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S9T63M - BARTLETT ZANDER

Temperature is the most often-measured environmental quantity and scientists are continuously improving ways of sensing it. To present their work in the field of temperature sensing, researchers from distant parts of the world have joined their efforts and contributed their ideas according to their interest and engagement. Their articles will give you the opportunity to understand concepts and uses of fiber-optic sensing technology. The optical fiber Mach-Zehnder interferometer for temperature sensing is presented, as well as the optical fiber-distributed temperature sensor and fiber Bragg grating-based sensor. You can learn about tunable diode laser absorption spectroscopy and its various in-

dustrial applications. Last but not least, cutting temperature measurements during the machining of aluminum alloys provides us with an insight into the correlation between cutting conditions, mechanical strength of the aluminum alloy, and the cutting temperature measured using the tool-workpiece thermocouple system. The editors hope that the presented contributions will allow both professionals and readers not involved in the immediate field to understand and enjoy the topic.

This book utilizes statistical techniques to define a quality of life (QoL) indicator combining the three dimensions of economy, health, and education. In turn, it uses modeling to assess the impact of energy consumption on 112 countries' QoL. What sets the proposed model apart from previous re-

search is its ability to distinguish between pre-developing, developing, and developed countries. One important aspect of this distinction is their different global energy policies and their priorities with regard to achieving sustainable energy consumption. Accordingly, the book also discusses eco-sufficiency, eco-efficiency, and energy poverty reduction for the three different types of countries. In turn, the book provides general information on how to reconcile sustainable energy consumption with QoL and economic development. Optimization programming technique and simulation are applied to measure potential energy saving in each country, without sacrificing economic progress, and while maintaining QoL. Given its scope, the book is highly recommended to the following audiences:

(1) readers seeking a state-of-the-art quantitative work on energy systems and QoL; (2) manufacturers and developers of renewable energy technologies who consider renewables as an option for mitigating energy poverty; and (3) international institutions such as the United Nations seeking a sustainable global energy strategy.

Mathscape 9 is designed for use by students completing Stage 4 and students ready for Stage 5.1 who wish to complete Stage 5.2 Mathematics by the end of Year 10. It is part of a series of 6 exciting books that responds to the NSW Board of Studies Mathematics 7-10 syllabus.

This book is based on the lectures and contributions of the NATO Advanced Study Institute on “Nanoscience and Nanotechnology in Security and Protection Against CBRN Threats” held in Sozopol, Bulgaria, September 2019. It gives a broad overview on this topic as it combines articles addressing the preparation and characterization of different nanoscaled materials (metals, oxides, glasses, polymers, carbon-based, etc.) in the form of nanowires, nanoparticles, nanocomposites, nanodots, thin films, etc. and con-

tributions on their applications in diverse security and safety related fields. In addition, it presents an interdisciplinary approach drawing on the Nanoscience and Nanotechnology know-how of authors from Physics, Chemistry, Engineering, Materials Science and Biology. A further plus-point of the book, which represents the knowledge of experts from over 20 countries, is the combination of longer papers introducing the background on a certain topic, and brief contributions highlighting specific applications in different security areas.

This textbook differs from others in the field in that it has been prepared very much with students and their needs in mind, having been classroom tested over many years. It is a true “learner’s book” made for students who require a deeper understanding of probability and statistics. It presents the fundamentals of the subject along with concepts of probabilistic modelling, and the process of model selection, verification and analysis. Furthermore, the inclusion of more than 100 examples and 200 exercises (carefully selected from a wide range of topics), along with a solutions manual for instructors, means that this text is of real value to students

and lecturers across a range of engineering disciplines. Key features: Presents the fundamentals in probability and statistics along with relevant applications. Explains the concept of probabilistic modelling and the process of model selection, verification and analysis. Definitions and theorems are carefully stated and topics rigorously treated. Includes a chapter on regression analysis. Covers design of experiments. Demonstrates practical problem solving throughout the book with numerous examples and exercises purposely selected from a variety of engineering fields. Includes an accompanying online Solutions Manual for instructors containing complete step-by-step solutions to all problems.

This 1958 book was primarily written to provide information on torsional vibration for the design and development departments of engineering companies, although it was also intended to serve students of the subject. It will be of value to anyone with an interest in torsional vibration and the development of engineering practice.

The challenge of population aging requires innovative approaches to meet the needs of increasing numbers of older people.

Emerging information and communication technologies (ICTs), such as pervasive computing and ambient assistive technology, have considerable potential for enhancing the quality of life of many older people by providing additional safety and security while also supporting mobility, independent living, and social participation. The proposed book will be a landmark publication in the area of technology and aging that will serve as a statement of the current state-of-the-art and as a pointer to directions for future research and emerging technologies, products, and services.

Field Manual (FM) 3-05.130, Army Special Operations Forces Unconventional Warfare, establishes keystone doctrine for Army special operations forces (ARSOF) operations in unconventional warfare (UW). It is based on lessons learned from both historical and contemporary UW operations. It is also based on existing, long-standing Army Special Forces (SF) UW doctrine; recently developed doctrine, such as counterinsurgency (COIN); and emerging affiliated concepts, such as irregular warfare (IW).

Accompanying CD-ROM contains a PDF version of the book as well as supplementary

material such as photocopies and overheads for classroom use.

This instructor's manual was designed to help graduates of the California Bus Driver Instructor Course provide effective instruction to school bus driver trainees. It contains enough material for 20-30 hours of classroom training. The information is organized in 12 instructional units that cover the following topics: introduction to the course; driver's license and special certificate requirements; bus operation, use, laws, and regulations; vehicle components; general defensive driving techniques; specialized defensive driving techniques; passenger loading and unloading; emergency procedures; passenger management; activity trips; the special needs passenger; and public and community relations. Each unit includes an outline of the lesson plans in it, notes to the instructor, content information, handouts, and pretests and unit test. A final unit of the guide provides additional information for the instructor on teaching the course, such as materials needed to conduct classes, classroom arrangement, lesson planning and teaching techniques, and tests and an-

swer keys. (KC)

Petroleum engineering now has its own true classic handbook that reflects the profession's status as a mature major engineering discipline. Formerly titled the Practical Petroleum Engineer's Handbook, by Joseph Zaba and W.T. Doherty (editors), this new, completely updated two-volume set is expanded and revised to give petroleum engineers a comprehensive source of industry standards and engineering practices. It is packed with the key, practical information and data that petroleum engineers rely upon daily. The result of a fifteen-year effort, this handbook covers the gamut of oil and gas engineering topics to provide a reliable source of engineering and reference information for analyzing and solving problems. It also reflects the growing role of natural gas in industrial development by integrating natural gas topics throughout both volumes. More than a dozen leading industry experts-academia and industry-contributed to this two-volume set to provide the best, most comprehensive source of petroleum engineering information available.

Fundamentals of Artificial Intelligence introduces the foundations of present day AI

and provides coverage to recent developments in AI such as Constraint Satisfaction Problems, Adversarial Search and Game Theory, Statistical Learning Theory, Automated Planning, Intelligent Agents, Information Retrieval, Natural Language & Speech Processing, and Machine Vision. The book features a wealth of examples and illustrations, and practical approaches along with the theoretical concepts. It covers all major areas of AI in the domain of recent developments. The book is intended primarily for students who major in computer science at undergraduate and graduate level but will also be of interest as a foundation to researchers in the area of AI.

Working Guide to Drilling Equipment and Operations offers a practical guide to drilling technologies and procedures. The book begins by introducing basic concepts such as the functions of drilling muds; types of drilling fluids; testing of drilling systems; and completion and workover fluids. This is followed by discussions of the composition of the drill string; air and gas drilling operations; and directional drilling. The book identifies the factors that should be considered for optimized drilling

operations: health, safety, and environment; production capability; and drilling implementation. It explains how to control well pressure. It details the process of fishing, i.e. removal of a fish (part of the drill string that separates from the upper remaining portion of the drill string) or junk (small items of non-drillable metals) from the borehole. The remaining chapters cover the different types of casing and casing string design; well cementing; the proper design of tubing; and the environmental aspects of drilling. **Drilling and Production Hoisting Equipment Hoisting Tool Inspection and Maintenance Procedures Pump Performance Charts Rotary Table and Bushings Rig Maintenance of Drill Collars Drilling Bits and Downhole Tools**

Build your electronics workbench—and begin creating fun electronics projects right away Packed with hundreds of diagrams and photographs, this book provides step-by-step instructions for experiments that show you how electronic components work, advice on choosing and using essential tools, and exciting projects you can build in 30 minutes or less. You'll get charged up as you transform theory into action in chapter after chapter! **Circuit ba-**

sics — learn what voltage is, where current flows (and doesn't flow), and how power is used in a circuit **Critical components — discover how resistors, capacitors, inductors, diodes, and transistors control and shape electric current** **Versatile chips — find out how to use analog and digital integrated circuits to build complex projects with just a few parts** **Analyze circuits — understand the rules that govern current and voltage and learn how to apply them** **Safety tips — get a thorough grounding in how to protect yourself—and your electronics—from harm** P.S. If you think this book seems familiar, you're probably right. The Dummies team updated the cover and design to give the book a fresh feel, but the content is the same as the previous release of **Electronics For Dummies (9781119117971)**. The book you see here shouldn't be considered a new or updated product. But if you're in the mood to learn something new, check out some of our other books. We're always writing about new topics!

EXPAND YOUR VOCABULARY--FOR BETTER TEST SCORES AND BETTER COMMUNICATION You probably can't learn all the hundreds of thousands of words in the English

language—but you can learn those difficult words you're most likely to need to know. If you want to increase your vocabulary for standardized tests or just better communication, Webster's New World Essential Vocabulary is the only tool you need. It presents essential words with definitions, example sentences, synonyms, and tense forms. In addition to the most frequently tested terms from the SAT and GRE tests, Webster's New World Essential Vocabulary also includes helpful appendices on foreign phrases, prefixes, and suffixes. Together, these 1,500 words and definitions not only prepare you for tough tests, but also dramatically improve your communication skills for the business world or studying English as a second language. Whether you're worried about college entrance exams or just want to be better with words, this practical, helpful resource gives you the tools you need to read, speak, and write more persuasively, and communicate more effectively. Plus, Handy self-tests let you gauge your understanding of words and meaning, so you can measure your progress as you go!

A series of titles written to cover the com-

plete Cambridge IGCSE Mathematics (0580) syllabus and endorsed by Cambridge International Examinations. Cambridge IGCSE Mathematics Extended Practice Book offers a wealth of questions, with hints and tips along the way to reinforce skills and learning. It provides comprehensive and targeted exercises ensuring plenty of practice both for the classroom and for independent learning. With concise reminders at the start of each topic, and hints in the margin, it is designed to work as a stand alone practice tool that will successfully accompany any IGCSE mathematics textbook. Those using the Cambridge Coursebook will find this a complementary asset with extra questions. For additional exam practice, access to full exam-style papers is also available.

This handbook reveals the techniques and tactics that make the U.S. Army Special Forces some of the most elite and highly skilled soldiers in the world. Trained to succeed in specialized operations such as reconnaissance, unconventional warfare, and counter-terrorism, these soldiers undergo a rigorous selection process and operate under the principles of self-sufficiency, stealth, speed, and teamwork. Here

readers will discover how guerrilla forces differ from special forces and how unconventional warfare relates to both; how to conduct a raid; how to improvise explosive devices; and how special forces carry out air operations.

This comprehensive book helps you learn the 92 basic Kana characters and 2,136 standard Kanji characters. Complete, compact and authoritative—this Japanese language book provides all the information needed to learn kanji and kana, including the 92 basic hiragana and katakana phonetic symbols (known collectively as Japanese Kana) and the 2,136 standard Joyo Kanji characters that every Japanese person learns in school. This new and completely revised edition reflects recent changes made to the official Joyo kanji list by the Japanese government. The kana and kanji are presented in an easy and systematic way that helps you learn them quickly and retain what you have learned and improve your mastery of the Japanese language. The ability to read Japanese and write Japanese is an essential skill for any student and will build on their previous knowledge and improve on their overall capacity to learn Japanese. A concise index

allows you to look up the Kanji in three different ways (so the book also serves as a Japanese Kanji dictionary) and extra spaces are provided to allow you to practice writing Japanese. Japanese Kanji and Kana contains: All 2,136 official Joyo kanji with readings and definitions. Characters are graded by their JLPT examination levels. Up to 5 useful vocabulary compounds for each kanji. Brush and pen cursive forms as well as printed forms. 19 tables summarizing key information about the characters. Kanji look-up indexes by radicals, stroke counts and readings.

An introductory text book for graduates and advanced undergraduates on group representation theory. It emphasizes group theory's role as the mathematical framework for describing symmetry properties of classical and quantum mechanical systems. Familiarity with basic group concepts and techniques is invaluable in the education of a modern-day physicist. This book emphasizes general features and methods which demonstrate the power of the group-theoretical approach in exposing the systematics of physical systems with associated symmetry. Particular atten-

tion is given to pedagogy. In developing the theory, clarity in presenting the main ideas and consequences is given the same priority as comprehensiveness and strict rigor. To preserve the integrity of the mathematics, enough technical information is included in the appendices to make the book almost self-contained. A set of problems and solutions has been published in a separate booklet.

The definitive international history of one of the world's most successful rally cars. Covers every Lancer model - including all special editions, and Dodge, Colt, Plymouth, Valiant, Eagle, Proton and Hyundai variants - from 1973 to date. Includes a Foreword by Shinichi Kurihara, Mitsubishi's Evo team leader.

This work has been selected by scholars as being culturally important and is part of the knowledge base of civilization as we know it. This work is in the public domain in the United States of America, and possibly other nations. Within the United States, you may freely copy and distribute this work, as no entity (individual or corporate) has a copyright on the body of the work. Scholars believe, and we concur, that this work is important enough to be

preserved, reproduced, and made generally available to the public. To ensure a quality reading experience, this work has been proofread and republished using a format that seamlessly blends the original graphical elements with text in an easy-to-read typeface. We appreciate your support of the preservation process, and thank you for being an important part of keeping this knowledge alive and relevant.

Assuming no prior knowledge of plumbing skills, Steve Muscroft - the author of the 6129 Certificate in Basic Plumbing from City & Guilds - takes the reader step by step through the requirements of the 6129 qualification at level 2.

Presenting theory while using Mathematica in a complementary way, *Modern Differential Geometry of Curves and Surfaces with Mathematica*, the third edition of Alfred Gray's famous textbook, covers how to define and compute standard geometric functions using Mathematica for constructing new curves and surfaces from existing ones. Since Gray's death, authors Abbena and Salamon have stepped in to bring the book up to date. While maintaining Gray's intuitive approach, they reorganized the

material to provide a clearer division between the text and the Mathematica code and added a Mathematica notebook as an appendix to each chapter. They also address important new topics, such as quaternions. The approach of this book is at times more computational than is usual for a book on the subject. For example, Brioshi's formula for the Gaussian curvature in terms of the first fundamental form can be too complicated for use in hand calculations, but Mathematica handles it easily, either through computations or through graphing curvature. Another part of Mathematica that can be used effectively in differential geometry is its special function library, where nonstandard spaces of constant curvature can be defined in terms of elliptic functions and then plotted. Using the techniques described in this book, readers will understand concepts geometrically, plotting curves and surfaces on a monitor and then printing them. Containing more than 300 illustrations, the book demonstrates how to use Mathematica to plot many interesting curves and surfaces. Including as many topics of the classical differential geometry and surfaces as possible, it highlights important theorems with

many examples. It includes 300 miniprograms for computing and plotting various geometric objects, alleviating the drudgery of computing things such as the curvature and torsion of a curve in space.

This volume focuses on the practical application of processes for manufacturing plastic products. It includes information on design for manufacturability (DFM), material selection, process selection, dies, molds, and tooling, extrusion, injection molding, blow molding, thermoforming, lamination, rotational molding, casting, foam processing, compression and transfer molding, fiber reinforced processing, assembly and fabrication, quality, plant engineering and maintenance, management.

Disability-inclusive development is an essential condition for a sustainable future. In 2015, the United Nations adopted the 2030 Agenda for Sustainable Development, pledging to leave no one behind in the global efforts to realize the 17 Sustainable Development Goals. Without the world's one billion persons with disabilities - 15% of the world population - being included as both agents and beneficiaries of development, these Goals will never be

achieved. Yet, persons with disabilities are still invisible and often left behind. This United Nations flagship report is the first publication to address, at the global level, the nexus between disability and the Sustainable Development Goals. It is also the first global analysis based on an unprecedented amount of data, legislation and policies from over 100 countries to understand the socio-economic circumstances of persons with disabilities and the challenges and barriers they face in their daily lives. This report examines new areas, like the role of access to energy to enable persons with disabilities to use assistive technology, for which no global research was previously available. And explores the linkages between the Sustainable Development Goals and the Convention on the Rights of Persons with Disabilities as well as other international relevant norms and standards relating to disability. Against the backdrop of all the available evidence, the report identifies good practices and recommends urgent actions to be taken for the achievement of the Sustainable Development Goals by, for and with persons with disabilities. The e-book for this publication has been converted into an accessible for-

mat for the visually impaired and people with print reading disabilities. It is fully compatible with leading screen-reader technologies such as JAWS and NVDA.

This volume, and its companion, *Industrial Technology Development in Malaysia*, examine and evaluate Malaysian industrialization in terms of its experience of and prospects for industrial technology development. The focus is on role played by state-sponsored innovation in the process economic development and in the context of national development strategies. *Technology, Competitiveness and the State*, provides a valuable analysis of the technological development of a Newly Industrializing Country and reflects on whether existing development strategies can be maintained in the wake of the financial crises sweeping the East Asian economies.

This book is the first in a set of forthcoming books focussed on state-of-the-art development in the VLSI Signal Processing area. It is a response to the tremendous research activities taking place in that field. These activities have been driven by two factors: the dramatic increase in demand for high speed signal processing, especially in consumer electronics, and the evolving microelectronic technologies. The available technology has always been one of the main factors in determining algorithms, architectures, and design strategies to be followed. With every new technology, signal processing systems go through many changes in concepts, design methods, and implementation. The goal of this book is to introduce the reader to the main features of VLSI Signal Processing

and the ongoing developments in this area. The focus of this book is on:

- Current developments in Digital Signal Processing (DSP) processors and architectures - several examples and case studies of existing DSP chips are discussed in Chapter 1.
- Features and requirements of image and video signal processing architectures - both applications specific integrated circuits (ASICs) and programmable image processors are studied in Chapter 2.
- New market areas for signal processing - especially in consumer electronics such as multimedia, teleconferencing, and movie on demand.
- Impact of arithmetic circuitry on the performance of DSP processors - several topics are discussed in Chapter 3 such as: number representation, arithmetic algorithms and circuits, and implementation.