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You may not be perplexed to enjoy all books collections Mass Transfer Binay K Dutta Solution Manual Tadila that we will totally offer. It is not approaching the costs. Its not quite what you compulsion currently. This Mass Transfer Binay K Dutta Solution Manual Tadila, as one of the most enthusiastic sellers here will utterly be in the middle of the best options to review.

This book, first published in 2005, introduces measure and integration theory as it is needed in many parts of analysis and probability. Providing a foundation in heat and mass transport, this book

covers engineering principles of heat and mass transfer. The author discusses biological content, context, and parameter regimes and supplies practical applications for biological and biomedical engineering, industrial food processing, environmental control, and waste management. The book contains end-of-chapter problems and sections highlighting key concepts and important terminology It offers cross-references for easy access to related areas and relevant formulas, as well as detailed examples of transport phenomena, and descriptions of physical processes. It covers mechanisms of diffusion,

capillarity, convection, and dispersion. Full of features and applications, this acclaimed textbook for upper undergraduate level and graduate level students includes all the major topics of computational linear algebra, including solution of a system of linear equations, least-squares solutions of linear systems, computation of eigenvalues, eigenvectors, and singular value problems. Drawing from numerous disciplines of science and engineering, the author covers a variety of motivating applications. When a physical problem is posed, the scientific and engineering significance of the solution is clearly stated.

Each chapter contains a summary of the important concepts developed in that chapter, suggestions for further reading, and numerous exercises, both theoretical and MATLAB and MATCOM based. The author also provides a list of key words for quick reference. The MATLAB toolkit available online, 'MATCOM', contains implementations of the major algorithms in the book and will enable students to study different algorithms for the same problem, comparing efficiency, stability, and accuracy. Includes Part 1, Number 2: Books and Pamphlets, Including Serials and Contributions to Periodicals July - December)

Thoroughly up-to-date and packed with real world examples that apply concepts to engineering practice, HEAT AND MASS TRANSFER, 2e, presents the fundamental concepts of heat and mass transfer, demonstrating their complementary nature in engineering applications. Comprehensive, yet more concise than other books for the course, the Second Edition provides a solid introduction to the scientific, mathematical, and empirical methods for treating heat and mass transfer phenomena, along with the tools needed to assess and solve a variety of contemporary engineering problems. Practical guidance throughout

helps students learn to anticipate the reasonable answers for a particular system or process and understand that there is often more than one way to solve a particular problem. Especially strong coverage of radiation view factors sets the book apart from other texts available for the course, while a new emphasis on renewable energy and energy efficiency prepares students for engineering practice in the 21st century. Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version. For undergraduate and MBA-level Enterprise Systems

courses. An approach to understanding and implementing ERP systems for success in today's organizations. Motiwalla teaches students the components of an ERP system, and the process of implementing ERP systems within a corporation to increase the overall success of the organization. This text also places major importance on the strategic role of ERP systems in providing a platform for improved business operations and productivity. The second edition reflects the nature of today's enterprise systems. Provides a theoretical basis of various practical in a lucid manner at graduate and

postgraduate levels. This includes Immunology, Microbiology, Animal Cell Culture, Biochemical Techniques, Separation and Analytical Techniques, Haematology, and Physiology. The methods are detailed completely in a step-by-step format that allows the students to perform experiments without reference to any secondary source. The reagents and chemicals are specified with exact methods of preparation so that no further calculations are necessary. The book contains several relevant figures, flow diagrams and charts to aid the students. Bernard Rosner's FUNDAMENTALS OF

BIostatistics is a practical introduction to the methods, techniques, and computation of statistics with human subjects. It prepares students for their future courses and careers by introducing the statistical methods most often used in medical literature. Rosner minimizes the amount of mathematical formulation (algebra-based) while still giving complete explanations of all the important concepts. As in previous editions, a major strength of this book is that every new concept is developed systematically through completely worked out examples from current medical research problems. Most methods are illustrated with

specific instructions as to implementation using software either from SAS, Stata, R, Excel or Minitab. Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version. Ariel Rubinstein's well-known lecture notes on microeconomics—now fully revised and expanded This book presents Ariel Rubinstein's lecture notes for the first part of his well-known graduate course in microeconomics. Developed during the fifteen years that Rubinstein taught the course at Tel Aviv University, Princeton University, and New York

University, these notes provide a critical assessment of models of rational economic agents, and are an invaluable supplement to any primary textbook in microeconomic theory. In this fully revised and expanded second edition, Rubinstein retains the striking originality and deep simplicity that characterize his famously engaging style of teaching. He presents these lecture notes with a precision that gets to the core of the material, and he places special emphasis on the interpretation of key concepts. Rubinstein brings this concise book thoroughly up to date, covering topics like modern choice theory and including dozens of original new

problems. Written by one of the world's most respected and provocative economic theorists, this second edition of Lecture Notes in Microeconomic Theory is essential reading for students, teachers, and research economists. Fully revised, expanded, and updated Retains the engaging style and method of Rubinstein's well-known lectures Covers topics like modern choice theory Features numerous original new problems—including 21 new review problems Solutions manual (available only to teachers) can be found at: <http://gametheory.tau.ac.il/microTheory/>. Covers techniques and theory in the field, for students in degree courses for

instrumentation/control, mechanical manufacturing, engineering, and applied physics. Three sections discuss system performance under static and dynamic conditions, principles of signal conditioning and data presentation, and applications. This third edition incorporates recent developments in computing, solid-state electronics, and optoelectronics. Includes problems and bandw diagrams. Annotation copyright by Book News, Inc., Portland, OR This textbook is targeted to undergraduate students in chemical engineering, chemical technology, and biochemical engineering for courses in

mass transfer, separation processes, transport processes, and unit operations. The principles of mass transfer, both diffusional and convective have been comprehensively discussed. The application of these principles to separation processes is explained. The more common separation processes used in the chemical industries are individually described in separate chapters. The book also provides a good understanding of the construction, the operating principles, and the selection criteria of separation equipment. Recent developments in equipment have been included as far as possible. The procedure of

equipment design and sizing has been illustrated by simple examples. An overview of different applications and aspects of membrane separation has also been provided. 'Humidification and water cooling', necessary in every process industry, is also described. Finally, elementary principles of 'unsteady state diffusion' and mass transfer accompanied by a chemical reaction are covered. SALIENT FEATURES : • A balanced coverage of theoretical principles and applications. • Important recent developments in mass transfer equipment and practice are included. • A large number of solved problems of varying levels of complexities



showing the applications of the theory are included. • Many end-chapter exercises. • Chapter-wise multiple choice questions. • An Instructors manual for the teachers. This book presents the conceptual framework underlying the atomistic theory of matter, emphasizing those aspects that relate to current flow. This includes some of the most advanced concepts of non-equilibrium quantum statistical mechanics. No prior acquaintance with quantum mechanics is assumed. Chapter 1 provides a description of quantum transport in elementary terms accessible to a beginner. The book then works its way from hydrogen to

nanostructures, with extensive coverage of current flow. The final chapter summarizes the equations for quantum transport with illustrative examples showing how conductors evolve from the atomic to the ohmic regime as they get larger. Many numerical examples are used to provide concrete illustrations and the corresponding Matlab codes can be downloaded from the web. Videostreamed lectures, keyed to specific sections of the book, are also available through the web. This book is primarily aimed at senior and graduate students. With the inclusion of applications of singular value decomposition (SVD) and

principal component analysis (PCA) to image compression and data analysis, this edition provides a strong foundation of linear algebra needed for a higher study in signal processing. The use of MATLAB in the study of linear algebra for a variety of computational purposes and the programmes provided in this text are the most attractive features of this book which strikingly distinguishes it from the existing linear algebra books needed as pre-requisites for the study of engineering subjects. This book is highly suitable for undergraduate as well as postgraduate students of mathematics, statistics, and all engineering disciplines. The

book will also be useful to Ph.D. students for relevant mathematical resources. NEW TO THIS EDITION The Third Edition of this book includes:

- Simultaneous diagonalization of two diagonalizable matrices
- Comprehensive exposition of SVD with applications in shear analysis in engineering
- Polar Decomposition of a matrix
- Numerical experimentation with a colour and a black-and-white image compression using MATLAB
- PCA methods of data analysis and image compression with a list of MATLAB codes

Concise and easy to read, this popular manual has provided a practical approach to the diagnosis and medical

management of problems in the newborn through seven outstanding editions. The Eighth Edition of Cloherty and Stark's Manual of Neonatal Care maintains that tradition of excellence, offering NICU physicians, neonatal-perinatal fellows, residents, and neonatal nurse practitioners quick access to key clinical information, fully updated to reflect recent advances in the field. Written in an easy-access outline format, this extensively revised edition covers current, practical approaches to the evaluation and management of routine and complex conditions encountered in the fetus and the newborn. An introduction to the engineering principles of

embedded systems, with a focus on modeling, design, and analysis of cyber-physical systems. The most visible use of computers and software is processing information for human consumption. The vast majority of computers in use, however, are much less visible. They run the engine, brakes, seatbelts, airbag, and audio system in your car. They digitally encode your voice and construct a radio signal to send it from your cell phone to a base station. They command robots on a factory floor, power generation in a power plant, processes in a chemical plant, and traffic lights in a city. These less visible computers are called embedded systems,

and the software they run is called embedded software. The principal challenges in designing and analyzing embedded systems stem from their interaction with physical processes. This book takes a cyber-physical approach to embedded systems, introducing the engineering concepts underlying embedded systems as a technology and as a subject of study. The focus is on modeling, design, and analysis of cyber-physical systems, which integrate computation, networking, and physical processes. The second edition offers two new chapters, several new exercises, and other improvements. The book can be

used as a textbook at the advanced undergraduate or introductory graduate level and as a professional reference for practicing engineers and computer scientists. Readers should have some familiarity with machine structures, computer programming, basic discrete mathematics and algorithms, and signals and systems. This volume has been developed as a step-by-step guide for professionals involved in designing, implementing, monitoring and evaluating developmental interventions. It introduces and elucidates the key concepts and procedures involved, starting from the fundamentals of project design and management, the basics of

monitoring and evaluation, and the development of a performance monitoring plan to different approaches to monitoring, choosing appropriate evaluation designs, approaches to evaluation, the analysis of monitoring and evaluation, and finally implementing this information in a project environment. In order to provide further context, the manual uses real project examples which help in buttressing the understanding of the readers and enable adoption of these practices in such projects. Game theory has become increasingly popular among undergraduate as well as business school students. This text is the first to

provide both a complete theoretical treatment of the subject and a variety of real-world applications, primarily in economics, but also in business, political science, and the law. Game theory has become increasingly popular among undergraduate as well as business school students. This text is the first to provide both a complete theoretical treatment of the subject and a variety of real-world applications, primarily in economics, but also in business, political science, and the law. Strategies and Games grew out of Prajit Dutta's experience teaching a course in game theory over the last six years at Columbia

University. The book is divided into three parts: Strategic Form Games and Their Applications, Extensive Form Games and Their Applications, and Asymmetric Information Games and Their Applications. The theoretical topics include dominance solutions, Nash equilibrium, backward induction, subgame perfect equilibrium, repeated games, dynamic games, Bayes-Nash equilibrium, mechanism design, auction theory, and signaling. An appendix presents a thorough discussion of single-agent decision theory, as well as the optimization and probability theory required for the course. Every chapter that introduces a new theoretical

concept opens with examples and ends with a case study. Case studies include Global Warming and the Internet, Poison Pills, Treasury Bill Auctions, and Final Jeopardy. Each part of the book also contains several chapter-length applications including Bankruptcy Law, the NASDAQ market, OPEC, and the Commons problem. This is also the first text to provide a detailed analysis of dynamic strategic interaction. Tomorrow's nanoscientist will have a truly interdisciplinary and nano-centric education, rather than, for example, a degree in chemistry with a specialization in nanoscience. For this to happen, the field

needs a truly focused and dedicated textbook. This full-color masterwork is such a textbook. It introduces the nanoscale along with the societal impacts of nanoscience, then presents an overview of characterization and fabrication methods. The authors systematically discuss the chemistry, physics, and biology aspects of nanoscience, providing a complete picture of the challenges, opportunities, and inspirations posed by each facet before giving a brief glimpse at nanoscience in action: nanotechnology. This book is written to provide a companion volume to Fundamentals of Nanotechnology. The two

companion volumes are also available bound together in the single volume, Introduction to Nanoscience and Nanotechnology Qualifying instructors who purchase either of these volumes (or the combined set) are given online access to a wealth of instructional materials. These include detailed lecture notes, review summaries, slides, exercises, and more. The authors provide enough material for both one- and two-semester courses. Optimization is used to determine the most appropriate value of variables under given conditions. The primary focus of using optimisation techniques is to measure the maximum or

minimum value of a function depending on the circumstances. This book discusses problem formulation and problem solving with the help of algorithms such as secant method, quasi-Newton method, linear programming and dynamic programming. It also explains important chemical processes such as fluid flow systems, heat exchangers, chemical reactors and distillation systems using solved examples. The book begins by explaining the fundamental concepts followed by an elucidation of various modern techniques including trust-region methods, Levenberg-Marquardt algorithms, stochastic

optimization, simulated annealing and statistical optimization. It studies the multi-objective optimization technique and its applications in chemical engineering and also discusses the theory and applications of various optimization software tools including LINGO, MATLAB, MINITAB and GAMS. This Festschrift dedicated to the 60th birth anniversary of Prof. Sandip K. Chakrabarti, a well-known Indian astrophysicist, presents a collection of contributions by about fifty scientists who work on diverse topics in contemporary astrophysics and space science including new and low-cost balloon borne experiments,

planetary science, astrochemistry and the origin of life, ionospheric research and earthquake predictions, relativistic astrophysics around black holes, and finally, the observational signatures and radiative properties of compact objects. All the authors are well known scholars in their respective subject and are all PhD students of Prof. Sandip K. Chakrabarti. The book demonstrates a two-dimensional evolution of research areas triggered by Sandip Chakrabarti over the past few decades. The first dimension represents the evolution and diversification of Chakrabarti's own research in which new students were

trained. A second dimension arises from the evolution of the research topics pursued by Chakrabarti's fifty odd doctoral students, many of whom have become renowned scientists in their own right, after starting with a certain subject under Chakrabarti and then migrating to completely new subjects with dexterity. The editors have compiled and edited the articles appropriately to some extent to suit the spirit of this Festschrift on the one hand and to keep balance in diverse topics on the other. Thus this volume also provides an overview for whosoever wishes to enter the important subjects of compact objects, astrochemistry, ionospheric

science or space exploration in near space. New graduates, PhD scholars, teachers and researchers will benefit from this volume. Moreover it is a record of tremendous success of a school in a range of vast topics. This substantially revised text represents a broader based biological engineering title. It includes medicine and other applications that are desired in curricula supported by the American Society of Agricultural and Biological Engineers, as well as many bioengineering departments in both U.S. and worldwide departments. This new edition will focus The biology, biotechnology, chemistry,

pharmacy and chemical engineering students at various universtiy and engineering institutions are required to take the Biochemical Engineering course either as an elective or compulsory subject. This book is written keeping in mind the need for a text book on afore subject for students from both engineering and biology backgrounds. The main feature of this book is that it contains the solved problems, which help the students to understand the subject better. The book is divided into three sections: Enzyme mediated bioprocess, whole cell mediated bioprocess and the engineering principle in bioprocess. Dr. Rajiv Dutta is

Professor in Biotechnology and Director, Amity Institute of Biotechnology, Lucknow. He earned his M. Tech. in Biotechnology and Engineering from the Department of Chemical Engineering, IIT, Kharagpur and Ph.D. in Bioelectronics from BITS, Pilani. He has taught Biochemical Engineering and Biophysics to B.E., M.E. and M.Sc. level student carried out advanced research in the area of Ion channels at the Department of Botany at Oklahoma State University, Stillwater and Department of Biological Sciences at Purdue University, West Lafayette, IN. He also holds the position of Nanion Technologies Adjunct

Research Professor at Research Triangle Institute, RTP, NC. He had received various awards including JCI Outstanding Young Person of India and ISBEM Dr. Ramesh Gulrajani Memorial Award 2006 for outstanding research in electro physiology. The definitive introduction to game theory This comprehensive textbook introduces readers to the principal ideas and applications of game theory, in a style that combines rigor with accessibility. Steven Tadelis begins with a concise description of rational decision making, and goes on to discuss strategic and extensive form games with complete information, Bayesian games,

and extensive form games with imperfect information. He covers a host of topics, including multistage and repeated games, bargaining theory, auctions, rent-seeking games, mechanism design, signaling games, reputation building, and information transmission games. Unlike other books on game theory, this one begins with the idea of rationality and explores its implications for multiperson decision problems through concepts like dominated strategies and rationalizability. Only then does it present the subject of Nash equilibrium and its derivatives. Game Theory is the ideal textbook for advanced undergraduate and

beginning graduate students. Throughout, concepts and methods are explained using real-world examples backed by precise analytic material. The book features many important applications to economics and political science, as well as numerous exercises that focus on how to formalize informal situations and then analyze them. Introduces the core ideas and applications of game theory Covers static and dynamic games, with complete and incomplete information Features a variety of examples, applications, and exercises Topics include repeated games, bargaining, auctions, signaling, reputation, and information transmission Ideal for



advanced undergraduate and beginning graduate students Complete solutions available to teachers and selected solutions available to students This book on game theory introduces and develops the key concepts with a minimum of mathematics. Students are presented with empirical evidence, anecdotes and strategic situations to help them apply theory and gain a genuine insight into human behaviour. The book provides a diverse collection of examples and scenarios from history, literature, sports, crime, theology, war, biology, and everyday life. These examples come with rich context that adds real-world meat to the skeleton of theory. Each

chapter begins with a specific strategic situation and is followed with a systematic treatment that gradually builds understanding of the concept. Now reissued by Cambridge University Press, this sixth edition covers the fundamentals of aerodynamics using clear explanations and real-world examples. Aerodynamics concept boxes throughout showcase real-world applications, chapter objectives provide readers with a better understanding of the goal of each chapter and highlight the key 'take-home' concepts, and example problems aid understanding of how to apply core concepts. Coverage also includes the

importance of aerodynamics to aircraft performance, applications of potential flow theory to aerodynamics, high-lift military airfoils, subsonic compressible transformations, and the distinguishing characteristics of hypersonic flow. Supported online by a solutions manual for instructors, MATLAB® files for example problems, and lecture slides for most chapters, this is an ideal textbook for undergraduates taking introductory courses in aerodynamics, and for graduates taking preparatory courses in aerodynamics before progressing to more advanced study. The first edition, published in 1973, has become

a classic reference in the field. Now with the second edition, readers will find information on key new topics such as neural networks and statistical pattern recognition, the theory of machine learning, and the theory of invariances. Also included are worked examples, comparisons between different methods, extensive graphics, expanded exercises and computer project topics. An Instructor's Manual presenting detailed solutions to all the problems in the book is available from the Wiley editorial department. *Mathematical Methods in Chemical and Biological Engineering* describes basic to moderately advanced

mathematical techniques useful for shaping the model-based analysis of chemical and biological engineering systems. Covering an ideal balance of basic mathematical principles and applications to physico-chemical problems, this book presents examples drawn from recent scientific and technical literature on chemical engineering, biological and biomedical engineering, food processing, and a variety of diffusional problems to demonstrate the real-world value of the mathematical methods. Emphasis is placed on the background and physical understanding of the problems to prepare students for future challenging and

innovative applications. The book is subdivided into seven sections this encompass: general procedures, like methods of pipetting, solution preparation, buffers and principles of common analytical instruments essential for laboratory biotechnology experiments. The book also includes working with nucleic acid, bacteria, enzymes, proteins; cloning experiments and a few protocols on plant biotechnology. Emphasis have been given on DNA/RNA isolation from various sources, use of restriction enzymes, ligation techniques, cloning protocols, screening of transformed cells, various electrophoresis techniques,

PCR protocol, etc. The appendices in the last part are included to provide information important to the study of the above-mentioned practical as a whole. The book will be useful to students belonging to Biotechnology, agriculture and allied fields. The idea behind this practical manual was thus to provide theoretical basis of the practical study items to be undertaken in the laboratory in a lucid manner. This ninth edition has been fully revised to provide clinicians and trainees with the latest information and developments in the field of obstetrics. Beginning with discussion on female reproductive anatomy, physiological changes in

pregnancy, the foetus, placenta and foetal membranes, the following chapters explain antenatal care and normal labour. The following sections cover the diagnosis and management of numerous disorders and complications that may occur during pregnancy and in labour. A complete chapter is dedicated to imaging, amniocentesis and clinical tests, and the final section presents photographs of instruments, specimens, sonograms, MR images, and drugs. The book provides guidelines from different professional and academic organisations including RCOG, ACOG, WHO, FIGO, NICHD, CDC, and NICE. Summary

tables, algorithms, boxes, flowcharts and 'key points' are given in each chapter to assist revision. Key points Fully revised, new edition presenting latest developments in the field of obstetrics Highly illustrated with clinical photographs and learning tools Provides guidelines from various professional and academic organisations Previous edition (9789351527237) published in 2015 This textbook is intended for courses in heat transfer for undergraduates, not only in chemical engineering and related disciplines of biochemical engineering and chemical technology, but also in mechanical engineering and production engineering. The

author provides the reader with a very thorough account of the fundamental principles and their applications to engineering practice, including a survey of the recent developments in heat transfer equipment. The three basic modes of heat transfer - conduction, convection and radiation - have been comprehensively analyzed and elucidated by solving a wide range of practical and design-oriented problems. A whole chapter has been devoted to explain the concept of the heat transfer coefficient to give a feel of its importance in tackling problems of convective heat transfer. The use of the important heat transfer

correlations has been illustrated with carefully selected examples. The Definitive, Fully Updated Guide to Separation Process Engineering-Now with a Thorough Introduction to Mass Transfer Analysis Separation Process Engineering, Third Edition, is the most comprehensive, accessible guide available on modern separation processes and the fundamentals of mass transfer. Phillip C. Wankat teaches each key concept through detailed, realistic examples using real data-including up-to-date simulation practice and new spreadsheet-based exercises. Wankat thoroughly covers each of today's leading approaches,

including flash, column, and batch distillation; exact calculations and shortcut methods for multicomponent distillation; staged and packed column design; absorption; stripping; and more. In this edition, he also presents the latest design methods for liquid-liquid extraction. This edition contains the most detailed coverage available of membrane separations and of sorption separations (adsorption, chromatography, and ion exchange). Updated with new techniques and references throughout, Separation Process Engineering, Third Edition, also contains more than 300 new homework problems, each

tested in the author's Purdue University classes. Coverage includes Modular, up-to-date process simulation examples and homework problems, based on Aspen Plus and easily adaptable to any simulator Extensive new coverage of mass transfer and diffusion, including both Fickian and Maxwell-Stefan approaches Detailed discussions of liquid-liquid extraction, including McCabe-Thiele, triangle and computer simulation analyses; mixer-settler design; Karr columns; and related mass transfer analyses Thorough introductions to adsorption, chromatography, and ion exchange—designed to prepare students for advanced work in

these areas Complete coverage of membrane separations, including gas permeation, reverse osmosis, ultrafiltration, pervaporation, and key applications A full chapter on economics and energy conservation in distillation Excel spreadsheets offering additional practice with problems in distillation, diffusion, mass transfer, and membrane separation Using an extremely clear and informal approach, this book introduces readers to a rigorous understanding of mathematical analysis and presents challenging math concepts as clearly as possible. The real number system. Differential calculus of functions of one

variable. Riemann integral functions of one variable. Integral calculus of real-valued functions. Metric Spaces. For those who want to gain an understanding of mathematical analysis and challenging mathematical concepts. The maturation of nanotechnology has revealed it to be a unique and distinct discipline rather than a specialization within a larger field. Its textbook cannot afford to be a chemistry, physics, or engineering text focused on nano. It must be an integrated, multidisciplinary, and specifically nano textbook. The archetype of the modern nano textbook DC Dutta's Textbook of Obstetrics is the eighth edition of this

comprehensive and highly illustrated textbook. Thoroughly revised and updated, the book spans 42 chapters, incorporating new material and the latest advances in the field of obstetrics. New topics in this edition include prenatal genetic counselling, screening and diagnosis, whilst progress in technology is recognised with the inclusion of Doppler studies, MR images, microphotographs, data graphs and laparoscopic images. This highly detailed book is formatted for ease of reference, with expanded contents and index, and colour coded headings and key points at the end of every chapter,

highlighting essential information. A list of questions at the end of the book allows the reader to assess their own understanding. A list of abbreviations, updated reviews, relevant websites, and over 500 colour images further enhance the text. The book also includes an interactive DVD-ROM. DC Dutta's Textbook of Obstetrics features the latest guidelines from professional and academic organisations including RCOG, ACOG, WHO, FIGO, NICHHD, CDC, NICE, ICOG and DIPSI, making this an authoritative guide to the field of obstetrics. Key Points Fully revised and updated new edition New chapters include prenatal genetic counselling,

screening and diagnosis Previous edition published 2014 Over 500 colour images and illustrations, plus interactive DVD-ROM Latest guidelines from RCOG, ACOG, WHO, FIGO, NICHHD, CDC, NICE, ICOG and DIPSI Parallel structures are more effective than serial ones for industrial automation applications that require high precision and stiffness, or a high load capacity relative to robot weight. Although many industrial applications have adopted parallel structures for their design, few textbooks introduce the analysis of such robots in terms of dynamics and control. Filling this gap, Parallel Robots: Mechanics and

Control presents a systematic approach to analyze the kinematics, dynamics, and control of parallel robots. It brings together analysis and design tools for engineers and researchers who want to design and implement parallel structures in industry. Covers Kinematics, Dynamics, and Control in One Volume The book begins with the representation of motion of robots and the kinematic analysis of parallel manipulators. Moving beyond static positioning, it then examines a systematic approach to performing Jacobian analysis. A special feature of the book is its detailed coverage of the

dynamics and control of parallel manipulators. The text examines dynamic analysis using the Newton-Euler method, the principle of virtual work, and the Lagrange formulations. Finally, the book elaborates on the control of parallel robots, considering both motion and force control. It introduces various model-free and model-based controllers and develops robust and adaptive control schemes. It also addresses redundancy resolution schemes in detail. Analysis and Design Tools to Help You Create Parallel Robots In each chapter, the author revisits the same case studies to show how the techniques may be applied. The

case studies include a planar cable-driven parallel robot, part of a promising new generation of parallel structures that will allow for larger workspaces. The MATLAB® code used for analysis and simulation is available online. Combining the analysis of kinematics and dynamics with methods of designing controllers, this text offers a holistic introduction for anyone interested in designing and implementing parallel robots. Introduction to heat and mass transfer for advanced undergraduate and graduate engineering students, used in classrooms for over 38 years and updated regularly. Topics include conduction, convection,

radiation, and phase-change. 2019 edition.