

Discrete Mathematical Structures Sample Paper

Some of the most beautiful studies in Mathematics are related to Symmetry and Geometry. For this reason, we select here some contributions about such aspects and Discrete Geometry. As we know, Symmetry in a system means invariance of its elements under conditions of transformations. When we consider network structures, symmetry means invariance of adjacency of nodes under the permutations of node set. The graph isomorphism is an equivalence relation on the set of graphs. Therefore, it partitions the class of all graphs into equivalence classes. The underlying idea of isomorphism is that some objects have the same structure if we omit the individual character of their components. A set of graphs isomorphic to each other is denominated as an isomorphism class of graphs. The automorphism of a graph will be an isomorphism from G onto itself. The family of all automorphisms of a graph G is a permutation group.

With recent technological advances in workstations, graphics, graphical user interfaces, and object oriented programming languages, a significant number of researchers are developing general-purpose software and integrated software systems for domains in discrete mathematics, including graph theory, combinatorics, combinatorial optimization, and sets. This software aims to provide effective computational tools for research, applications prototyping, and teaching. In March 1992, DIMACS sponsored a workshop on Computational Support for Discrete Mathematics in order to facilitate interactions between the researchers, developers, and educators who work in these areas. Containing refereed papers based on talks presented at the workshop, this volume documents current and past research in these areas and should provide impetus for new interactions.

New edition of the classic discrete mathematics text for computer science majors.

This collection of high-quality articles in the field of combinatorics, geometry, algebraic topology and theoretical computer science is a tribute to Jiří Matoušek, who passed away prematurely in March 2015. It is a collaborative effort by his colleagues and friends, who have paid particular attention to clarity of exposition – something Jirka would have approved of. The original research articles, surveys and expository articles, written by leading experts in their respective fields, map Jiří Matoušek's numerous areas of mathematical interest.

Discrete Mathematical Structures for Computer Science

Commerce Business Daily

Discrete Mathematical Structures

Algebraic and Geometric Methods in Discrete Mathematics

This is a comprehensive text book covering various aspects of Discrete Mathematics. It suits the needs of the students of B.E./B.Tech., M.E., M.Sc. (Computer Science) and MCA

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

This volume contains the proceedings of the AMS Special Session on Algebraic and Geometric Methods in Applied Discrete Mathematics, held on January 11, 2015, in San Antonio, Texas. The papers present connections between techniques from “pure” mathematics and various applications amenable to the analysis of discrete models, encompassing applications of combinatorics, topology, algebra, geometry, optimization, and representation theory. Papers not only present novel results, but also survey the current state of knowledge of important topics in applied discrete mathematics. Particular highlights include: a new computational framework, based on geometric combinatorics, for structure prediction from RNA sequences; a new method for approximating the optimal solution of a sum of squares problem; a survey of recent Helly-type geometric theorems; applications of representation theory to voting theory and game theory; a study of fixed points of tensors; and exponential random graph models from the perspective of algebraic statistics with applications to networks. This volume was written for those trained in areas such as algebra, topology, geometry, and combinatorics who are interested in tackling problems in fields such as biology, the social sciences, data analysis, and optimization. It may be useful not only for experts, but also for students who wish to gain an applied or interdisciplinary perspective.

Teaches students the mathematical foundations of computer science, including logic, Boolean algebra, basic graph theory, finite state machines, grammars and algorithms, and helps them understand mathematical reasoning for reading, comprehension and construction of mathematical arguments.

An Open Introduction

Introduction to Discrete Mathematics with ISETL

Mathematical Structures for Computer Science

Computational Support for Discrete Mathematics

Comprehensive Discrete Mathematics & Structures

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.

The Fifth Edition Of The Book 'Discrete Mathematics And Structures' Is An Outcome Of Author'S Continuous Discussions With His Colleagues And Students. Unlike Other Books, This Book Helps The Readers To Develop Mathematical Maturity And Understand The Basic Concepts Of Discrete Mathematics And Structures. Extensive In Its Coverage, Each New Concept Is Gently Introduced And Then Reinforced By A Lot Of Solved Examples. Questions From Various Examinations Have Been Incorporated To Enable The Students To Understand The Latest Trends In Paper-Setting.

A variety of modern research in analysis and discrete mathematics is provided in this book along with applications in cryptographic methods and information security, in order to explore new techniques, methods, and problems for further investigation. Distinguished researchers and scientists in analysis and discrete mathematics present their research. Graduate students, scientists and engineers, interested in a broad spectrum of current theories, methods, and applications in interdisciplinary fields will find this book invaluable.

Discrete Mathematical Structures provides comprehensive, reasonably rigorous and simple explanation of the concepts with the help of numerous applications from computer science and engineering. Every chapter is equipped with a good number of solved examples that elucidate the definitions and theorems discussed. Chapter-end exercises are graded, with the easier ones in the beginning and then the complex ones, to help students for easy solving.

Discrete Mathematics And Structures

DIMACS Workshop Discrete Mathematical Problems with Medical

Applications, December 8-10, 1999, DIMACS Center

DISCRETE MATHEMATICS, THIRD EDITION

Mathematical Reasoning and Proof with Puzzles, Patterns, and Games
Guide to Discrete Mathematics

This stimulating textbook presents a broad and accessible guide to the fundamentals of discrete mathematics, highlighting how the techniques may be applied to various exciting areas in computing. The text is designed to motivate and inspire the reader, encouraging further study in this important skill.

Features: provides an introduction to the building blocks of discrete mathematics, including sets, relations and functions; describes the basics of number theory, the techniques of induction and recursion, and the applications of mathematical sequences, series, permutations, and combinations; presents the essentials of algebra; explains the fundamentals of automata theory, matrices, graph theory, cryptography, coding theory, language theory, and the concepts of computability and decidability; reviews the history of logic, discussing propositional and predicate logic, as well as advanced topics; examines the field of software engineering, describing formal methods; investigates probability and statistics.

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)

This book provides teachers of all levels with a great deal of valuable material to help them introduce discrete mathematics into their classrooms.

Probabilistic Conditional Independence Structures provides the mathematical description of probabilistic conditional independence structures; the author uses non-graphical methods of their description, and takes an algebraic approach. The monograph presents the methods of structural imsets and supermodular functions, and deals with independence implication and equivalence of structural imsets. Motivation, mathematical foundations and areas of application are included, and a rough overview of graphical methods is also given. In particular, the author has been careful to use suitable terminology, and presents the work so that it will be understood by both statisticians, and by researchers in artificial intelligence. The necessary elementary mathematical notions are recalled in an appendix.

DISCRETE MATHEMATICS

Discrete Mathematics for Computer Science

Discrete Mathematical Problems with Medical Applications

Foundations of Discrete Mathematics

DISCRETE MATHEMATICAL STRUCTURES

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

The rise in computing and multimedia technology has spawned an increasing interest in the role of diagrams and sketches, not only for the purpose of conveying information but also for creative thinking and problem-solving. This book attempts to characterise the nature of "a science of diagrams" in a wide-ranging, multidisciplinary study that contains accounts of the most recent research results in computer science and psychology. Key topics include: cognitive aspects, formal aspects, and applications. It is a well-written and indispensable survey for researchers and students in the fields of cognitive science, artificial intelligence, human-computer interaction, and graphics and visualisation.

This book discusses examples of discrete mathematics in school curricula, including in the areas of graph theory, recursion and discrete dynamical systems, combinatorics, logic, game theory, and the mathematics of fairness. In addition, it

describes current discrete mathematics curriculum initiatives in several countries, and presents ongoing research, especially in the areas of combinatorial reasoning and the affective dimension of learning discrete mathematics. Discrete mathematics is the math of our time.' So declared the immediate past president of the National Council of Teachers of Mathematics, John Dossey, in 1991. Nearly 30 years later that statement is still true, although the news has not yet fully reached school mathematics curricula. Nevertheless, much valuable work has been done, and continues to be done. This volume reports on some of that work. It provides a glimpse of the state of the art in learning and teaching discrete mathematics around the world, and it makes the case once again that discrete mathematics is indeed mathematics for our time, even more so today in our digital age, and it should be included in the core curricula of all countries for all students.

Description: This book is intended to be a textbook for the student pursuing B.E.B.Tech in Computer Science or MCAM Tech and NIELIT - B & C Level or equivalent courses. Topics included are self contained. Sequence is maintained in such a way that no prerequisite is necessary. This book contains topics ranging from set, relation, recurrence relation, generating function, posets, lattice, methods of proofs, Quine McCluskey Method, Floyd Warshall's algorithm, finite automata, bipartite graph etc. Only necessary theorems have been included, and wherever required, their applicability has been demonstrated using appropriate examples. Whenever required, a diagram is used to make the concept easily understood to the reader. It contains good number of solved examples and exercises for hands on practice.

Table of Contents: Chapter 1 : Set Chapter 2 : Relation Chapter 3 : Number Theory Chapter 4 : Function Chapter 5 : Predicate Calculus Chapter 6 : Poset Chapter 7 : Lattice Chapter 8 : Finite Boolean Algebra Chapter 9 : Recursive Equations Chapter 10 : Generating Function Chapter 11 : Method Of Proof Chapter 12 : Permutation Chapter 13 : Combination Chapter 14 : Group Chapter 15 : Cyclic Group Chapter 16 : Permutation Chapter 17 : Matrix Chapter 18 : Graph Chapter 19 : Path and Circuit Chapter 20 : Graph Algorithms Chapter 21 : Formal Language Chapter 22 : Finite Automata Chapter 23 : Galois Field

Discrete Mathematics and Symmetry

Discrete Mathematics

A Modern Treatment of Discrete Mathematics

A Tribute to Jiří Matoušek

With Applications in Cryptography, Information Systems and Modeling

Note: This is the 3rd edition. If you need the 2nd edition for a course you are taking, it can be found as a "other format" on amazon, or by searching its isbn: 1534970746 This gentle introduction to discrete mathematics is written for first and second year math majors, especially those who intend to teach. The text began as a set of lecture notes for the discrete mathematics course at the University of Northern Colorado. This course serves both as an introduction to topics in discrete math and as the "introduction to proof" course for math majors. The course is usually taught with a large amount of student inquiry, and this text is written to help facilitate this. Four main topics are covered: counting, sequences, logic, and graph

theory. Along the way proofs are introduced, including proofs by contradiction, proofs by induction, and combinatorial proofs. The book contains over 470 exercises, including 275 with solutions and over 100 with hints. There are also Investigate! activities throughout the text to support active, inquiry based learning. While there are many fine discrete math textbooks available, this text has the following advantages: It is written to be used in an inquiry rich course. It is written to be used in a course for future math teachers. It is open source, with low cost print editions and free electronic editions. This third edition brings improved exposition, a new section on trees, and a bunch of new and improved exercises. For a complete list of changes, and to view the free electronic version of the text, visit the book's website at discrete.openmathbooks.org

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. Chapter 3 Introduces Abstraction And Shows How The Focal Point Of Today's 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. Winner at the 46th Annual New England Book Show (2003) in the "College Covers & Jackets" category This introduction to discrete mathematics prepares future computer scientists, engineers, and mathematicians for success by providing extensive and concentrated coverage of logic, functions, algorithmic analysis, and algebraic

structures. Discrete Mathematics, Second Edition illustrates the relationships between key concepts through its thematic organization and provides a seamless transition between subjects. Distinct for the depth with which it covers logic, this text emphasizes problem solving and the application of theory as it carefully guides the reader from basic to more complex topics. Discrete Mathematics is an ideal resource for discovering the fundamentals of discrete math. Discrete Mathematics, Second Edition is designed for an introductory course in discrete mathematics for the prospective computer scientist, applied mathematician, or engineer who wants to learn how the ideas apply to computer sciences. The choice of topics-and the breadth of coverage-reflects the desire to provide students with the foundations needed to successfully complete courses at the upper division level in undergraduate computer science courses. This book differs in several ways from current books about discrete mathematics. It presents an elementary and unified introduction to a collection of topics that has not been available in a single source. A major feature of the book is the unification of the material so that it does not fragment into a collection of seemingly unrelated ideas. Did you know that games and puzzles have given birth to many of today's deepest mathematical subjects? Now, with Douglas Ensley and Winston Crawley's Introduction to Discrete Mathematics, you can explore mathematical writing, abstract structures, counting, discrete probability, and graph theory, through games, puzzles, patterns, magic tricks, and real-world problems. You will discover how new mathematical topics can be applied to everyday situations, learn how to work with proofs, and develop your problem-solving skills along the way. Online applications help improve your mathematical reasoning. Highly intriguing, interactive Flash-based applications illustrate key mathematical concepts and help you develop your ability to reason mathematically, solve problems, and work with proofs. Explore More icons in the text direct you to online activities at www.wiley.com/college/ensley. Improve your grade with the Student Solutions Manual. A supplementary Student Solutions Manual contains more detailed solutions to selected exercises in the text.

**Progress in Pure and Applied Discrete Mathematics, Vol. 1:
Probabilistic Methods in Discrete Mathematics
First International Conference, ICTCSDM 2016, Krishnankoil, India,
December 19-21, 2016, Revised Selected Papers**

A Succinct Foundation

Discrete Mathematical Structures (MGU, Kerala) Sem-III for CS & IT

FUNDAMENTALS OF DISCRETE MATHEMATICAL STRUCTURES

This volume constitutes the refereed post-conference proceedings of the International

Conference on Theoretical Computer Science and Discrete Mathematics, held in Krishnankoil, India, in December 2016. The 57 revised full papers were carefully reviewed and selected from 210 submissions. The papers cover a broad range of topics such as line graphs and its generalizations, large graphs of given degree and diameter, graphoidal covers, adjacency spectrum, distance spectrum, b-coloring, separation dimension of graphs and hypergraphs, domination in graphs, graph labeling problems, subsequences of words and Parike matrices, lambda-design conjecture, graph algorithms and interference model for wireless sensor networks.

A Course In Discrete Mathematical Structures World Scientific

This volume presents selected papers from a three-day workshop held during the DIMACS special years on Mathematical Support for Molecular Biology. Participants from the world over attended, giving the workshop an important international component. The study of discrete mathematics and optimization with medical applications is emerging as an important new research area. Significant applications have been found in medical research, for example in radiosurgical treatment planning, virtual endoscopy, and more. This volume presents a substantive cross-section of active research topics ranging from medical imaging to human anatomy modeling, from gamma knife treatment planning to radiation therapy, and from epileptic seizures to DNA screening. This book is an up-to-date resource reflecting current research directions.

This book comprises a collection of high quality papers in selected topics of Discrete Mathematics, to celebrate the 60th birthday of Professor Jarik Nešetřil. Leading experts have contributed survey and research papers in the areas of Algebraic Combinatorics, Combinatorial Number Theory, Game theory, Ramsey Theory, Graphs and Hypergraphs, Homomorphisms, Graph Colorings and Graph Embeddings.

Proceedings of the Third International Petrozavodsk Conference, Petrozavodsk, Russia, May 12-15, 1992

Dedicated to Jarik Nešetřil on the Occasion of his 60th birthday

A Journey Through Discrete Mathematics

Discrete Mathematics with Proof

DIMACS Workshop, March 12-14, 1992

Written by experts in both mathematics and biology, Algebraic and Discrete Mathematical Methods for Modern Biology offers a bridge between math and biology, providing a framework for simulating, analyzing, predicting, and modulating the behavior of complex biological systems. Each chapter begins with a question from modern biology, followed by the description of certain mathematical methods and theory appropriate in the search of answers. Every topic provides a fast-track pathway through the problem by presenting the biological foundation, covering the relevant mathematical theory, and highlighting connections between them. Many of the projects and exercises embedded in each chapter utilize specialized software, providing students with much-needed familiarity and experience with computing applications, critical components of the "modern biology" skill set. This book is appropriate for mathematics courses such as finite mathematics, discrete structures, linear algebra, abstract/modern algebra, graph theory, probability, bioinformatics, statistics, biostatistics, and modeling, as well as for biology courses such as genetics, cell and molecular biology, biochemistry, ecology, and evolution. Examines

significant questions in modern biology and their mathematical treatments
Presents important mathematical concepts and tools in the context of essential biology
Features material of interest to students in both mathematics and biology
Presents chapters in modular format so coverage need not follow the Table of Contents
Introduces projects appropriate for undergraduate research
Utilizes freely accessible software for visualization, simulation, and analysis in modern biology
Requires no calculus as a prerequisite
Provides a complete Solutions Manual
Features a companion website with supplementary resources

Master the fundamentals of discrete mathematics with DISCRETE MATHEMATICS FOR COMPUTER SCIENCE with Student Solutions Manual CD-ROM! An increasing number of computer scientists from diverse areas are using discrete mathematical structures to explain concepts and problems and this mathematics text shows you how to express precise ideas in clear mathematical language. Through a wealth of exercises and examples, you will learn how mastering discrete mathematics will help you develop important reasoning skills that will continue to be useful throughout your career.

Intended for first- or second-year undergraduates, this introduction to discrete mathematics covers the usual topics of such a course, but applies constructivist principles that promote - indeed, require - active participation by the student. Working with the programming language ISETL, whose syntax is close to that of standard mathematical language, the student constructs the concepts in her or his mind as a result of constructing them on the computer in the syntax of ISETL. This dramatically different approach allows students to attempt to discover concepts in a "Socratic" dialog with the computer. The discussion avoids the formal "definition-theorem" approach and promotes active involvement by the reader by its questioning style. An instructor using this text can expect a lively class whose students develop a deep conceptual understanding rather than simply manipulative skills. Topics covered in this book include: the propositional calculus, operations on sets, basic counting methods, predicate calculus, relations, graphs, functions, and mathematical induction.

A Trusted Guide to Discrete Mathematics with Proof? Now in a Newly Revised Edition Discrete mathematics has become increasingly popular in recent years due to its growing applications in the field of computer science. Discrete Mathematics with Proof, Second Edition continues to facilitate an up-to-date understanding of this important topic, exposing readers to a wide range of modern and technological applications. The book begins with an introductory chapter that provides an accessible explanation of discrete mathematics. Subsequent chapters explore additional related topics including counting, finite probability theory,

recursion, formal models in computer science, graph theory, trees, the concepts of functions, and relations. Additional features of the Second Edition include: An intense focus on the formal settings of proofs and their techniques, such as constructive proofs, proof by contradiction, and combinatorial proofs New sections on applications of elementary number theory, multidimensional induction, counting tulips, and the binomial distribution Important examples from the field of computer science presented as applications including the Halting problem, Shannon's mathematical model of information, regular expressions, XML, and Normal Forms in relational databases Numerous examples that are not often found in books on discrete mathematics including the deferred acceptance algorithm, the Boyer-Moore algorithm for pattern matching, Sierpinski curves, adaptive quadrature, the Josephus problem, and the five-color theorem Extensive appendices that outline supplemental material on analyzing claims and writing mathematics, along with solutions to selected chapter exercises Combinatorics receives a full chapter treatment that extends beyond the combinations and permutations material by delving into non-standard topics such as Latin squares, finite projective planes, balanced incomplete block designs, coding theory, partitions, occupancy problems, Stirling numbers, Ramsey numbers, and systems of distinct representatives. A related Web site features animations and visualizations of combinatorial proofs that assist readers with comprehension. In addition, approximately 500 examples and over 2,800 exercises are presented throughout the book to motivate ideas and illustrate the proofs and conclusions of theorems. Assuming only a basic background in calculus, *Discrete Mathematics with Proof, Second Edition* is an excellent book for mathematics and computer science courses at the undergraduate level. It is also a valuable resource for professionals in various technical fields who would like an introduction to discrete mathematics.

Connecting Discrete Mathematics and Computer Science

Algebraic and Discrete Mathematical Methods for Modern Biology

Probabilistic Conditional Independence Structures

Modern Discrete Mathematics and Analysis

Topics in Discrete Mathematics

This text has been designed as a complete introduction to discrete mathematics, primarily for computer science majors in either a one or two semester course. The topics addressed are of genuine use in computer science, and are presented in a logically coherent fashion. The material has been organized and interrelated to minimize the mass of definitions and the abstraction of some of the theory. For example, relations and directed graphs are treated as two aspects of the same mathematical idea. Whenever possible each new idea uses previously encountered material, and then developed in such a way that it simplifies the more complex ideas that follow.

An approachable textbook connecting the mathematical foundations of computer

science to broad-ranging and compelling applications throughout the field.

A Course In Discrete Mathematical Structures

Proceedings of the Third International Petrozavodsk Conference, Petrozavodsk,
Russia, May 12-15, 1992

An Accessible Introduction to the History, Theory, Logic and Applications

Discrete Mathematical Structures, 1/e

Diagrammatic Representation and Reasoning