

Discrete Mathematical Structures With Applications To Computer Science Mcgraw Hill Computer Science Series

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A Course In Discrete Mathematical Structures - Vermani
Lekh Rej 2012-01-13

This book provides a broad introduction to some of the most fascinating and beautiful areas of discrete mathematical structures. It starts with a chapter on sets and goes on to provide examples in logic, applications of the principle of inclusion and exclusion and finally the pigeonhole principal. Computational techniques including the principle of mathematical induction are provided, as well as a study on elementary properties of graphs, trees and lattices. Some basic results on groups, rings, fields and vector spaces are also given, the treatment of which is intentionally simple since such results are fundamental as a foundation for students of discrete mathematics. In addition, some results on solutions of systems of linear equations are discussed./a

DISCRETE MATHEMATICS, THIRD EDITION - CHANDRASEKARAN, N.
2022-04-04

Written with a strong pedagogical focus, the third edition of the book continues to provide an exhaustive presentation of the fundamental concepts of discrete mathematical structures and their applications in computer science and mathematics. It aims to develop the ability of the students to apply mathematical thought in order to solve computation-related problems. The book is intended not only for the undergraduate and postgraduate students of mathematics but also, most importantly, for the students of Computer Science & Engineering and Computer Applications. The book is replete with features which enable the building of a firm foundation of the underlying principles of the subject and also provides adequate scope for testing the comprehension acquired by the students. Each chapter contains numerous worked-out examples within the main discussion as well as several chapter-end Supplementary Examples for revision. The Self-Test and Exercises at the end of each chapter include a large number of objective type questions and

problems respectively. Answers to objective type questions and hints to exercises are also provided. All these pedagogic features, together with thorough coverage of the subject matter, make this book a readable text for beginners as well as advanced learners of the subject. NEW TO THIS EDITION • Question Bank consisting of questions from various University Examinations • Updated chapters on Boolean Algebra, Graphs and Trees as per the recent syllabi followed in Indian Universities TARGET AUDIENCE • BE/B.Tech (Computer Science and Engineering) • MCA • M.Sc (Computer Science/Mathematics)
Discrete Mathematics - Rajendra Akerkar 2008

Discrete Mathematical Structures with Applications to Computer Science - Jean-Paul Tremblay 1987

Semihypergroup Theory - Bijan Davvaz 2016-06-24
Semihypergroup Theory is the first book devoted to the semihypergroup theory and it includes basic results concerning semigroup theory and algebraic hyperstructures, which represent the most general algebraic context in which reality can be modelled. Hyperstructures represent a natural extension of classical algebraic structures and they were introduced in 1934 by the French mathematician Marty. Since then, hundreds of papers have been published on this subject. Offers the first book devoted to the semihypergroup theory Presents an introduction to recent progress in the theory of semihypergroups Covers most of the mathematical ideas and techniques required in the study of semihypergroups Employs the notion of fundamental relations to connect semihypergroups to semigroups
Automata and Languages - Alexander Meduna 2012-12-06

A step-by-step development of the theory of automata, languages and computation. Intended for use as the basis of an introductory course at both junior and senior levels, the text is organized so as to allow the design of various courses based on selected material. It features basic models of computation, formal languages and their properties; computability, decidability and complexity; a discussion of modern trends in the theory of automata and formal languages; design of programming languages, including the development of a new programming language; and compiler design, including the construction of a complete compiler. Alexander Meduna uses clear definitions, easy-to-follow proofs and helpful examples to make formerly obscure concepts easy to understand. He also includes challenging exercises and programming projects to enhance the reader's comprehension, and many 'real world' illustrations and applications in practical computer science.

Foundations of Discrete Mathematics - K. D. Joshi 1989
This Book Is Meant To Be More Than Just A Text In Discrete Mathematics. It Is A Forerunner Of Another Book Applied Discrete Structures By The Same Author. The Ultimate Goal Of The Two Books Are To Make A Strong Case For The Inclusion Of Discrete Mathematics In The Undergraduate Curricula Of Mathematics By Creating A Sequence Of Courses In Discrete Mathematics Parallel To The Traditional Sequence Of Calculus-Based Courses. The Present Book Covers The Foundations Of Discrete Mathematics In Seven Chapters. It Lays A Heavy Emphasis On Motivation And Attempts Clarity Without Sacrificing Rigour. A List Of Typical Problems Is Given In The First Chapter. These Problems Are Used Throughout The Book To Motivate Various Concepts. A Review Of Logic Is Included To Gear The Reader Into A Proper Frame Of Mind. The

Basic Counting Techniques Are Covered In Chapters 2 And 7. Those In Chapter 2 Are Elementary. But They Are Intentionally Covered In A Formal Manner So As To Acquaint The Reader With The Traditional Definition-Theorem-Proof Pattern Of Mathematics. Chapters 3 Introduces Abstraction And Shows How The Focal Point Of Todays Mathematics Is Not Numbers But Sets Carrying Suitable Structures. Chapter 4 Deals With Boolean Algebras And Their Applications. Chapters 5 And 6 Deal With More Traditional Topics In Algebra, Viz., Groups, Rings, Fields, Vector Spaces And Matrices. The Presentation Is Elementary And Presupposes No Mathematical Maturity On The Part Of The Reader. Instead, Comments Are Inserted Liberally To Increase His Maturity. Each Chapter Has Four Sections. Each Section Is Followed By Exercises (Of Various Degrees Of Difficulty) And By Notes And Guide To Literature. Answers To The Exercises Are Provided At The End Of The Book.

Discrete Mathematical Structures - B. V. Senthil Kumar
2019-07-08

This book contains fundamental concepts on discrete mathematical structures in an easy to understand style so that the reader can grasp the contents and explanation easily. The concepts of discrete mathematical structures have application to computer science, engineering and information technology including in coding techniques, switching circuits, pointers and linked allocation, error corrections, as well as in data networking, Chemistry, Biology and many other scientific areas. The book is for undergraduate and graduate levels learners and educators associated with various courses and programmes in Mathematics, Computer Science, Engineering and Information

Technology. The book should serve as a text and reference guide to many undergraduate and graduate programmes offered by many institutions including colleges and universities. Readers will find solved examples and end of chapter exercises to enhance reader comprehension. Features Offers comprehensive coverage of basic ideas of Logic, Mathematical Induction, Graph Theory, Algebraic Structures and Lattices and Boolean Algebra Provides end of chapter solved examples and practice problems Delivers materials on valid arguments and rules of inference with illustrations Focuses on algebraic structures to enable the reader to work with discrete structures

Discrete Mathematics - Prof. Sudarsan Nanda 2022-02-28
The book contains topics as per the model syllabus of the University Grants Commission (UGC), India and is suitable for undergraduate (B.Tech) students of computer Science and Engineering and mathematics and postgraduate students of computer Application (MCA) and mathematics. The book has been made self-contained with preliminary chapters on mathematical logic and set theory which also form the part of the syllabus. Besides these topics, the book contains subjects like combinatorics, graph theory, algebraic structures such as: groups, rings, Boolean Algebra and also topics like finite state machine (theory of computation) and probability. The book has been written in a simple and lucid manner, with examples and applications to Computer Science. Finally it contains an additional chapter on fuzzy set theory.

Discrete Mathematical Stru - Jean-Paul Tremblay 2001-02

Discrete Maths and Its Applications Global Edition 7e -
Kenneth Rosen 2012-09-16

We are pleased to present this Global Edition which has

been developed specifically to meet the needs of international students of discrete mathematics. In addition to great depth in key areas and a broad range of real-world applications across multiple disciplines, we have added new material to make the content more relevant and improve learning outcomes for the international student. This Global Edition includes: An entire new chapter on Algebraic Structures and Coding Theory New and expanded sections within chapters covering Foundations, Basic Structures, and Advanced Counting Techniques Special online only chapters on Boolean Algebra and Modeling Computation New and revised problems for the international student integrating alternative methods and solutions. This Global Edition has been adapted to meet the needs of courses outside of the United States and does not align with the instructor and student resources available with the US edition.

FUNDAMENTALS OF DISCRETE MATHEMATICAL STRUCTURES - K. R. CHOWDHARY 2015-01-02

This updated text, now in its Third Edition, continues to provide the basic concepts of discrete mathematics and its applications at an appropriate level of rigour. The text teaches mathematical logic, discusses how to work with discrete structures, analyzes combinatorial approach to problem-solving and develops an ability to create and understand mathematical models and algorithms essentials for writing computer programs. Every concept introduced in the text is first explained from the point of view of mathematics, followed by its relation to Computer Science. In addition, it offers excellent coverage of graph theory, mathematical reasoning, foundational material on set theory, relations and their computer representation, supported by a number of worked-out examples and exercises to reinforce the

students' skill. Primarily intended for undergraduate students of Computer Science and Engineering, and Information Technology, this text will also be useful for undergraduate and postgraduate students of Computer Applications. New to this Edition Incorporates many new sections and subsections such as recurrence relations with constant coefficients, linear recurrence relations with and without constant coefficients, rules for counting and shorting, Peano axioms, graph connecting, graph scanning algorithm, lexicographic shorting, chains, antichains and order-isomorphism, complemented lattices, isomorphic order sets, cyclic groups, automorphism groups, Abelian groups, group homomorphism, subgroups, permutation groups, cosets, and quotient subgroups. Includes many new worked-out examples, definitions, theorems, exercises, and GATE level MCQs with answers.

A Textbook of Discrete Mathematics, 9th Edition - Sarkar, Swapan Kumar 2016

This textbook provides an introduction to some fundamental concepts in Discrete Mathematics and the important role this subject plays in computer science. Every topic in this book has been started with necessary introduction and developed gradually up to the standard form. The book lays emphasis on the applicability of Mathematical structures to computer science. The content of this book is well supported with numerous solved examples with detailed explanation

Theory of Computer Science - K. L. P. Mishra 2006-01-01
This Third Edition, in response to the enthusiastic reception given by academia and students to the previous edition, offers a cohesive presentation of all aspects of theoretical computer science, namely automata, formal languages, computability, and complexity. Besides, it

includes coverage of mathematical preliminaries. NEW TO THIS EDITION • Expanded sections on pigeonhole principle and the principle of induction (both in Chapter 2) • A rigorous proof of Kleene's theorem (Chapter 5) • Major changes in the chapter on Turing machines (TMs) – A new section on high-level description of TMs – Techniques for the construction of TMs – Multitape TM and nondeterministic TM • A new chapter (Chapter 10) on decidability and recursively enumerable languages • A new chapter (Chapter 12) on complexity theory and NP-complete problems • A section on quantum computation in Chapter 12. • KEY FEATURES • Objective-type questions in each chapter—with answers provided at the end of the book. • Eighty-three additional solved examples—added as Supplementary Examples in each chapter. • Detailed solutions at the end of the book to chapter-end exercises. The book is designed to meet the needs of the undergraduate and postgraduate students of computer science and engineering as well as those of the students offering courses in computer applications.

The Carnegie-Mellon Curriculum for Undergraduate Computer Science - Mary Shaw 2012-12-06

This curriculum and its description were developed during the period 1981 - 1984

Scientia Magna, Vol. 5, No. 4, 2009 - Zhang Wenpeng
Papers on Pseudo-Smarandache function and Smarandache LCM function, the minimum number of polychromatic C-hyperedges of the complete uniform mixed hypergraphs under one special condition, complete monotonicity properties for the gamma function and Barnes G-function, semigroup of continuous functions and Smarandache semigroups, and other similar topics. Contributors: T. Srinivas, A. K. S. C. S. Rao, X. Liang, W. He, J. Soontharanon, U. Leerawat, J. Wang, C. Zheng, F. A. Z.

Shirazi, A. Hosseini, and many others.

Languages and Compilers for Parallel Computing - Henry Gordon Dietz 2003-05-20

This book constitutes the thoroughly refereed post-proceedings of the 14th International Workshop on Languages and Compilers for Parallel Computing, LCPC 2001, held in Lexington, KY, USA, in August 1-3, 2001. The 28 revised full papers presented were carefully selected during two rounds of reviewing and improvement. All current issues in parallel processing are addressed, in particular compiler optimization, HP Java programming, power-aware parallel architectures, high performance applications, power management of mobile computers, data distribution, shared memory systems, load balancing, garbage collection, parallel components, job scheduling, dynamic parallelization, cache optimization, specification, and dataflow analysis.

Discrete mathematical structures with applications to computer science - Jean-Paul Tremblay 1975

Elements of Compiler Design - Alexander Meduna 2007-12-03

Maintaining a balance between a theoretical and practical approach to this important subject, *Elements of Compiler Design* serves as an introduction to compiler writing for undergraduate students. From a theoretical viewpoint, it introduces rudimentary models, such as automata and grammars, that underlie compilation and its essential phases. Based on these models, the author details the concepts, methods, and techniques employed in compiler design in a clear and easy-to-follow way. From a practical point of view, the book describes how compilation techniques are implemented. In fact, throughout the text, a case study illustrates the design

of a new programming language and the construction of its compiler. While discussing various compilation techniques, the author demonstrates their implementation through this case study. In addition, the book presents many detailed examples and computer programs to emphasize the applications of the compiler algorithms. After studying this self-contained textbook, students should understand the compilation process, be able to write a simple real compiler, and easily follow advanced books on the subject.

Theory of Computation - D. P. Acharjya 2019-06-12

Theory of computation is the scientific discipline concerned with the study of general properties of computation and studies the inherent possibilities and limitations of efficient computation that makes machines more intelligent and enables them to carry out intellectual processes. This book deals with all those concepts by developing the standard mathematical models of computational devices, and by investigating the cognitive and generative capabilities of such machines. The book emphasizes on mathematical reasoning and problem-solving techniques that penetrate computer science. Each chapter gives a clear statement of definition and thoroughly discusses the concepts, principles and theorems with illustrative and other descriptive materials.

Mathematical Foundations of Computer Science - Bhavanari Satyanarayana 2019-08-29

Please note: Taylor & Francis does not sell or distribute the Hardback in India, Pakistan, Nepal, Bhutan, Bangladesh and Sri Lanka

Handbook of Research on Generalized and Hybrid Set Structures and Applications for Soft Computing - John, Sunil Jacob 2016-04-08

Successful development of effective computational systems is a challenge for IT developers across sectors due to uncertainty issues that are inherently present within computational problems. Soft computing proposes one such solution to the problem of uncertainty through the application of generalized set structures including fuzzy sets, rough sets, and multisets. The Handbook of Research on Generalized and Hybrid Set Structures and Applications for Soft Computing presents double blind peer-reviewed and original research on soft computing applications for solving problems of uncertainty within the computing environment. Emphasizing essential concepts on generalized and hybrid set structures that can be applied across industries for complex problem solving, this timely resource is essential to engineers across disciplines, researchers, computer scientists, and graduate-level students.

Discrete Mathematics and Combinatorics - T. Sengadir 2009-09

Discrete Mathematics and Combinatorics provides a concise and practical introduction to the core components of discrete mathematics, featuring a balanced mix of basic theories and applications. The book covers both fundamental concepts such as sets and logic, as well as advanced topics such as graph theory and Turing machines. The example-driven approach will help readers in understanding and applying the concepts. Other pedagogical tools - illustrations, practice questions, and suggested reading - facilitate learning and mastering the subject."--Cover

GATE AND PGCET FOR COMPUTER SCIENCE AND INFORMATION TECHNOLOGY, Second Edition - RAMAIAH K, DASARADH 2019-11-01

Graduate Aptitude Test in Engineering (GATE) is one of

the recognized national level examinations that demands focussed study along with forethought, systematic planning and exactitude. Postgraduate Engineering Common Entrance Test (PGECET) is also one of those examinations, a student has to face to get admission in various postgraduate programs. So, in order to become up to snuff for this eligibility clause (qualifying GATE/PGECET), a student facing a very high competition should excel his/her standards to success by way of preparing from the standard books. This book guides students via simple, elegant and explicit presentation that blends theory logically and rigorously with the practical aspects bearing on computer science and information technology. The book not only keeps abreast of all the chapterwise information generally asked in the examinations but also proffers felicitous tips in the furtherance of problem-solving technique. HIGHLIGHTS OF THE BOOK • Systematic discussion of concepts endowed with ample illustrations • Notes are incorporated at several places giving additional information on the key concepts • Inclusion of solved practice exercises for verbal and numerical aptitude to guide students from practice and examination point of view • Prodigious objective-type questions based on the past years' GATE examination questions with answer keys and in-depth explanation are available at https://www.phindia.com/GATE_AND_PGECET • Every solution lasts with a reference, thus providing a scope for further study The book, which will prove to be an epitome of learning the concepts of CS and IT for GATE/PGECET examination, is purely intended for the aspirants of GATE and PGECET examinations. It should also be of considerable utility and worth to the aspirants of UGC-NET as well as to those who wish to

pursue career in public sector units like ONGC, NTPC, ISRO, BHEL, BARC, DRDO, DVC, Power-grid, IOCL and many more. In addition, the book is also of immense use for the placement coordinators of GATE/PGECET. TARGET AUDIENCE • GATE/PGECET Examination • UGC-NET Examination • Examinations conducted by PSUs like ONGC, NTPC, ISRO, BHEL, BARC, DRDO, DVC, Power-grid, IOCL and many more **Instructor's Manual to Accompany Discrete Mathematical Structures with Applications to Computer Science** - Jean-Paul Tremblay 1976

The Future of College Mathematics - A. Ralston
2012-12-06

The Conference/Workshop of which these are the proceedings was held from 28 June to 1 July, 1982 at Williams College, Williamstown, MA. The meeting was funded in its entirety by the Alfred P. Sloan Foundation. The conference program and the list of participants follow this introduction. The purpose of the conference was to discuss the re-structuring of the first two years of college mathematics to provide some balance between the traditional calculus linear algebra sequence and discrete mathematics. The remainder of this volume contains arguments both for and against such a change and some ideas as to what a new curriculum might look like. A too brief summary of the deliberations at Williams is that, while there were - and are - inevitable differences of opinion on details and nuance, at least the attendees at this conference had no doubt that change in the lower division mathematics curriculum is desirable and is coming.

Discrete Mathematics and Its Applications - Kenneth H. Rosen 2018-07-09

Rosen's Discrete Mathematics and its Applications

presents a precise, relevant, comprehensive approach to mathematical concepts. This world-renowned best-selling text was written to accommodate the needs across a variety of majors and departments, including mathematics, computer science, and engineering. As the market leader, the book is highly flexible, comprehensive and a proven pedagogical teaching tool for instructors.

Foundations of Discrete Mathematics with Algorithms and Programming - R. Balakrishnan 2018-10-26

Discrete Mathematics has permeated the whole of mathematics so much so it has now come to be taught even at the high school level. This book presents the basics of Discrete Mathematics and its applications to day-to-day problems in several areas. This book is intended for undergraduate students of Computer Science, Mathematics and Engineering. A number of examples have been given to enhance the understanding of concepts. The programming languages used are Pascal and C.

Computer Aided Systems Theory - EUROCAST '95 - Franz Pichler 1996-01-24

This book presents a collection of revised refereed papers selected from the contributions to the Fifth International Workshop on Computer Aided Systems Theory, EUROCAST '95, held in Innsbruck, Austria in May 1995. The 42 full papers contained have been contributed by CAST theoreticians, tool-makers, designers, and appliers and reflect the full spectrum of activities in the area. The papers are organized in sections on systems theory, design environments, complex systems design, and specific applications.

Annual Review in Automatic Programming - M. I. Halpern 2014-05-18

Annual Review in Automatic Programming, Volume 9 deals

with automatic programming, with emphasis on the programming language ALGOL 68. The book demonstrates the progression in the formal definition of programming languages from ALGOL 60 through to the revised version of ALGOL 68. Other topics range from real-time operating systems and process control languages to data flow analysis, microprocessors, design automation, real-time system specifications, and Fortran real-time programming. After an introduction to the formal definition of ALGOL 68, this volume turns to an operating system which provides for a flexible interface to support a wide spectrum of real-time language facilities. The chapters that follow focus on data flow through the elements of a real time application, the possibilities as well as the problems of future microprocessor applications in real-time systems, and the design goals and main principles of a monitor called SIMON. A language based upon an automaton model is also described, with particular reference to synchronizations between actions and events. In addition, the book presents a pilot study of the possibility to develop an integrated interactive system for computer aided design of control computer systems and considers the industrial real-time BASIC designed for process control. A chapter discussing the unique distributed DDC system developed by Tokyo Gas Company and Hitachi for city gas production plants concludes the book. This book will be of use to students and professionals interested in programming languages.

Discrete Mathematics and Its Applications - Kenneth Rosen 2006-07-26

Discrete Mathematics and its Applications, Sixth Edition, is intended for one- or two-term introductory discrete mathematics courses taken by students from a

wide variety of majors, including computer science, mathematics, and engineering. This renowned best-selling text, which has been used at over 500 institutions around the world, gives a focused introduction to the primary themes in a discrete mathematics course and demonstrates the relevance and practicality of discrete mathematics to a wide a wide variety of real-world applications...from computer science to data networking, to psychology, to chemistry, to engineering, to linguistics, to biology, to business, and to many other important fields.

Discrete Mathematics with Applications - Susanna S. Epp
2018-12-17

Known for its accessible, precise approach, Epp's DISCRETE MATHEMATICS WITH APPLICATIONS, 5th Edition, introduces discrete mathematics with clarity and precision. Coverage emphasizes the major themes of discrete mathematics as well as the reasoning that underlies mathematical thought. Students learn to think abstractly as they study the ideas of logic and proof. While learning about logic circuits and computer addition, algorithm analysis, recursive thinking, computability, automata, cryptography and combinatorics, students discover that ideas of discrete mathematics underlie and are essential to today's science and technology. The author's emphasis on reasoning provides a foundation for computer science and upper-level mathematics courses. Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version.

Computer Aided Systems Theory - CAST '94 - Tuncer I. Ören 1996-07

This volume presents a collection of revised refereed papers selected from the presentations at the Fourth

International Workshop on Computer Aided Systems Theory - CAST '94, held in Ottawa, Ontario, Canada in May 1994. The 31 full papers included in the book were chosen from originally 82 submissions and reflect the state of the art in the area of computer aided systems theory. The volume is divided into sections on foundations, methods, and tools and environments.

DISCRETE MATHEMATICS AND GRAPH THEORY - BHAVANARI SATYANARAYANA 2014-04-04

This comprehensive and self-contained text provides a thorough understanding of the concepts and applications of discrete mathematics and graph theory. It is written in such a manner that beginners can develop an interest in the subject. Besides providing the essentials of theory, the book helps develop problem-solving techniques and sharpens the skill of thinking logically. The book is organized in two parts. The first part on discrete mathematics covers a wide range of topics such as predicate logic, recurrences, generating function, combinatorics, partially ordered sets, lattices, Boolean algebra, finite state machines, finite fields, elementary number theory and discrete probability. The second part on graph theory covers planarity, colouring and partitioning, directed and algebraic graphs. In the Second Edition, more exercises with answers have been added in various chapters. Besides, an appendix on languages has also been included at the end of the book. The book is intended to serve as a textbook for undergraduate engineering students of computer science and engineering, information communication technology (ICT), and undergraduate and postgraduate students of mathematics. It will also be useful for undergraduate and postgraduate students of computer applications. KEY FEATURES • Provides algorithms and flow charts to

explain several concepts. • Gives a large number of examples to illustrate the concepts discussed. • Includes many worked-out problems to enhance the student's grasp of the subject. • Provides exercises with answers to strengthen the student's problem-solving ability. AUDIENCE • Undergraduate Engineering students of Computer Science and Engineering, Information communication technology (ICT) • Undergraduate and Postgraduate students of Mathematics. • Undergraduate and Postgraduate students of Computer Applications.

Applied Discrete Structures - Ken Levasseur 2012-02-25

Applied Discrete Structures, is a two semester undergraduate text in discrete mathematics, focusing on the structural properties of mathematical objects. These include matrices, functions, graphs, trees, lattices and algebraic structures. The algebraic structures that are discussed are monoids, groups, rings, fields and vector spaces. Website: <http://discretemath.org> Applied Discrete Structures has been approved by the American Institute of Mathematics as part of their Open Textbook Initiative. For more information on open textbooks, visit <http://www.aimath.org/textbooks/>. This version was created using Mathbook XML (<https://mathbook.pugetsound.edu/>)

Al Doerr is Emeritus Professor of Mathematical Sciences at UMass Lowell. His interests include abstract algebra and discrete mathematics. Ken Levasseur is a Professor of Mathematical Sciences at UMass Lowell. His interests include discrete mathematics and abstract algebra, and their implementation using computer algebra systems.

Mathematical Structures for Computer Science - Judith L. Gersting 2014-01-01

Judith Gersting's Mathematical Structures for Computer Science has long been acclaimed for its clear

presentation of essential concepts and its exceptional range of applications relevant to computer science majors. Now with this new edition, it is the first discrete mathematics textbook revised to meet the proposed new ACM/IEEE standards for the course.

Discrete Mathematics - Rowan Garnier 2020-10-29

In a comprehensive yet easy-to-follow manner, Discrete Mathematics for New Technology follows the progression from the basic mathematical concepts covered by the GCSE in the UK and by high-school algebra in the USA to the more sophisticated mathematical concepts examined in the latter stages of the book. The book punctuates the rigorous treatment of theory with frequent uses of pertinent examples and exercises, enabling readers to achieve a feel for the subject at hand. The exercise hints and solutions are provided at the end of the book. Topics covered include logic and the nature of mathematical proof, set theory, relations and functions, matrices and systems of linear equations, algebraic structures, Boolean algebras, and a thorough treatise on graph theory. Although aimed primarily at computer science students, the structured development of the mathematics enables this text to be used by undergraduate mathematicians, scientists, and others who require an understanding of discrete mathematics.

Engineering Mathematics – Volume Ii - Pal Madhumangal

Soft Computing and Optimization - Syeda Darakhshan Jabeen 2023-03-14

This book collects papers presented at the Virtual International Conference on Soft Computing, Optimization Theory and Applications (SCOTA 2021), held at the Birla Institute of Technology, Mesra, Ranchi, India, from 26–27 March 2021. Topics discussed in the book are on

fuzzy logic, neural networks and optimization algorithms, as well as their hybrid combinations, and their application in areas such as intelligent control and robotics, pattern recognition, medical diagnosis, time series prediction and optimization of complex problems. The book highlights research on: (a) hybrid intelligent systems based on soft computing, new concepts and algorithms based on fuzzy logic and their applications, (b) theory and practice of meta-heuristics in different areas of application, (c) applications of fuzzy logic, (d) neural networks and hybrid intelligent systems in medical applications, (e) neural networks and optimization and evolutionary algorithms and their different applications and (f) applications of fuzzy logic, neural networks and meta-heuristics in pattern recognition problems. Some papers contain applications background like approximate solution of fractional

differential equations via fixed-point algorithms and applications to equilibrium problems and image deburring problems. The book will be of great use to students, researchers and scientists in computer science, optimization and engineering, and those interested on computational intelligence and soft computing and their applications.

Advanced Engineering Mathematics - S. S. Sastry
2009-07-30

Discusses in detail the advanced mathematical tools and techniques required for engineering problems. The book begins with Fourier series and goes on to give an indepth analysis of Fourier transform, Mellin transforms and Z-transforms. It then examines the partial differential equations with an emphasis on the method of separation of variables applied to the solution of initial boundary value problems involving the heat, wave and Laplace equations.