

Discrete Mathematics Veerarajan

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.

This concise, undergraduate-level text focuses on combinatorics, graph theory with applications to some standard network optimization problems, and algorithms. More than 200 exercises, many with complete solutions. 1991 edition.

This book has been designed for the students studying the course on Discrete Mathematics. It deals with the topics in a simple and student friendly manner and contains a judicious mix of concepts as well as solved examples, that makes it ideal for the beginners. Salient Features: - Exhaustive coverage on Graph Theory and Combinatorics - Detailed discussion on Group Theory - Step-wise explanation of the solved examples

A Course for Physicists and Engineers

B.E./B.Tech., B.Sc. and M.Sc. (Computer Science), BCA, MCA and Other Computer Related Professional Courses

Theory and Problems of Combinatorics

These notes were first used in an introductory course team taught by the authors at Appalachian State University to advanced undergraduates and beginning graduates. The text was written with four pedagogical goals in mind: offer a variety of topics in one course, get to the main themes and tools as efficiently as possible, show the relationships between the different topics, and include recent results to convince students that mathematics is a living discipline.

The existing Third Volume of our series of textbooks on Engineering Mathematics for students of E.E./B.Tech. & B.Sc.(Applied Science)has been now split into two volumes, to cater to the needs of the syllabus semester-wise. This volume caters to the syllabus of fourth semester.Many worked examples are added in each chapter and a large number of problems are included in the Exercises.

Written with a strong pedagogical focus, this second 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 introductory chapter presents an overview of the foundations of the subject, consisting of topics such as logic, set theory, relations, functions, algebraic structures, and graphs. The subsequent chapters provide detailed coverage of each of these topics as well as major areas of discrete mathematics such as combinatorics, lattices and Boolean algebras. Major applications such as computer models and computation, coding theory, cryptography and databases are dealt with in the final chapters of the book. In addition to this, a new chapter on matrices is included in this edition of the book, which forms a part of MCA course curriculum. The book is replete with features which enable the building of a firm foundation of the underlying principles of the subject and also provide 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 provide large numbers 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.

Discrete Mathematics: Theory and Applications (Revised Edition)

Discrete Mathematical Structures with Applications to Computer Science

Probability, Statistics And Random Processes

Probability, Statistics and Random Processes

Discrete Structure, Logic, and Computability introduces the beginning computer science student to some of the fundamental ideas and techniques used by computer scientists today, focusing on discrete structures, logic, and computability. The emphasis is on the computational aspects, so that the reader can see how the concepts are actually used. Because of logic's fundamental importance to computer science, the topic is examined extensively in three phases that cover informal logic, the technique of inductive proof, and the technique of formal logic. 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 provided. This book is 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: Theory and Applications (Revised Edition) offers a refreshing alternative for the undergraduate Discrete Mathematics course. In this revised text, the authors, Dr. Malik and Dr. Sen, employ a classroom-tested, student-focused approach that is conducive to effective learning. Each chapter motivates students through the use of real-world, concrete examples. Ample exercise sets provide alternative practice to allow students to apply what they learn, while programming exercises in each chapter provide a blend of theory and applications.

Mathematical Statistics

Linear Algebra and Partial Differential Equations

DISCRETE MATHEMATICS

Fourier Series and Integral Transforms

The book covers basic concepts such as random experiments, probability axioms, conditional probability, and counting methods, single and multiple random variables (discrete, continuous, and mixed), as well as moment-generating functions, characteristic functions, random vectors, and inequalities; limit theorems and convergence; introduction to Bayesian and classical statistics; random processes including processing of random signals, Poisson processes, discrete-time and continuous-time Markov chains, and Brownian motion; simulation using MATLAB and R.

Now in its eighth edition, Higher Engineering Mathematics has helped thousands of students succeed in their exams. Theory is kept to a minimum, with the emphasis firmly placed on problem-solving skills, making this a thoroughly practical introduction to the advanced engineering mathematics that students need to master. The extensive and thorough topic coverage makes this an ideal text for upper-level vocational courses and for undergraduate degree courses. It is also supported by a fully updated companion website with resources for both students and lecturers. It has full solutions to all 2,000 further questions contained in the 277 practice exercises.

This book offers an introduction to concepts of probability theory, probability distributions relevant in the applied sciences, as well as basics of sampling distributions, estimation and hypothesis testing. As a companion for classes for engineers and scientists, the book also covers applied topics such as model building and experiment design. Contents Random phenomena Probability Random variables Expected values Commonly used discrete distributions Commonly used density functions Joint distributions Some multivariate distributions Collection of random variables Sampling distributions Estimation Interval estimation Tests of statistical hypotheses Model building and regression Design of experiments and analysis of variance Questions and answers

Probability and Statistics

Introduction to Probability, Statistics, and Random Processes

Schaum's Outline of Discrete Mathematics, Revised Third Edition

Engineering Mathematics

Designed for the first course on Numerical Methods, this book provides a strong foundation on the subject by giving a wide range of methods that an engineering student encounters in real life. It follows a mathematical and computer-oriented approach facilitating problem solving.

Discrete Mathematics is designed to serve as a textbook for undergraduate engineering students of computer science and postgraduate students of mathematics. It seeks to provide a thorough understanding of the subject and present its practical applications to computer science.

Knowledge updating is a never-ending process and so should be the revision of an effective textbook. The book originally written fifty years ago has, during the intervening period, been revised and reprinted several times. The authors have, however, been thinking, for the last few years that the book needed not only a thorough revision but rather a substantial rewriting. They now take great pleasure in presenting to the readers the twelfth, thoroughly revised and enlarged, Golden Jubilee edition of the book. The subject-matter in the entire book has been re-written in the light of numerous criticisms and suggestions received from the users of the earlier editions in India and abroad. The basis of this revision has been the emergence of new literature on the subject, the constructive feedback from students and teaching fraternity, as well as those changes that have been made in the syllabi and/or the pattern of examination papers of numerous universities. Knowledge updating is a never-ending process and so should be the revision of an effective textbook. The book originally written fifty years ago has, during the intervening period, been revised and reprinted several times. The authors have, however, been thinking, for the last few years that the book needed not only a thorough revision but rather a substantial rewriting. They now take great pleasure in presenting to the readers the twelfth, thoroughly revised and enlarged, Golden Jubilee edition of the book. The subject-matter in the entire book has been re-written in the light of numerous criticisms and suggestions received from the users of the earlier editions in India and abroad. The basis of this revision has been the emergence of new literature on the subject, the constructive feedback from students and teaching fraternity, as well as those changes that have been made in the syllabi and/or the pattern of examination papers of numerous universities. Some prominent additions are given below: 1. Variance of Degenerate Random Variable 2. Approximate Expression for Expectation and Variance 3. Lyapunov's Inequality 4. Holder's Inequality 5. Minkowski's Inequality 6. Double Expectation Rule or Double-E Rule and many others

An Open Introduction

Engineering Mathematics Vol.-III (Tamil Nadu)

Discrete Mathematics | Fifth Edition | For Anna University | By Pearson

Discrete Mathematics (eighth Edition)

For the Students of B.A., B.Sc. (Third Year) as per UGC MODEL CURRICULUM

This book seeks to build fundamental concepts on the subject of Linear Algebra and Partial Differential Equations. Each topic is lucidly and comprehensively explained as well as illustrated with diverse types of solved examples. Step-wise explanation has been provided to the students for the numerous solved examples to create better understanding of the course. Salient Features: - Exhaustive coverage on Partial Differential Equations and Fourier Series Solutions of PDE - Stepwise solutions provided for solved examples - Diverse and useful pedagogy such as text highlights, short answer questions, solved examples

Extremely well organized and lucidly written book with an approach to explain the concepts in communicable languages. Suitable text book for the students of BCA, B.Tech., M.C.A., M.Sc., M.Tech., etc. Each Chapter follows Objective type problems. Around 500 objective type problems (235) Multiple choice questions, 130 Fill in the blanks type, 135 True/False type with their answers to help Students understand very concept. Around 800 problems of various level of difficulty in exercises to review the understanding and testing the skills of the students after every section. Around 140 theorems to give better understanding and insights of the concepts Topics are followed by figures and tables. In total more than 400 figures and 140 tables are taken to back the understanding of topics. Chapter includes: Combinatorics, Set Theory, Relations Functions, Group Theory, Rings and Fields, Logic, Lattices, Boolean Algebra, Graph Theory, Automata.

A Textbook of Discrete Mathematics

Discrete Structures, Logic, and Computability

Elementary Theory of Numbers

Numerical Methods with Programs in C

Combinatorics Is The Mathematics Of Counting, Selecting And Arranging Objects. Combinatorics Include The Theory Of Permutations And Combinations. These Topics Have An Enormous Range Of Applications In Pure And Applied Mathematics And Computer Science. These Are Processes By Which We Organize Sets So That We Can Interpret And Apply The Data They Contain. Generally Speaking, Combinatorial Problems Ask Whether A Subset Of A Given Set Can Be Chosen And Arranged In A Way That Conforms With Certain Constraints And, If So, In How Many Ways It Can Be Done. Applications Of Combinatorics Play A Major Role In The Analysis Of Algorithms. For Example, It Is Often Necessary In Such Analysis To Count The Average Number Of Times That A Particular Portion Of An Algorithm Is Executed Over All Possible Data Sets. This Topic Also Includes Solution Of Difference Equations. Differences Are Required For Analysis Of Algorithmic Complexity, And Since Computers Are Frequently Used In The Numerical Solution Of Differential Equations Via Their Discretized Versions Which Are Difference Equations. It Also Deals With Questions About Configurations Of Sets, Families Of Finite Sets That Overlap According To Some Prescribed Numerical Or Geometrical Conditions. Skill In Using Combinatorial Techniques Is Needed In Almost Every Discipline Where Mathematics Is Applied.Salient Features * Over 1000 Problems Are Used To Illustrate Concepts, Related To Different Topics, And Introduce Applications. * Over 1000 Exercises In The Text With Many Different Types Of Questions Posed. * Precise Mathematical Language Is Used Without Excessive Formalism And Abstraction. * Precise Mathematical Language Is Used Without Excessive Formalism And Abstraction. * Problem Sets Are Started Clearly And Unambiguously And All Are Carefully Graded For Various Levels Of Difficulty.

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 title is part of the Pearson Modern Classics series. Pearson Modern Classics are acclaimed titles at a value price. Please visit www.pearsonhighered.com/math-classics-series for a complete list of titles. An ever-increasing percentage of mathematic applications involve discrete rather than continuous models. Driving this trend is the integration of the computer into virtually every aspect of modern society. Intended for a one-semester introductory course, the strong algorithmic emphasis of Discrete Mathematics is independent of a specific programming language, allowing students to concentrate on foundational problem-solving and analytical skills. Instructors get the topical breadth and organizational flexibility to tailor the course to the level and interests of their students.

Discrete Mathematics and Its Applications

Foundations of Discrete Mathematics

A Textbook of Discrete Mathematics, 9th Edition

Higher Engineering Mathematics

Originally published in 2006, reissued as part of Pearson's modern classic series.

Discrete Mathematics is designed to serve as a textbook for a single-semester undergraduate course on the discrete and combinatorial mathematics. Beginning with a lucid introduction to logic and set theory, the book goes on to cover matrix algebra, algebraic systems, coding theory, lattices and Boolean algebra, parts, and discrete probability A comprehensive chapter dedicated to graph theory makes it a complete undergraduate text on discrete mathematical structures.Written in an easy-to-understand manner, the book includes a large number of solved examples which illustrate problem-solving methodology. It contains an extensive set of exercises. Both solved and unsolved problems show a good gradation of difficulty levels. A summary at the end of each chapter reviews the key concepts discussed.

This book contains a judicious mix of concepts and solved examples that make it ideal for the beginners taking the Discrete Mathematics course. Features Exhaustive coverage of Set Theory. Comprehensive coverage of Graph Theory and Combinatorics. Excellent discussion of Group theory applications-Coding. Detailed explanation of the solution procedure of the worked examples. Pedagogy includes 341 solved examples 566 short answer questions 556 descriptive questions Over 500 figures and tables

A Course In Discrete Mathematical Structures

Discrete Structures

Engineering Mathematics: For First Year

Combinatorics and Graph Theory

Discrete Mathematics, 5E is designed to provide students with extended logical and mathematical maturity and the ability to deal with abstraction. The text introduces the basic terminologies used in computer science courses and application of ideas to solve practical problems. The concepts of combinatorics and graph theory, applications of algebraic structures and the significance of lattices and Boolean Algebra have been dealt in detail. The text is also bundled with a supplement that includes frequently asked questions and answers.

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

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 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.

Discrete Mathematics (Classic Version)

Discrete Mathematical Structures

Discrete Mathematics with Graph Theory (Classic Version)

Discrete Mathematics

This graduate textbook covers topics in statistical theory essential for graduate students preparing for work on a Ph.D. degree in statistics. This new edition has been revised and updated and in this fourth printing, errors have been ironed out. The first chapter provides a quick overview of concepts and results in measure-theoretic probability theory that are useful in statistics. The second chapter introduces some fundamental concepts in statistical decision theory and inference. Subsequent chapters contain detailed studies on some important topics: unbiased estimation, parametric estimation, nonparametric estimation, hypothesis testing, and confidence sets. A large number of exercises in each chapter provide not only practice problems for students, but also many additional results.

Tough Test Questions? Missed Lectures? Not Enough Time? Fortunately for you, there's Schaum's Outlines. More than 40 million students have trusted Schaum's to help them succeed in the classroom and on exams. Schaum's is the key to faster learning and higher grades in every subject. Each Outline presents all the essential course information in an easy-to-follow, topic-by-topic format. You also get hundreds of examples, solved problems, and practice exercises to test your skills. This Schaum's Outline gives you: Practice problems with full explanations that reinforce knowledge Coverage of the most up-to-date developments in your course field In-depth review of practices and applications Fully compatible with your classroom text, Schaum's highlights all the important facts you need to know. Use Schaum's to shorten your study time-and get your best test scores! Schaum's Outlines-Problem Solved.

Discrete Mathematics will be of use to any undergraduate as well as post graduate courses in Computer Science and Mathematics. The syllabi of all these courses have been studied in depth and utmost care has been taken to ensure that all the essential topics in discrete structures are adequately emphasized. The book will enable the students to develop the requisite conceptual skills needed in software engineering.

Introductory Discrete Mathematics

Fundamentals of Mathematical Statistics

Statistics and Random Processes

Discrete Mathematics With Combinatorics And Graph Theory