300224 Introduction to Computing) Special Features: · Completely covers the syllabus as a textbook for B.E. first year course Basic Computer Engineering , RGPV (Bhopal) and similar courses in other universities.· Single-handedly caters to the requirements of several engineering disciplines that have this course in their curriculum.· Explains programming in C++ in detail.· Covers operating systems such as Windows, DOS and UNIX; database management systems; data structures; algorithms and C++, without entering into the specifics of programming languages and complex technologies.· Makes liberal use of screenshots to show how the screen would look like after processing the command.· Has increased utility owing to the presence of a large number of examples and illustrations.· Covers programming assignments and experimental portions under specific chapters to take into account the practical nature of the course.· Contains appendices that introduce readers to emerging areas of research such as neural networks and fuzzy logic.· Provides model question papers for practicing questions based on the examination pattern.· Excellent pedagogy having:ü 160+ Figuresü 70+ Tablesü 40+ Programs with outputü 70+ Syntaxes and explanatory examplesü 220+ Objective questionsü 170+ Review questionsü 50+ Programming assignments. About The Book: This book helps in familiarizing students with the basic organization of the computer, and then moving on to study of the operating systems such as Windows, DOS and UNIX; database management systems; data structures; algorithms and C++, without entering into the specifics of programming languages and complex technologies. It provides an insight into the basics of computers as delineated by the syllabi of RGPV and various reputed Indian universities. This book is suitable for self-study because of clear explanation of the topics, uniformity in presentation, illustration of concepts through numerous examples; and chapters are laced with various screenshots to give an idea as to how the screen would look like while performing that particular step.

Market_Desc: · General Readers· Students pertaining to B.E., MCA, PGDCA, and MSc degree courses of most Indian universities and training institute offering OOPS & C++· C++ professionals Special Features: · Covers the complete syllabus of various universities offering course on object oriented programming methodologies· Concepts are well illustrated through examples and tested programs· Multiple choice questions are included at the end of each chapter· Model question papers are also included· Theoretical part is supported with C++

implementation. The attached CD contains numerous tested and debugged programs· Strong emphasis is given on implementation and examples throughout the book About The Book: This book offers solid, effective and easy to understand approach to the study of fundamental Object Oriented Programming. The book is a boon for general readers, C++ Professionals, and students from both graduate and postgraduate courses in computer engineering, who are inquisitive to explore each and every aspect of OOPS and C++. It renders expansive information about a wide array of topics like C++, arrays, structures, unions, bit fields, functions, pointers, template, exception handling, file handling and graphics with numerous examples. The text comprises fourteen chapters and each chapter is further divided into modules of major topics. Each module has a uniform structured presentation starting with learning objective, declaration, implementation, example programs, operations, and types, summary, multiple choice sections, programming assignments, review questions followed by the solution of the programming assignments.

This book constitutes the refereed proceedings of the First International Conference on Applied Computing to Support Industry: Innovation and Technology, ACRIT 2019, held in Ramadi, Iraq, in September 2019. The 38 revised full papers and 1 short paper were carefully reviewed and selected from 159 submissions. The papers of this volume are organized in topical sections on theory, methods and tools to support computer science; computer security and cryptography; computer network and communication; real world application in information science and technology.

This book features selected research papers presented at the First International Conference on Computing, Communications, and Cyber-Security (IC4S 2019), organized by Northwest Group of Institutions, Punjab, India, Southern Federal University, Russia, and IAC Educational Trust, India along with KEC, Ghaziabad and ITS, College Ghaziabad as an academic partner and held on 12–13 October 2019. It includes innovative work from researchers, leading innovators and professionals in the area of communication and network technologies, advanced computing technologies, data analytics and intelligent learning, the latest electrical and electronics trends, and security and privacy issues.

Cloud technologies have revolutionized the way we store information and perform various computing tasks. With the rise of this new technology, the ability to secure information stored on the cloud becomes a concern. The Handbook of Research on Securing Cloud-Based Databases with Biometric Applications explores the latest innovations in promoting cloud security through human authentication techniques. Exploring methods of access by identification, including the analysis of facial features, fingerprints, DNA, dental characteristics, and voice patterns, this publication is designed especially for IT professionals, academicians, and upper-level students seeking current research surrounding cloud security.

This book is a collection of peer-reviewed best selected research papers presented at the First International Conference on Machine Intelligence and Smart Systems 2020 (MISS 2020), organized during September 24–25, 2020, in Gwalior, India. The book presents new advances and research results in the fields of machine intelligence, artificial intelligence and smart systems. It includes main paradigms of machine intelligence algorithms, namely (1) neural networks, (2) evolutionary computation, (3) swarm intelligence, (4) fuzzy systems and (5) immunological computation.

The second international conference on INformation Systems Design and Intelligent Applications (INDIA – 2015) held in Kalyani, India during January 8-9, 2015. The book covers all aspects of information system design, computer science and technology, general sciences, and educational research. Upon a double blind review process, a number of high quality papers are selected and collected in the book, which is composed of two different volumes, and covers a variety of topics, including natural language processing, artificial intelligence, security and

privacy, communications, wireless and sensor networks, microelectronics, circuit and systems, machine learning, soft computing, mobile computing and applications, cloud computing, software engineering, graphics and image processing, rural engineering, e-commerce, e-governance, business computing, molecular computing, nano-computing, chemical computing, intelligent computing for GIS and remote sensing, bio-informatics and bio-computing. These fields are not only limited to computer researchers but also include mathematics, chemistry, biology, bio-chemistry, engineering, statistics, and all others in which computer techniques may assist.

This book introduces students to the basics of computers, software and internet along with how to program computers using the C language. It is intended for an introductory course that gives beginning engineering and science students a firm rooting in the fundamental principles of computers and information technology, and also provides invaluable insights into key concepts of computing through development of skills in programming and problem solving using C language. To this end, the book is eminently suitable for the first-year engineering students of all branches and MCA students, as per the prescribed syllabus of several universities. C is a difficult language to learn if it is not methodically introduced. The book explains C and its basic programming techniques in a way suitable for beginning students. It begins by giving students a solid foundation in algorithms to help them grasp the overall concepts of programming a computer as a problem-solving tool. Simple aspects of C are introduced first to enable students to quickly start writing programs. More difficult concepts in the latter parts of the book, such as pointers and their use, have been presented in an accessible manner making the learning of C an exciting and interesting experience. The methodology used is to illustrate each new concept with a program and emphasize a good style in programming to allow students to gain sufficient skills in problem solving. KEY FEATURES Self-contained introduction to both computers and programming for beginners All important features of C illustrated with over 100 examples Good style in programming emphasized Laboratory exercises on applications of MS Office, namely, Word processing, Spreadsheet, PowerPoint are included.

Description:This book is going to be the first well organized book for soft computing, including all the three major constituents or aspect of soft computing (neural networks, fuzzy logic and evolutionary computation), and hopefully will be proved beneficial for both kind of people; those striving to gain knowledge and those striving to score grades. The book is comprised of each and every topic of soft computing is a vast field of artificial intelligence with very much exploration to real time problems, especially regarding the quench of decision making and automation in the leading AI industries.Key Features:Comprehensive coverage of various aspects of soft computing concepts.Artificial intelligence, Neuro computing, Fuzzy logic Evolutionary computation.Strictly in accordance for the syllabus coverd under UG, PG, and Doctoral courses. (B.E. / B. Tech./ MCA/ M. Tech/ Research Scholars)Simple language, crystal clear approach, straight forward comprehensible presentation.The concepts are duly supported by several examples.Important question papers for every chapters.Table of contents:Chapter 1: Introduction to Neuro-computingChapter 2: Training the Neural networksChapter 3: The unsupervised networksChapter 4: The fuzzy logicChapter 5: The Evolutionary computationChapter 6: Few Auxiliary algorithms

Describing a new optimization algorithm, the “Teaching-Learning-Based Optimization (TLBO),” in a clear and lucid style, this book maximizes reader insights into how the TLBO algorithm can be used to solve continuous and discrete optimization problems involving single or multiple objectives. As the algorithm operates on the principle of teaching and learning, where teachers influence the quality of learners’ results, the elitist version of TLBO algorithm (ETLBO) is described along with applications of the TLBO algorithm in the fields of electrical engineering, mechanical design, thermal engineering, manufacturing engineering, civil engineering, structural engineering, computer engineering, electronics engineering, physics and biotechnology. The book offers a valuable resource for scientists, engineers and

practitioners involved in the development and usage of advanced optimization algorithms.

Organic Reaction Mechanisms 2015, the 51st annual volume in this highly successful and unique series, surveys research on organic reaction mechanisms described in the available literature dated 2015. The following classes of organic reaction mechanisms are comprehensively reviewed: Reaction of Aldehydes and Ketones and their Derivatives Reactions of Carboxylic, Phosphoric, and Sulfonic Acids and their Derivatives Oxidation and Reduction Carbenes and Nitrenes Nucleophilic Aromatic Substitution Electrophilic Aromatic Substitution Carbocations Nucleophilic Aliphatic Substitution Carbanions and Electrophilic Aliphatic Substitution Elimination Reactions Polar Addition Reactions Cycloaddition Reactions Molecular Rearrangements An experienced team of authors compile these reviews every year, so that the reader can rely on a continuing quality of selection and presentation.

This book offers the first comparative account of the changes and stabilities of public perceptions of science within the US, France, China, Japan, and across Europe over the past few decades. The contributors address the influence of cultural factors; the question of science and religion and its influence on particular developments (e.g. stem cell research); and the demarcation of science from non-science as well as issues including the ‘incommensurability’ versus ‘cognitive polyphasia’ and the cognitive (in)tolerance of different systems of knowledge.

Special Features: · Simple language, point-wise descriptions in easy steps.· Chapter organization in exact agreement with sequence of syllabus.· Simple line diagrams.· Concepts supported by ample number of solved examples and illustrations.· Pedagogy in tune with examination pattern of RGTU.· Large number of Practice problems.· Model Question Papers About The Book: This book is designed to suit the core engineering course on basic mechanical engineering offered to first year students of all engineering colleges in Madhya Pradesh. This book meets the syllabus requirements of Basic Mechanical Engineering and has been written for the first year students (all branches) of BE Degree course of RGPV Bhopal affiliated Engineering Institutes. A number of illustrations have been used to explain and clarify the subject matter. Numerous solved examples are presented to make understanding the content of the book easy. Objective type questions have been provided at the end of each chapter to help the students to quickly review the concepts.

BASIC COMPUTER ENGINEERING

Concepts in Computing provides a clear, concise introduction to the fundamentals of computer science. The author generates excitement, curiosity, and enthusiasm in students and leaves them with a desire to learn more about the fascinating world of computing. The text identifies the important relationship between computing and the disciplines of engineering and mathematics. It focuses on the three important areas of Software/Programming/Design, Computer Systems/Architecture, and Theoretical Foundations. It is clear that students learn faster, and retain and integrate knowledge more efficiently, if they see how each subject area connects with, and is interdependent upon others. Concepts in Computing sets a solid foundation for introductory students and is a useful companion to those entering introductory programming courses.

Geared to IT professionals eager to get into the all-importantfield of data warehousing, this book explores all topics needed bythose who design and implement data warehouses. Readers will learnabout planning requirements, architecture, infrastructure, datapreparation, information delivery, implementation, and maintenance.They'll also find a wealth of industry examples garnered from theauthor's 25 years of experience in designing and implementingdatabases and data warehouse applications for majorcorporations. Market: IT Professionals, Consultants.

Meta-Heuristics: Advances and Trends in Local Search Paradigms for Optimizations comprises a carefully refereed selection of extended

versions of the best papers presented at the Second Meta-Heuristics Conference (MIC 97). The selected articles describe the most recent developments in theory and applications of meta-heuristics, heuristics for specific problems, and comparative case studies. The book is divided into six parts, grouped mainly by the techniques considered. The extensive first part with twelve papers covers tabu search and its application to a great variety of well-known combinatorial optimization problems (including the resource-constrained project scheduling problem and vehicle routing problems). In the second part we find one paper where tabu search and simulated annealing are investigated comparatively and two papers which consider hybrid methods combining tabu search with genetic algorithms. The third part has four papers on genetic and evolutionary algorithms. Part four arrives at a new paradigm within meta-heuristics. The fifth part studies the behavior of parallel local search algorithms mainly from a tabu search perspective. The final part examines a great variety of additional meta-heuristics topics, including neural networks and variable neighbourhood search as well as guided local search. Furthermore, the integration of meta-heuristics with the branch-and-bound paradigm is investigated.

The book is compilation of technical papers presented at International Research Symposium on Computing and Network Sustainability (IRSCNS 2016) held in Goa, India on 1st and 2nd July 2016. The areas covered in the book are sustainable computing and security, sustainable systems and technologies, sustainable methodologies and applications, sustainable networks applications and solutions, user-centered services and systems and mobile data management. The novel and recent technologies presented in the book are going to be helpful for researchers and industries in their advanced works.

This book constitutes the refereed proceedings of the 4th International Conference on Information, Communication and Computing Technology, ICICCT 2019, held in New Delhi, India, in May 2019. The 23 full papers and one short paper presented in this volume were carefully reviewed and selected from 120 submissions. The papers are organized in topical sections on communication and network systems; and emerging computing technologies.

This book gathers selected papers presented at the 7th International Conference on Innovations in Electronics and Communication Engineering, held at Guru Nanak Institutions in Hyderabad, India. It highlights contributions by researchers, technocrats and experts regarding the latest technologies in electronic and communication engineering, and addresses various aspects of communication engineering, including signal processing, VLSI design, embedded systems, wireless communications, and electronics and communications in general. Covering cutting-edge technologies, the book offers a valuable resource, especially for young researchers.

Web browsing would not be what it is today without the use of Service-Oriented Architecture (SOA). Although much has been written about SOA methodology, this emerging platform is continuously under development. Exploring Enterprise Service Bus in the Service-Oriented Architecture Paradigm is a detailed reference source that examines current aspects and research methodologies that enable enterprise service bus to unify and connect services efficiently on a common platform. Featuring relevant topics such as SOA reference architecture, grid computing applications, complex event computing, and java business integration, this is an ideal resource for all practitioners, academicians, graduate students, and researchers interested in the discoveries on the relationship that Service-Oriented architecture and enterprise service bus share.

This collection of proceedings from the International Conference on Systems Engineering, Las Vegas, 2014 is orientated toward systems engineering, including topics like aero-space, power systems, industrial automation and robotics, systems theory, control theory, artificial intelligence, signal processing, decision support, pattern recognition and machine learning, information and communication technologies, image processing, and computer vision as well as its applications. The volume's main focus is on models, algorithms, and software tools that facilitate efficient and convenient utilization of modern achievements in systems engineering.

'What are you guys going to cherish after five years? The mundane thesis work, or working on an idea that no one has ever succeeded in?' His utterings sound persuasive, but illogical, the stuff dreams are made of. Tapan and Harsh put their careers on the line. Will his passion make stars out of them or will it take them all down? Or just some of them? It all starts with Aadi stepping into IIT Cawnpore for his post-graduation. He goes on to master a challenge as old as the age of the human flight. He beats the researchers all across the world. But he is yet not done fighting. Bruised egos, heated discussions and red tape, he needs to fight them all. And then there is the lady in red, a whiff of fresh air. 'I value my friends more than my dreams and that's the reason I am ready to trade my biggest achievement of the past two years.' Would Aadi trade his sweat and blood for his morals? Will world know Aadi as a discoverer or will his story he lost in the ashes of time?

This tutorial guide to intelligent database systems uses advanced techniques to represent or manipulate knowledge and data. It illustrates ways in which techniques developed in expert (or knowledge-based) systems may be integrated with conventional relational or object-oriented database systems.

This book constitutes the refereed post-conference proceedings of the Second International Conference on Cyber Security and Computer Science, ICONCS 2020, held in Dhaka, Bangladesh, in February 2020. The 58 full papers were carefully reviewed and selected from 133 submissions. The papers detail new ideas, inventions, and application experiences to cyber security systems. They are organized in topical sections on optimization problems; image steganography and risk analysis on web applications; machine learning in disease diagnosis and monitoring; computer vision and image processing in health care; text and speech processing; machine learning in health care; blockchain applications; computer vision and image processing in health care; malware analysis; computer vision; future technology applications; computer networks; machine learning on imbalanced data; computer security; Bangla language processing.

Produced by the Institution of Civil Engineers, ICE Textbooks offer clear, concise and practical information on the major principles of civil and structural engineering. They are an indispensable companion to undergraduate audiences

The series Topics in Heterocyclic Chemistry presents critical reviews on present and future trends in the research of

heterocyclic compounds. Overall the scope is to cover topics dealing with all areas within heterocyclic chemistry, both experimental and theoretical, of interest to the general heterocyclic chemistry community. The series consists of topic related volumes edited by renowned editors with contributions of experts in the field. All chapters from Topics in Heterocyclic Chemistry are published Online First with an individual DOI. In references, Topics in Heterocyclic Chemistry is abbreviated as Top Heterocycl Chem and cited as a journal.

This book 'Signals and Systems' is a detailed textbook designed for undergraduate students of various branches of Engineering. The book uses a student-friendly approach to explain the fundamental concepts of Signals and Systems. It includes a large number of solved examples with step-by-step solutions for easier understanding of the theoretical concepts. Beginning with concepts of signals, the book moves on to other topics such as convolution and correlation of signals, CTFS, DTFS, CTFT, Sampling, Laplace Transform, and Z-Transform. Further, the subject matter is presented by illustrating the concepts first through theoretical concepts along with mathematical reasoning and then through solved examples. Solving the number of multiple choice questions and numerical exercises at the end of the chapters will help students to apply the concepts learnt in the chapters.

Learn the art and science of predictive analytics — techniques that get results Predictive analytics is what translates big data into meaningful, usable business information. Written by a leading expert in the field, this guide examines the science of the underlying algorithms as well as the principles and best practices that govern the art of predictive analytics. It clearly explains the theory behind predictive analytics, teaches the methods, principles, and techniques for conducting predictive analytics projects, and offers tips and tricks that are essential for successful predictive modeling. Hands-on examples and case studies are included. The ability to successfully apply predictive analytics enables businesses to effectively interpret big data; essential for competition today This guide teaches not only the principles of predictive analytics, but also how to apply them to achieve real, pragmatic solutions Explains methods, principles, and techniques for conducting predictive analytics projects from start to finish Illustrates each technique with hands-on examples and includes as series of in-depth case studies that apply predictive analytics to common business scenarios A companion website provides all the data sets used to generate the examples as well as a free trial version of software Applied Predictive Analytics arms data and business analysts and business managers with the tools they need to interpret and capitalize on big data.

This book constitutes the refereed proceedings of the Second International Conference on Security and Privacy, ISEA-ISAP 2018, held in Jaipur, India, in January 2019. The conference was originally planned to be held in 2018 which is why the acronym contains "2018". The 21 revised full papers presented were carefully reviewed and selected from 87 submissions. The papers are organized in topical sections: authentication and access control, malware analysis, network security, privacy preservation, secure software systems and social network analytics.

Smart Data: State-of-the-Art Perspectives in Computing and Applications explores smart data computing techniques to provide intelligent decision making and prediction services support for business, science, and engineering. It also examines the latest research trends in fields related to smart data computing and applications, including new computing theories, data mining and machine learning techniques. The book features contributions from leading experts and covers cutting-edge topics such as smart data and cloud computing, AI for networking, smart data deep learning, Big Data capture and representation, AI for Big Data applications, and more. Features Presents state-of-the-art research

in big data and smart computing Provides a broad coverage of topics in data science and machine learning Combines computing methods with domain knowledge and a focus on applications in science, engineering, and business Covers data security and privacy, including AI techniques Includes contributions from leading researchers

Global health and the increasing incidence of various diseases are a cause for concern, and doctors and scientists reason that the diet, food habits and lifestyle are contributing factors. Processed food has reduced the nutritional value of our diet, and although supplementing foods with various additives is considered an alternative, the long-term impact of this is not known. Many laboratories around the world are working to identify various nutritional components in our daily food and their effect on human health. These have been classified as Nutraceuticals or functional food, and they may have preventive and therapeutic effects in a number of pathologies associated with modern dietary habits and lifestyles. This book addresses various aspects of this issue, revitalizing the discussion and consolidating the latest research on nutritional and functional food and their effects in in-vitro, in-vivo and human clinical studies.

The volume contains the papers presented at FICTA 2012: International Conference on Frontiers in Intelligent Computing: Theory and Applications held on December 22-23, 2012 in Bhubaneswar engineering College, Bhubaneswar, Odissa, India. It contains 86 papers contributed by authors from the globe. These research papers mainly focused on application of intelligent techniques which includes evolutionary computation techniques like genetic algorithm, particle swarm optimization techniques, teaching-learning based optimization etc for various engineering applications such as data mining, image processing, cloud computing, networking etc.