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# Swapan K Sarkar Discrete Mathematics

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Essential Discrete Mathematics for Computer Science  
 Applied Mathematics  
 Electrical Machines-I  
 Proceedings of International Conference on Trends in Computational and Cognitive Engineering  
 Discrete Mathematics for Computer Scientists  
 Discrete Mathematical Structures  
 Schaum's Outline of Discrete Mathematics, Revised Third Edition  
 Autophagy  
 Advances in Control, Signal Processing and Energy Systems  
 Mathematics Standard Level for IB Diploma Exam Preparation Guide  
 Applied Discrete Structures  
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 Third International Conference, PReMI 2009 New Delhi, India, December 16-20, 2009 Proceedings  
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 Principles and Applications  
 4th International Conference, PReMI 2011, Moscow, Russia, June 27 - July 1, 2011, Proceedings  
 Molecular Breeding for Rice Abiotic Stress Tolerance and Nutritional Quality  
 COMBINATORICS AND GRAPH THEORY  
 Pattern Recognition and Machine Intelligence  
 Probability and Queueing Theory  
 Discrete Mathematics  
 A Course of Mathematical Analysis  
 Proceedings of TCCE 2020  
 Mathematical Statistics  
 Discrete Mathematics  
 Computational Intelligence, Communications, and Business Analytics  
 A Textbook of Discrete Mathematics, 9th Edition  
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 Discrete Mathematics  
 Discrete Mathematics for Computer Science  
 Numerical Simulation of Viscous Shocked Accretion Flows Around Black Holes  
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## DAVIES LEWIS

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*Essential Discrete Mathematics for Computer Science* PHI Learning Pvt. Ltd. Combinatorics and Graph Theory is designed as a textbook for undergraduate students of computer science and engineering and postgraduate students of computer applications. The book seeks to introduce students to the mathematical concepts needed to develop abstract thinking and problem solving—important prerequisites for the study of computer science. The book provides an exhaustive coverage of various concepts and remarkable introduction of several topics of combinatorics and graph theory. The book presents an informative exposure for beginners and acts as a reference for

advanced students. It highlights comprehensive and rigorous views of combinatorics and graphs. The text shows simplicity and step-by-step concepts throughout and is profusely illustrated with diagrams. The real-world applications corresponding to the topics are appropriately highlighted. The chapters have also been interspersed throughout with numerous interesting and instructional notes. Written in a lucid style, the book helps students apply the mathematical tools to computer-related concepts and consists of around 600 worked-out examples which motivate students as a self-learning mode. **KEY FEATURES** Contains various exercises with their answers or hints. Lays emphasis on the applicability of mathematical structures to computer science. Includes competitive examinations' questions asked in GATE, NET, SET, etc

*Applied Mathematics* S. Chand Publishing Discrete mathematics is a compulsory subject for undergraduate computer scientists. This new edition includes new chapters on statements and proof, logical framework, natural numbers and the integers and updated exercises from the previous edition. *Electrical Machines-I* Cambridge University Press A more intuitive approach to the mathematical foundation of computer science Discrete mathematics is the basis of much of computer science, from algorithms and automata theory to combinatorics and graph theory. This textbook covers the discrete mathematics that every computer science student needs to learn. Guiding students quickly through thirty-one short chapters that discuss one major topic each, this flexible book can be tailored to fit the syllabi for a

variety of courses. Proven in the classroom, *Essential Discrete Mathematics for Computer Science* aims to teach mathematical reasoning as well as concepts and skills by stressing the art of proof. It is fully illustrated in color, and each chapter includes a concise summary as well as a set of exercises. The text requires only precalculus, and where calculus is needed, a quick summary of the basic facts is provided. *Essential Discrete Mathematics for Computer Science* is the ideal introductory textbook for standard undergraduate courses, and is also suitable for high school courses, distance education for adult learners, and self-study. The essential introduction to discrete mathematics features thirty-one short chapters, each suitable for a single class lesson. Includes more than 300 exercises. Almost every formula and theorem proved in full. Breadth of content makes the book adaptable to a variety of courses. Each chapter includes a concise summary. Solutions manual available to instructors.

*Proceedings of International Conference on Trends in Computational and Cognitive Engineering* Springer

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.

[Discrete Mathematics for Computer Scientists](#) CRC Press

This title forms part of the completely new Mathematics for the IB Diploma series. This highly illustrated coursebook, available in both print and e-book formats, has been written to specifically cover the new IB Higher Level syllabus. Based on the new group 5 aims, the progressive approach encourages cumulative learning. Features include: a dedicated chapter exclusively for combined exercises; plenty of worked examples; questions colour-coded according to grade; exam-style questions; feature boxes of hints and tips. The print book includes a CD-ROM providing a complete e-version of the book, all the options chapters, extension worksheets, prior learning sheets, calculator skills sheets and fill-in proofs. These additional materials are also included in the e-book version.

*Discrete Mathematical Structures A* Textbook of Discrete Mathematics, 9th Edition

Presents the latest knowledge of improving the stress tolerance, yield, and quality of rice crops. One of the most

important cereal crops, rice provides food to more than half of the world population. Various abiotic stresses—currently impacting an estimated 60% of crop yields—are projected to increase in severity and frequency due to climate change. In light of the threat of global food grain insecurity, interest in molecular rice breeding has intensified in recent years. Progress has been made, but there remains an urgent need to develop stress-tolerant, bio-fortified rice varieties that provide consistent and high-quality yields under both stress and non-stress conditions. *Molecular Breeding for Rice Abiotic Stress Tolerance and Nutritional Quality* is the first book to provide comprehensive and up-to-date coverage of this critical topic, containing the physiological, biochemical, and molecular information required to develop effective engineering strategies for enhancing rice yield. Authoritative and in-depth chapters examine the molecular and genetic bases of abiotic stress tolerance, discuss yield and quality improvement of rice, and explore new approaches to better utilize natural resources through modern breeding. Topics include rice adaptation to climate change, enriching rice yields under low phosphorus and light intensity, increasing iron, zinc, vitamin and antioxidant content, and improving tolerance to salinity, drought, heat, cold, submergence, heavy metals and Ultraviolet-B radiation. This important resource: Contains the latest scientific information on a wide range of topics central to molecular breeding for rice. Provides timely coverage molecular breeding for improving abiotic stress tolerance, bioavailability of essential micronutrients, and crop productivity through biotechnological methods. Features detailed chapters written by internationally-recognized experts in the field. Discusses recent progress and future directions in molecular breeding strategies and research. *Molecular Breeding for Rice Abiotic Stress Tolerance and Nutritional Quality* is required reading for rice researchers, agriculturists, and agribusiness professionals, and the ideal text for instructors and students in molecular plant breeding, abiotic stress tolerance, environmental science, and plant physiology, biochemistry, molecular biology, and biotechnology.

**Schaum's Outline of Discrete Mathematics, Revised Third Edition**

Oxford University Press

Bmh 201(A&B) Advanced Calculus Bmh

202 (A&B) Differential Equations Bmh 203 (A&B) Mechanics

[Autophagy](#) OUP India

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.

[Advances in Control, Signal Processing and Energy Systems](#) S. Chand Publishing

A new series of exam preparation guides for the IB Diploma Mathematics HL and SL and Mathematical Studies. This exam preparation guide for the IB Diploma Mathematics Standard Level course breaks the course down into chapters that summarise material and present revision questions by exam question type, so that revision can be highly focused to make best use of students' time. Students can stretch themselves to achieve their best with 'going for the top' questions for those who want to achieve the highest results. Worked solutions for all the mixed and 'going for the top' questions are included, plus exam hints throughout. Guides for Mathematics Higher Level and

Mathematical Studies are also available. *Mathematics Standard Level for IB Diploma Exam Preparation Guide* Springer Science & Business Media

This two-volume handbook presents a collection of novel methodologies with applications and illustrative examples in the areas of data-driven computational social sciences. Throughout this handbook, the focus is kept specifically on business and consumer-oriented applications with interesting sections ranging from clustering and network analysis, meta-analytics, memetic algorithms, machine learning, recommender systems methodologies, parallel pattern mining and data mining to specific applications in market segmentation, travel, fashion or entertainment analytics. A must-read for anyone in data-analytics, marketing, behavior modelling and computational social science, interested in the latest applications of new computer science methodologies. The chapters are contributed by leading experts in the associated fields. The chapters cover technical aspects at different levels, some of which are introductory and could be used for teaching. Some chapters aim at building a common understanding of the methodologies and recent application areas including the introduction of new theoretical results in the complexity of core problems. Business and marketing professionals may use the book to familiarize themselves with some important foundations of data science. The work is a good starting point to establish an open dialogue of communication between professionals and researchers from different fields. Together, the two volumes present a number of different new directions in Business and Customer Analytics with an emphasis in personalization of services, the development of new mathematical models and new algorithms, heuristics and metaheuristics applied to the challenging problems in the field. Sections of the book have introductory material to more specific and advanced themes in some of the chapters, allowing the volumes to be used as an advanced textbook. Clustering, Proximity Graphs, Pattern Mining, Frequent Itemset Mining, Feature Engineering, Network and Community Detection, Network-based Recommending Systems and Visualization, are some of the topics in the first volume. Techniques on Memetic Algorithms and their applications to Business Analytics and Data Science are surveyed in the second volume; applications in Team Orienteering, Competitive Facility-location, and Visualization of Products and Consumers

are also discussed. The second volume also includes an introduction to Meta-Analytics, and to the application areas of Fashion and Travel Analytics. Overall, the two-volume set helps to describe some fundamentals, acts as a bridge between different disciplines, and presents important results in a rapidly moving field combining powerful optimization techniques allied to new mathematical models critical for personalization of services. Academics and professionals working in the area of business analytics, data science, operations research and marketing will find this handbook valuable as a reference. Students studying these fields will find this handbook useful and helpful as a secondary textbook.

*Applied Discrete Structures* Lulu.com  
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.

#### **Foundations of Discrete Mathematics** Springer

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.

#### **Third International Conference, PReMI 2009 New Delhi, India, December 16-20, 2009 Proceedings**

Springer Science & Business Media  
The work developed in this thesis addresses very important and relevant issues of accretion processes around black holes. Beginning by studying the time variation of the evolution of inviscid accretion discs around black holes and their properties, the author investigates the change of the pattern of the flows when the strength of the shear viscosity is varied and cooling is introduced. He succeeds to verify theoretical predictions of the so called Two Component Advective Flow (TCAF) solution of the accretion problem onto black holes through numerical simulations under different input parameters. TCAF solutions are found to be stable. And thus explanations of spectral and timing properties (including Quasi-Period Oscillations, QPOs) of galactic and extra-galactic black holes based on shocked TCAF models appear to have a firm foundation.

#### *Pattern Recognition and Machine Intelligence* Springer

The book is based on research presentations at the international conference, "Emerging Trends in Applied Mathematics: In the Memory of Sir Asutosh Mookerjee, S.N. Bose, M.N. Saha and N.R. Sen", held at the Department of Applied Mathematics, University of Calcutta, during 12-14 February 2014. It focuses on



various emerging and challenging topics in the field of applied mathematics and theoretical physics. The book will be a valuable resource for postgraduate students at higher levels and researchers in applied mathematics and theoretical physics. Researchers presented a wide variety of themes in applied mathematics and theoretical physics—such as emergent periodicity in a field of chaos; Ricci flow equation and Poincare conjecture; Bose–Einstein condensation; geometry of local scale invariance and turbulence; statistical mechanics of human resource allocation: mathematical modelling of job-matching in labour markets; contact problem in elasticity; the Saha equation; computational fluid dynamics with applications in aerospace problems; an introduction to data assimilation, stochastic analysis and bounds on noise for Holling type-II model, graph theoretical invariants of chemical and biological systems; strongly correlated phases and quantum phase transitions of ultra cold bosons; and the mathematical modelling of breast cancer treatment.

*Discrete Mathematics and Its Applications*  
Tata McGraw-Hill Education

Starting in the early 1970s, a type of programmed cell death called apoptosis began to receive attention. Over the next three decades, research in this area continued at an accelerated rate. In the early 1990s, a second type of programmed cell death, autophagy, came into focus. Autophagy has been studied in mammalian cells for many years. The recent

[Principles and Applications](#) Pearson Higher Ed

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](http://discrete.openmathbooks.org)  
Birkhäuser

*Mineral Exploration: Principles and Applications, Second Edition*, presents an interdisciplinary approach on the full scope of mineral exploration. Everything from grass root discovery, objective base sequential exploration, mining, beneficiation, extraction, economic evaluation, policies and acts, rules and regulations, sustainability, and environmental impacts is covered. Each topic is presented using theoretical approaches that are followed by specific applications that can be used in the field. This new edition features updated references, changes to rules and regulations, and new sections on oil and gas exploration and classification, air-core drilling, and smelting and refining techniques. This book is a key resource for both academics and professionals, offering both practical and applied knowledge in

mineral exploration. Offers important updates to the previous edition, including sections on the cyclical nature of mineral industry, exploration for oil and gas, CHIM-electro-geochemical survey, air-core drilling, classification of oil and gas resources, smelting, and refining technologies Presents global case studies that allow readers to quickly apply exploration concepts to real-world scenarios Includes 385 illustrations and photographs to aid the reader in understanding key procedures and applications

*4th International Conference, PReMI 2011, Moscow, Russia, June 27 - July 1, 2011, Proceedings* S. Chand Publishing

This book is written so that it serves as a text book for B.E./B.Tech degree students in general and for the institutions where AICTE model curriculum has been adopted. TOPICS COVERED IN THIS BOOK:- Magnetic field and Magnetic circuit Electromagnetic force and torque D.C. Machines D.C. Machines-Motoring and Generation SALIENT FEATURES:- Self-contained, self-explanatory and simple to follow text. Numerous worked out examples. Well Explained theory parts with illustrations. Exercises, objective type question with answers at the end of each chapter.

**Molecular Breeding for Rice Abiotic Stress Tolerance and Nutritional Quality** John Wiley & Sons

This volume constitutes the refereed proceedings of the Second International Conference on Computational Intelligence, Security and Internet of Things, ICCISIoT 2019, held in Agartala, India, in December 2019. The 31 full papers and 6 short papers were carefully reviewed and selected from 153 submissions. The papers are organised according to the following topics: Computational Intelligence, Security, Internet of Things. Papers from the extended track are also presented in the volume.

[COMBINATORICS AND GRAPH THEORY](#)

Cambridge University Press

A Textbook of Discrete Mathematics, 9th Edition S. Chand Publishing

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