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International Convergence of Capital Measurement and Capital Standards A Revised Framework Lulu.com Authentic Problem Solving and Learning in the 21st Century Perspectives from Singapore and Beyond Springer With the rapid changes in the social, political, economic and technological landscape around the world, today's learners face a more globally competitive job market after leaving school. The 21st century, which is characterized by the emergence of knowledge-based societies, expects learners to be comfortable in dealing with ambiguities and complexities in the real world and to be able to use knowledge as a tool at their workplace. This book will help readers develop an in-depth understanding of authentic problem solving and learning, and how it can be used to make a difference in their school or learning communities for the development of 21st century competencies. Comprising 20 chapters written by Singapore-based and international authors, the book is organized into three themes: authentic problems, authentic practices, and authentic participation. It details innovative school practices (e.g. productive failure) concerning the design of problems, learning activities, learning environments, and ICT tools for authentic problem solving and learning. Along with theoretical explanations of authentic learning processes and outcomes, the book also elucidates how students learn by generating and exploring solutions to complex problems and which cognitive functions are needed at different stages of problem-based learning. Presenting coherent descriptions of instructional design principles, successful cases and challenges encountered in K-12 schools and learning communities, the book provides useful information, new insights, and practical guidance for school directors, parents, teachers and researchers

seeking to develop authentic learning environments for 21st century learners. Paper Trails The US Post and the Making of the American West Oxford University Press "Gossamer Network presents a new history of the American state and its efforts to conquer, occupy, and integrate the western United States between the 1860s and early 1900s. The success of this project depended on an unassuming government institution: the U.S. Post. As millions of settlers rushed into remote corners of the region, they relied on the mail to stay connected to the wider world. Letters and newspapers, magazines and pamphlets, petitions and money orders, all travelled across the most expansive communications network on earth. Gossamer Network maps the year-by-year spread of this infrastructure using a dataset of more than 100,000 post offices, revealing a new and unfamiliar picture of the federal government in the West. Despite its size, the U.S. Post was both nimble and ephemeral, rapidly spinning out its infrastructure to distant places before melting away at a moment's notice. The administration of this network bore little resemblance to the civil service bureaucracies typically associated with government institutions today. Instead, the U.S. Post grafted public mail service onto the private operations of thousands of local businesses, contracting with stagecoach companies to carry bags of mail and paying local merchants to distribute letters from their stores. The postal network's sprawling geography and localized operations forces a reconsideration of the American state, its history, and the ways in which it exercised power. This book tells the story of one of the most dramatic reorganizations of people, land, and resources in American history and the underlying spatial circuitry that wove this project together"-- The SAGE Handbook of Research in International Education SAGE The landscape of international education has changed significantly in the last ten years and our understanding of concepts such as 'international', 'global' and 'multicultural' are being re-evaluated. Fully updated and revised, and now including new contributions from research in South East Asia, the Middle East, China, Japan, Australasia, and North America, the new edition of this handbook analyses the origins, interpretations and contributions of international education and explores key contemporary developments, including: internationalism in the context of teaching and learning leadership, standards and quality in institutions and systems of education the promotion of internationalism in national systems This important collection of research is an essential resource for anyone involved in the practice and academic study of international education, including researchers and teachers in universities, governmental and private curriculum development agencies, examination authorities, administrators and teachers in schools. Graph Transformation 13th International Conference, ICGT 2020, Held as Part of STAF 2020, Bergen, Norway, June 25-26, 2020, Proceedings Springer Nature This book constitutes the refereed proceedings of the 13th International Conference on Graph Transformation, ICGT 2020, in Bergen, Norway, in June 2020.* The 16 research papers and 4 tool paper presented in this book were carefully reviewed and selected from 40 submissions. One invited

paper is also included. The papers deal with the following topics: theoretical advances; application domains; and tool presentations. *The conference was held virtually due to the COVID-19 pandemic. Moduli Spaces of Riemann Surfaces American Mathematical Soc. Mapping class groups and moduli spaces of Riemann surfaces were the topics of the Graduate Summer School at the 2011 IAS/Park City Mathematics Institute. This book presents the nine different lecture series comprising the summer school, covering a selection of topics of current interest. The introductory courses treat mapping class groups and Teichmüller theory. The more advanced courses cover intersection theory on moduli spaces, the dynamics of polygonal billiards and moduli spaces, the stable cohomology of mapping class groups, the structure of Torelli groups, and arithmetic mapping class groups. The courses consist of a set of intensive short lectures offered by leaders in the field, designed to introduce students to exciting, current research in mathematics. These lectures do not duplicate standard courses available elsewhere. The book should be a valuable resource for graduate students and researchers interested in the topology, geometry and dynamics of moduli spaces of Riemann surfaces and related topics. Titles in this series are co-published with the Institute for Advanced Study/Park City Mathematics Institute. Members of the Mathematical Association of America (MAA) and the National Council of Teachers of Mathematics (NCTM) receive a 20% discount from list price. Mathematics Higher Level for the IB Diploma Option Topic 7 Statistics and Probability Cambridge University Press This title forms part of the completely new Mathematics for the IB Diploma series. This highly illustrated book covers topic 7 of the IB Diploma Higher Level Mathematics syllabus, the optional topic Statistics and Probability. It is also for use with the further mathematics course. Based on the new group 5 aims, the progressive approach encourages cumulative learning. Features include: a dedicated chapter exclusively for mixed examination practice; plenty of worked examples; questions colour-coded according to grade; exam-style questions; feature boxes throughout of exam hints and tips and calculator skills sheets to support students in using their Casio or Texas calculators. Novel Measurement and Assessment Tools for Monitoring and Management of Land and Water Resources in Agricultural Landscapes of Central Asia Springer Science & Business Media The book aims to initiate a sustainable use of land and water resources in Central Asia by the transfer of scientific methods. It deals with the most advanced methods worldwide for better monitoring and management of water and land resources. We offer an array of methods of measuring, assessing, forecasting, utilizing and controlling processes in agricultural landscapes. These are laboratory and field measurement methods, methods of resource evaluation, functional mapping and risk assessment, and remote sensing methods for monitoring and modeling large areas. The book contains methods and results of data analysis and ecosystem modeling, of bioremediation of soil and water, field monitoring of soils, and methods and technologies for optimizing land use systems as well. The chapter authors are inventors and advocates of novel

transferrable methods. The book starts with an analysis of the current state of water and land resources. Finally concrete proposals for the applicability of novel methods are given. **Unified Field Mechanics II: Formulations and Empirical Tests Proceedings of the Xth Symposium Honoring Noted French Mathematical Physicist Jean-Pierre Vigiier World Scientific** This volume, recording the 10th international symposium honoring noted French mathematical physicist Jean-Pierre Vigiier surveys and continues to develop Unified Field Mechanics (UFM) from the perspective of Multiverse cosmology and Topological Field Theory. UFM represents a developing paradigm shift with many new parameters extending the Standard Model to a 3rd regime of Natural Science beyond Quantum Mechanics. UFM is now experimentally testable, thus putatively able to demonstrate the existence of large-scale additional dimensionality (LSXD), test for QED violating phenomena and surmount the quantum uncertainty principle leading to a new 'Age of Discovery' piling all prior ages in the historical progression: Classical Mechanics (3D) to Quantum Mechanics (4D) and now to the birth of the 3rd regime of UFM in additional dimensionality correlating with M-Theory. Many still consider the Planck-scale as the 'basement of reality'. This could only be considered true under the limitations of the Standard Model. As we methodically enter the new regime a profound understanding of the multiverse and additional dimensionality beckons. **Bandit Algorithms Cambridge University Press** A comprehensive and rigorous introduction for graduate students and researchers, with applications in sequential decision-making problems. **Mathematical Studies Standard Level for the IB Diploma Coursebook Cambridge University Press** This completely new title is written to specifically cover the new IB Diploma Mathematical Studies syllabus. The significance of mathematics for practical applications is a prominent theme throughout this coursebook, supported with Theory of Knowledge, internationalism and application links to encourage an appreciation of the broader contexts of mathematics. Mathematical modelling is also a key feature. GDC tips are integrated throughout, with a dedicated GDC chapter for those needing more support. Exam hints and IB exam-style questions are provided within each chapter; sample exam papers (online) can be tackled in exam-style conditions for further exam preparation. Guidance and support for the internal assessment is also available, providing advice on good practice when writing the project. **Ugandan English Its sociolinguistics, structure and uses in a globalising post-protectorate John Benjamins Publishing Company** Ugandan English is a variety that has scarcely been noticed in past research. This timely volume brings together African and European scholars in a first-ever collection of articles that offer comprehensive discussions of the historical and present-day sociolinguistics of English in Uganda and fine-grained analyses of the structural characteristics of and attitudes to this hitherto largely unknown variety. Using rich archive, corpus, and interview data as well as ethnographic and observational methods, the various contributions paint a comprehensive picture of Ugandan English as distinct from other East African

Englishes and as characterized by nativisation despite a still strong exonormative orientation, reflecting the modern nation's status as a post-protectorate under the influence of globalisation. Apart from advancing our understanding of Ugandan English itself, the individual chapters contribute to theoretical debates on language contact and variation as regards the influence of substrate languages, founder populations, language ideologies and socio-economic factors.

Security and Trust Management 11th International Workshop, STM 2015, Vienna, Austria, September 21-22, 2015, Proceedings Springer This book constitutes the refereed proceedings of the 11th International Workshop on Security and Trust Management, STM 2015, held in Vienna, Austria, in September 2015, in conjunction with the 20th European Symposium Research in Computer Security, ESORICS 2015. The 15 revised full papers were carefully reviewed and selected from 38 submissions. They are organized in topical sections as security metrics and classification; data protection; intrusion detection and software vulnerabilities; cryptographic protocols; controlling data release; and security analysis, risk management and usability.

Building the Foundation: Whole Numbers in the Primary Grades The 23rd ICMI Study Springer This twenty-third ICMI Study addresses for the first time mathematics teaching and learning in the primary school (and pre-school) setting, while also taking international perspectives, socio-cultural diversity and institutional constraints into account. One of the main challenges of designing the first ICMI primary school study of this kind is the complex nature of mathematics at the early level. Accordingly, a focus area that is central to the discussion was chosen, together with a number of related questions. The broad area of Whole Number Arithmetic (WNA), including operations and relations and arithmetic word problems, forms the core content of all primary mathematics curricula. The study of this core content area is often regarded as foundational for later mathematics learning. However, the principles and main goals of instruction on the foundational concepts and skills in WNA are far from universally agreed upon, and practice varies substantially from country to country. As such, this study presents a meta-level analysis and synthesis of what is currently known about WNA, providing a useful base from which to gauge gaps and shortcomings, as well as an opportunity to learn from the practices of different countries and contexts.

Proofs from THE BOOK Springer Science & Business Media According to the great mathematician Paul Erdős, God maintains perfect mathematical proofs in The Book. This book presents the authors candidates for such "perfect proofs," those which contain brilliant ideas, clever connections, and wonderful observations, bringing new insight and surprising perspectives to problems from number theory, geometry, analysis, combinatorics, and graph theory. As a result, this book will be fun reading for anyone with an interest in mathematics.

Quantum Computation and Quantum Information Cambridge University Press First-ever comprehensive introduction to the major new subject of quantum computing and quantum information.

Making Education Work for the Poor The Potential of Children's Savings Accounts

Oxford University Press Making Education Work for the Poor identifies wealth inequality as the gravest threat to the endangered American Dream. Though studies have clearly illustrated that education is the primary path to upward mobility, today, educational outcomes are more directly determined by wealth than innate ability and exerted effort. This accounting directly contradicts Americans' understanding of the promise the American Dream is supposed to offer: a level playing field and a path towards a more profitable future. In this book, the authors share their own stories of their journeys through the unequal U.S. education system. One started from relative privilege and had her way to prosperity paved and her individual efforts augmented by institutional and structural support. The other grew up in poverty and had to fight against currents to complete higher education, only to find his ability to profit from that degree compromised by student debt. To directly counter wealth inequality and make education the 'great equalizer' that Americans believe it to be, this book calls for a revolution in financial aid policy, from debt dependence to asset empowerment. The book examines the evidence base supporting Children's Savings Accounts, including CSAs' demonstrated potential to improve children's outcomes all along the 'opportunity pipeline': early education, school achievement, college access and completion, and post-college financial health. It then outlines a policy that builds on CSAs to incorporate a sizable, progressive wealth transfer. This new policy, Opportunity Investment Accounts, is framed as the cornerstone of the wealth-building agenda the nation needs in order to salvage the American Dream. Written by leading CSA researchers, the book includes overviews of the major children's savings legislation proposed in Congress and the key features of prominent CSA programs in operation around the country today, as well as new qualitative and quantitative CSA research. The book ultimately presents a critical development of the theories that, together, explain how universal, progressive, asset-based education financing could make education work equitably for all American children.

Industrial Engineering in the Age of Business Intelligence Selected Papers from the Virtual Global Joint Conference on Industrial Engineering and Its Application Areas, GJCIE 2021, October 30-31, 2021 Springer Nature This book gathers extended versions of the best papers presented at the Global Joint Conference on Industrial Engineering and Its Application Areas (GJCIE), held virtually on October 30-31, 2021, from Istanbul Technical University. Continuing the tradition of previous volumes, it highlights recent developments of industrial engineering at the purpose of using and managing digital and intelligent technologies for application to a wide range of field, including manufacturing, healthcare, e-commerce and mobility.

Addressing Adversity Prioritising adversity and trauma-informed care for children and young people in England. YoungMinds / Health Education England / Human-Experience / An edited collection of papers published by YoungMinds and funded by Health Education England. With 1 in 3 adult mental health conditions related directly to adverse childhood experiences, it is vital that we understand the

impact that adversity and trauma can have on the mental health and wellbeing of young people, and how we can strengthen resilience and support recovery. Addressing Adversity presents evidence, insight, direction and case studies for commissioners, providers and practitioners in order to stimulate further growth in adversity and trauma-informed care, and spark innovation and good practice across England. Section 1: Understanding adversity, trauma and resilience includes evidence and analysis of the impact that adverse childhood experiences and trauma have on children and young people's mental health and wider outcomes across the lifecourse. Section 2: Addressing childhood adversity and trauma includes insights from the NHS in England, organisations and clinicians working with children and young people who have experienced forms of adversity and trauma. Section 3: Emerging good practice includes insight, case studies and working examples of adversity and trauma-informed service models being developed across England. The collection ends with an agenda for change, calling on all Directors of Public Health, commissioners and providers to make adversity and trauma-informed care a priority in their locality.

Weapons of Math Destruction How Big Data Increases Inequality and Threatens Democracy Penguin UK A former Wall Street quant sounds an alarm on the mathematical models that pervade modern life - and threaten to rip apart our social fabric We live in the age of the algorithm. Increasingly, the decisions that affect our lives - where we go to school, whether we get a loan, how much we pay for insurance - are being made not by humans, but by mathematical models. In theory, this should lead to greater fairness: everyone is judged according to the same rules, and bias is eliminated. And yet, as Cathy O'Neil reveals in this urgent and necessary book, the opposite is true. The models being used today are opaque, unregulated, and incontestable, even when they're wrong. Most troubling, they reinforce discrimination. Tracing the arc of a person's life, O'Neil exposes the black box models that shape our future, both as individuals and as a society. These "weapons of math destruction" score teachers and students, sort CVs, grant or deny loans, evaluate workers, target voters, and monitor our health. O'Neil calls on modellers to take more responsibility for their algorithms and on policy makers to regulate their use. But in the end, it's up to us to become more savvy about the models that govern our lives. This important book empowers us to ask the tough questions, uncover the truth, and demand change.

Introduction to Smooth Manifolds Springer Science & Business Media Author has written several excellent Springer books.; This book is a sequel to *Introduction to Topological Manifolds*; Careful and illuminating explanations, excellent diagrams and exemplary motivation; Includes short preliminary sections before each section explaining what is ahead and why *The International Baccalaureate An Experiment in International Education* London : G. G. Harrap IGCSE *Cambridge International Mathematics (0607) Extended Bayesian Data Analysis, Third Edition* CRC Press Now in its third edition, this classic book is widely considered the leading text on Bayesian methods, lauded for its accessible, practical

approach to analyzing data and solving research problems. **Bayesian Data Analysis, Third Edition** continues to take an applied approach to analysis using up-to-date Bayesian methods. The authors—all leaders in the statistics community—introduce basic concepts from a data-analytic perspective before presenting advanced methods. Throughout the text, numerous worked examples drawn from real applications and research emphasize the use of Bayesian inference in practice. New to the Third Edition Four new chapters on nonparametric modeling Coverage of weakly informative priors and boundary-avoiding priors Updated discussion of cross-validation and predictive information criteria Improved convergence monitoring and effective sample size calculations for iterative simulation Presentations of Hamiltonian Monte Carlo, variational Bayes, and expectation propagation New and revised software code The book can be used in three different ways. For undergraduate students, it introduces Bayesian inference starting from first principles. For graduate students, the text presents effective current approaches to Bayesian modeling and computation in statistics and related fields. For researchers, it provides an assortment of Bayesian methods in applied statistics. Additional materials, including data sets used in the examples, solutions to selected exercises, and software instructions, are available on the book's web page. **Credential Market Mass Schooling, Academic Power and the International Baccalaureate Diploma** Springer Nature This book makes an original contribution to credential sociology by analysing how high school certificates become and remain valuable in a context of mass high school participation (i.e. credentialism). Building on a detailed analysis of the International Baccalaureate (IB) Diploma, a senior secondary school certificate offered in over 150 countries, Quentin Maire argues that the advent of new private credentials can be understood as a phenomenon of credential stratification in a context of intensified academic competition. Using original data on high school credentials in Australia and internationally, the author makes a strong case for certificates to be studied relationally, by locating them in the credentialing structures in which they are inserted. He systematically applies the comparative method to explain the role of the curriculum, family resources, school segregation and higher education selection in creating a credential hierarchy. His robust combination of theoretical construction and detailed empirical work allows him to offer new insights into social inequality in education systems, credential theory and the IB Diploma. **Dynamics in Logistics** Proceedings of the 5th International Conference LDIC, 2016 Bremen, Germany Springer These proceedings contain research papers presented at the 5th International Conference on Dynamics in Logistics, held in Bremen, Germany, February 2016. The conference is concerned with dynamic aspects of logistic processes and networks. The spectrum of topics reaches from modeling, planning and control of processes over supply chain management and maritime logistics to innovative technologies and robotic applications for cyber-physical production and logistic systems. The growing dynamic confronts the area of logistics

with completely new challenges: it must become possible to describe, identify and analyze the process changes. Moreover, logistic processes and networks must be redesigned to be rapidly and flexibly adaptable to continuously changing conditions. The book primarily addresses researchers and practitioners from the field of industrial engineering and logistics, but it may also be beneficial for graduate students. **Proximal Algorithms Now Pub Proximal Algorithms** discusses proximal operators and proximal algorithms, and illustrates their applicability to standard and distributed convex optimization in general and many applications of recent interest in particular. Much like Newton's method is a standard tool for solving unconstrained smooth optimization problems of modest size, proximal algorithms can be viewed as an analogous tool for nonsmooth, constrained, large-scale, or distributed versions of these problems. They are very generally applicable, but are especially well-suited to problems of substantial recent interest involving large or high-dimensional datasets. Proximal methods sit at a higher level of abstraction than classical algorithms like Newton's method: the base operation is evaluating the proximal operator of a function, which itself involves solving a small convex optimization problem. These subproblems, which generalize the problem of projecting a point onto a convex set, often admit closed-form solutions or can be solved very quickly with standard or simple specialized methods. **Proximal Algorithms** discusses different interpretations of proximal operators and algorithms, looks at their connections to many other topics in optimization and applied mathematics, surveys some popular algorithms, and provides a large number of examples of proximal operators that commonly arise in practice. **Assessing and Evaluating Early Childhood Education Systems Springer Nature** This book provides global perspectives on assessment and evaluation practices with young children in contemporary times within early childhood education systems. It critiques and evaluates current evaluation and assessment goals and tools in early childhood settings. The book also compares the different approaches to educational evaluations from different countries in early childhood education and care. It provides insights into different approaches, techniques as well as perspectives of micro and macro-levels of analysis. This book aims to create an international understanding about the thematic conceptions of assessment for early childhood education and care. **Classical Mechanics and Quantum Mechanics: An Historic-Axiomatic Approach Bentham Science Publishers** This unique textbook presents a novel, axiomatic pedagogical path from classical to quantum physics. Readers are introduced to the description of classical mechanics, which rests on Euler's and Helmholtz's rather than Newton's or Hamilton's representations. Special attention is given to the common attributes rather than to the differences between classical and quantum mechanics. Readers will also learn about Schrödinger's forgotten demands on quantization, his equation, Einstein's idea of 'quantization as selection problem'. The Schrödinger equation is derived without any assumptions about the nature of quantum systems, such as interference and

superposition, or the existence of a quantum of action, h . The use of the classical expressions for the potential and kinetic energies within quantum physics is justified. Key features: · Presents extensive reference to original texts. · Includes many details that do not enter contemporary representations of classical mechanics, although these details are essential for understanding quantum physics. · Contains a simple level of mathematics which is seldom higher than that of the common (Riemannian) integral. · Brings information about important scientists · Carefully introduces basic equations, notations and quantities in simple steps This book addresses the needs of physics students, teachers and historians with its simple easy to understand presentation and comprehensive approach to both classical and quantum mechanics.. **Mathematical Analysis I Springer Science & Business Media** This work by Zorich on Mathematical Analysis constitutes a thorough first course in real analysis, leading from the most elementary facts about real numbers to such advanced topics as differential forms on manifolds, asymptotic methods, Fourier, Laplace, and Legendre transforms, and elliptic functions. **IJER Vol 25-N3 Rowman & Littlefield** The mission of the International Journal of Educational Reform (IJER) is to keep readers up-to-date with worldwide developments in education reform by providing scholarly information and practical analysis from recognized international authorities. As the only peer-reviewed scholarly publication that combines authors' voices without regard for the political affiliations perspectives, or research methodologies, IJER provides readers with a balanced view of all sides of the political and educational mainstream. To this end, IJER includes, but is not limited to, inquiry based and opinion pieces on developments in such areas as policy, administration, curriculum, instruction, law, and research. IJER should thus be of interest to professional educators with decision-making roles and policymakers at all levels turn since it provides a broad-based conversation between and among policymakers, practitioners, and academicians about reform goals, objectives, and methods for success throughout the world. Readers can call on IJER to learn from an international group of reform implementers by discovering what they can do that has actually worked. IJER can also help readers to understand the pitfalls of current reforms in order to avoid making similar mistakes. Finally, it is the mission of IJER to help readers to learn about key issues in school reform from movers and shakers who help to study and shape the power base directing educational reform in the U.S. and the world. **Inside the Black Box Raising Standards Through Classroom Assessment Granada Learning** Offers practical advice on using and improving assessment for learning in the classroom. **Information Modelling and Knowledge Bases XXIX IOS Press** Information modelling and knowledge bases have become ever more essential in recent years because of the need to handle and process the vast amounts of data which now form part of everyday life. The machine to machine communication of the Internet of Things (IoT), in particular, can generate unexpectedly large amounts of raw data. This book presents the proceedings of the 27th International Conference on

Information Modelling and Knowledge Bases (EJC2017), held in Krabi, Thailand, in June 2017. The EJC conferences originally began in 1982 as a co-operative initiative between Japan and Finland, but have since become a world-wide research forum bringing together researchers and practitioners in information modelling and knowledge bases for the exchange of scientific results and achievements. Of the 42 papers submitted, 29 were selected for publication here, and these cover a wide range of information-modelling topics, including the theory of concepts, semantic computing, data mining, context-based information retrieval, ontological technology, image databases, temporal and spatial databases, document data management, software engineering, cross-cultural computing, environmental analysis, social networks, and WWW information. The book will be of interest to all those whose work involves dealing with large amounts of data. Introduction to Random Graphs Cambridge University Press The text covers random graphs from the basic to the advanced, including numerous exercises and recommendations for further reading. Mostly Harmless Econometrics An Empiricist's Companion Princeton University Press In addition to econometric essentials, this book covers important new extensions as well as how to get standard errors right. The authors explain why fancier econometric techniques are typically unnecessary and even dangerous. Young People and the Future of News Social Media and the Rise of Connective Journalism Cambridge University Press This book examines youth media practices on social media, introducing the concept of connective journalism as a precursor to collective political action. Modeling and Simulation of Social-Behavioral Phenomena in Creative Societies First International EURO Mini Conference, MSBC 2019, Vilnius, Lithuania, September 18-20, 2019, Proceedings Springer Nature This volume constitutes the proceedings of the First International EURO Mini Conference on Modelling and Simulation of Social-Behavioural Phenomena in Creative Societies, MSBC 2019, held in Vilnius, Lithuania, in September 2019. The 8 full papers and 2 short papers presented were carefully reviewed and selected from 26 submissions. The papers are organized in the following topical sections: computational intelligence in social sciences; modeling and analysis of social-behavioral processes. Fundamentals of Mathematical Statistics Sultan Chand & Sons 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. 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. Lyapounov's Inequality
4. Holder's Inequality
5. Minkowski's Inequality
6. Double Expectation Rule or Double-E Rule and many others

Quantum Biological Information Theory Springer This book is a self-contained, tutorial-based introduction to quantum information theory and quantum biology. It serves as a single-source reference to the topic for researchers in bioengineering, communications engineering, electrical engineering, applied mathematics, biology, computer science, and physics. The book provides all the essential principles of the quantum biological information theory required to describe the quantum information transfer from DNA to proteins, the sources of genetic noise and genetic errors as well as their effects. Integrates quantum information and quantum biology concepts; Assumes only knowledge of basic concepts of vector algebra at undergraduate level; Provides a thorough introduction to basic concepts of quantum information processing, quantum information theory, and quantum biology; Includes in-depth discussion of the quantum biological channel modelling, quantum biological channel capacity calculation, quantum models of aging,

quantum models of evolution, quantum models on tumor and cancer development, quantum modeling of bird navigation compass, quantum aspects of photosynthesis, quantum biological error correction. **Advanced Problems in Mathematics Preparing for University** This new and expanded edition is intended to help candidates prepare for entrance examinations in mathematics and scientific subjects, including STEP (Sixth Term Examination Paper). STEP is an examination used by Cambridge Colleges for conditional offers in mathematics. They are also used by some other UK universities and many mathematics departments recommend that their applicants practice on the past papers even if they do not take the examination. **Advanced Problems in Mathematics** bridges the gap between school and university mathematics, and prepares students for an undergraduate mathematics course. The questions analysed in this book are all based on past STEP questions and each question is followed by a comment and a full solution. The comments direct the reader's attention to key points and put the question in its true mathematical context. The solutions point students to the methodology required to address advanced mathematical problems critically and independently. This book is a must read for any student wishing to apply to scientific subjects at university level and for anyone interested in advanced mathematics. This work was published by Saint Philip Street Press pursuant to a Creative Commons license permitting commercial use. All rights not granted by the work's license are retained by the author or authors.