

Anna University 3rd Sem Mechanical Engineering

A Textbook of Strength of Materials
Theory of Machines
Basic Civil and Mechanical Engineering
High Voltage Engineering
Soil Mechanics and Foundations
Measurements and Instrumentation
Electrical Machines
Heat and Mass Transfer
An Introduction to Modern Vehicle Design
Analog And Digital Communication
Solid and Fluid Mechanics
RENEWABLE ENERGY SOURCES AND EMERGING TECHNOLOGIES
Handbook of Hydrology
Electronics and Microprocessors
Engineering Thermodynamics Through Examples
Engineering Mechanics of Solids
Engineering Drawing
Electrical Drives And Control
Advanced Engineering Mathematics
Stoichiometry
Transforms and Partial Differential Equations
Quantitative Aptitude for Competitive Exams - SSC/ Banking/ Railways/ Defense/ Insurance
Lasers
TEXTBOOK OF FINITE ELEMENT ANALYSIS
American Universities and Colleges
Control Systems Engineering
A Text Book of Automobile Engineering
Machine Design Data Book, 2e
Engineering Physics (Annual Pattern)
Elements of Stress Analysis
Electric Drives
Thermodynamics for Engineers, 2nd Edition
Disaster Management Handbook
Engineering Thermodynamics
Practical Antenna Handbook
Basic Electrical and Electronics Engineering: Applied
Thermodynamics
Structural Analysis-I, 4th Edition
Thermal Engineering-
MECHANISM AND MACHINE THEORY

A Textbook of Strength of Materials

Theory of Machines

While writing the book, we have continuously kept in mind the examination requirements of the students preparing for U.P.S.C. (Engg. Services) and A.M.I.E. (I) examinations. In order to make this volume more useful for them, complete solutions of their examination papers up to 1975 have also been included. Every care has been taken to make this treatise as self-explanatory as possible. The subject matter has been amply illustrated by incorporating a good number of solved, unsolved and well graded examples of almost every variety.

Basic Civil and Mechanical Engineering

High Voltage Engineering

Soil Mechanics and Foundations

Basic Electrical and Electronics Engineering provides an overview of the basics of electrical and electronic engineering that are required at the undergraduate level. The book allows students outside electrical and electronics engineering to easily

Measurements and Instrumentation

Engineering Drawing is a textbook designed for the students of all engineering disciplines to develop a spatial bent of mind to observe, visualize, and understand the structure of objects from different perspectives. This ability forms the central idea of design and development of all engineering products. Beginning with the basics, such as BIS conventions, geometrical constructions, and scales, the book presents a detailed chapter on Visualization Concepts and Freehand Sketching, which lays the foundation to understand the subsequent chapters on orthographic projections, projection of points, lines, planes, and solids. These chapters ease the complexity of understanding further chapters such as intersection of solids, surfaces, and development of surfaces. The last few chapters discuss isometric projections, transformation of projections, perspective projections, and finally computer-aided drafting that briefs the reader about the utility of AutoCAD 2015 tools in drawing. The book provides a number of example problems, step-by-step procedure for solutions, numerous graded practice exercises, and multiple-choice questions.

Electrical Machines

Heat and Mass Transfer

Structural Analysis, or the 'Theory of Structures', is an important subject for civil engineering students who are required to analyze and design structures. It is a vast field and is largely taught at the undergraduate level. A few topics like Matrix Method and Plastic Analysis are also taught at the postgraduate level and in structural engineering electives. The entire course has been covered in two volumes – Structural Analysis I and II. Structural Analysis I deals with the basics of structural analysis, measurements of deflection, various types of deflection, loads and influence lines, etc.

An Introduction to Modern Vehicle Design

Inspired by a new revival of worldwide interest in extra-high-voltage (EHV) and ultra-high-voltage (UHV) transmission, High Voltage Engineering merges the latest research with the extensive experience of the best in the field to deliver a comprehensive treatment of electrical insulation systems for the next generation of utility engineers and electric power professionals. The book offers extensive coverage of the physical basis of high-voltage engineering, from insulation stress and strength to lightning attachment and protection and beyond. Presenting information critical to the design, selection, testing, maintenance, and operation of a myriad of high-voltage power equipment, this must-have text: Discusses power system overvoltages, electric field calculation, and statistical analysis of ionization and breakdown phenomena essential for proper planning and interpretation of high-voltage tests Considers the breakdown of gases (SF₆), liquids (insulating oil), solids, and composite materials, as well as the breakdown characteristics of long air gaps Describes insulation systems currently used in high-voltage engineering, including air insulation and insulators in overhead power transmission lines, gas-insulated substation (GIS) and cables, oil-paper insulation in power transformers, paper-oil insulation in high-voltage cables, and polymer insulation in cables

Examines contemporary practices in insulation coordination in association with the International Electrotechnical Commission (IEC) definition and the latest standards
Explores high-voltage testing and measuring techniques, from generation of test voltages to digital measuring methods With an emphasis on handling practical situations encountered in the operation of high-voltage power equipment, High Voltage Engineering provides readers with a detailed, real-world understanding of electrical insulation systems, including the various factors affecting—and the actual means of evaluating—insulation performance and their application in the establishment of technical specifications.

Analog And Digital Communication

This book has received very good response from students and teachers within the country and abroad alike. Its previous edition exhausted in a very short time. I place on record my sense of gratitude to the students and teachers for their appreciation of my work, which has offered me an opportunity to bring out this revised Eighteenth Edition. Due to the demand of students a chapter on Linear Programming as added. A large number of new examples and problems selected from the latest question papers of various engineering examinations held recently have been included to enable the students to understand the latest trend.

Solid and Fluid Mechanics

RENEWABLE ENERGY SOURCES AND EMERGING TECHNOLOGIES

Handbook of Hydrology

This book, now in its Second Edition, is an introductory text on renewable energy sources, technologies and their applications—a subject which is becoming increasingly important worldwide. This edition includes two new chapters that introduce contemporary practices in renewable technologies. It also discusses issues on environmental degradation and its reasons and remedies. Besides this, a large number of numerical problems to correlate theory with typical values and chapter-end review questions are also given to reinforce the understanding of the subject matter. Written in an accessible style, this text is designed to serve the needs of undergraduate students in electrical, mechanical and civil engineering disciplines. It will also be useful for all higher-level courses in energy programmes and multi-disciplinary postgraduate courses in science and engineering. NEW TO THIS EDITION : Inclusion of two new chapters—‘Hybrid Systems’ and ‘Environment, Energy and Global Climate Change’. A new section on Distributed Energy System and Dispersed Generation. Appendices on • Smart grid and grid system in India • Remote village electrification with renewable energy sources • Indian Electricity Act 2003, which supports exploration of Renewable Energy. SALIENT FEATURES : Provides balanced introduction to all aspects of solar energy conversion including PV technology. Gives comprehensive coverage of all facets of wind power development. Explains small hydropower projects with illustrative figures. Emphasises the importance of availability of biofuel from Jatropa plant. Special

attention is given to 'gas hydrates' and 'hydrogen energy' sources. Fuel cells are explained as per the latest technology available. Harnessing of ocean energy is dealt with in detail. Utilisation of biomass and solid waste for energy recovery is emphasised.

Electronics and Microprocessors

Engineering Thermodynamics Through Examples

An all-inclusive reference covering all practical aspects of hydrology. Twenty-nine chapters in four major sections: I. Hydrologic Cycle; II. Hydrologic Transport; III. Hydrologic Statistics; IV. Hydrologic Technology. 500 illustrations.

Engineering Mechanics of Solids

Engineering Drawing

Ever since their invention in 1960, lasers have assumed tremendous importance in the fields of science, engineering and technology because of their use both in basic research and in various technological applications. Lasers: Theory and Applications 2nd Edition will provide a coherent presentation of the basic physics behind the working of the laser along with some of their most important applications. Numerical examples are scattered throughout the book for helping the student gain a better appreciation of the concepts and problems at the end of each chapter and provides the student a better understanding of the basics and help in applying the concepts to practical situations. This book serves as a text in a course on lasers and their applications for students majoring in various disciplines such as Physics, Chemistry and Electrical Engineering.

Electrical Drives And Control

Advanced Engineering Mathematics

Electric motors are widely used in both industrial equipment and consumer products, but motors are only one component in systems called drives. This text provides information on both conventional as well as converter-based drives, and discusses the closed loop control and dynamics of drives.

Stoichiometry

'An Introduction to Modern Vehicle Design' provides a thorough introduction to the many aspects of passenger car design in one volume. Starting with basic principles, the author builds up analysis procedures for all major aspects of vehicle and component design. Subjects of current interest to the motor industry, such as failure prevention, designing with modern materials, ergonomics and control systems are covered in detail, and the author concludes with a discussion on the

future trends in automobile design. With contributions from both academics lecturing in motor vehicle engineering and those working in the industry, "An Introduction to Modern Vehicle Design" provides students with an excellent overview and background in the design of vehicles before they move on to specialised areas. Filling the niche between the more descriptive low level books and books which focus on specific areas of the design process, this unique volume is essential for all students of automotive engineering. Only book to cover the broad range of topics for automobile design and analysis procedures Each topic written by an expert with many years experience of the automotive industry

Transforms and Partial Differential Equations

Quantitative Aptitude for Competitive Exams - SSC/ Banking/ Railways/ Defense/ Insurance

Lasers

The book "Quantitative Aptitude for Competitive Exams" contains specific topics in Quantitative Aptitudewhich form a part of most of the Competitive Exams. The book contains to the point theory in all the chapters with illustrations followed by an exercise with detailed solutions. The book covers a lot of questions from the past competitive exams. The book is a MUST for all SSC/ Banking/ Railways/ Defense/ Insurance Exam aspirants.

TEXTBOOK OF FINITE ELEMENT ANALYSIS

American Universities and Colleges

Control Systems Engineering

This book meets the requirements of undergraduate and postgraduate students pursuing courses in mechanical, production, electrical, metallurgical and aeronautical engineering. This self-contained text strikes a fine balance between conceptual clarity and practice problems, and focuses both on conventional graphical methods and emerging analytical approach in the treatment of subject matter. In keeping with technological advancement, the text gives detailed discussion on relatively recent areas of research such as function generation, path generation and mechanism synthesis using coupler curve, and number synthesis of kinematic chains. The text is fortified with fairly large number of solved examples and practice problems to further enhance the understanding of the otherwise complex concepts. Besides engineering students, those preparing for competitive examinations such as GATE and Indian Engineering Services (IES) will also find this book ideal for reference. KEY FEATURES □ Exhaustive treatment given to topics including gear drive and cam follower combination, analytical method of motion and conversion phenomenon. □ Simplified explanation of complex subject matter.

□ Examples and exercises for clearer understanding of the concepts.

A Text Book of Automobile Engineering

This book analyses problems in elasticity theory, highlighting elements of structural analysis in a simple and straightforward way.

Machine Design Data Book, 2e

Record breaking hurricane seasons, tornados, tsunamis, earthquakes, and intentional acts of mass-casualty violence, give lie to the delusion that disasters are the anomaly and not the norm. Disaster management is rooted in the fundamental belief that we can protect ourselves. Even if we cannot control all the causes, we can prepare and respond. We

Engineering Physics (Annual Pattern)

This book is designed for course on Basic Civil and Mechanical Engineering. The book closely follows the undergraduate engineering syllabus. The text has been infused with several short answer questions, fill in the blanks and true or false statements which will provide competitive edge to students and prove instrumental in preparation of competitive and university examinations.

Elements of Stress Analysis

This book has been developed to enable engineering students understand basic concepts of Thermal Engineering in a simple and easy to understand manner.

Electric Drives

Thermodynamics for Engineers, 2nd Edition

With complete coverage of the basic principles of heat transfer and a broad range of applications in a flexible format, "Heat and Mass Transfer: A Practical Approach" provides the perfect blend of fundamentals and applications. The text provides a highly intuitive and practical understanding of the material by emphasizing the physics and the underlying physical phenomena involved. Key: Text covers the standard topics of heat transfer with an emphasis on physics and real-world every day applications, while de-emphasizing the intimidating heavy mathematical aspects. This approach is designed to take advantage of students' intuition, making the learning process easier and more engaging. Key: The new edition will add helpful web-links for students. Key: 50% of the Homework Problems including design, computer, essay, lab-type, and FE problems are new or revised to this edition. Using a reader-friendly approach and a conversational writing style, the book is self-instructive and entertains while it teaches. It shows that highly technical matter can be communicated effectively in a simple yet precise language.

Disaster Management Handbook

Machine Design is interdisciplinary and draws its matter from different subjects such as Thermodynamics, Fluid Mechanics, Production Engineering, Mathematics etc. to name a few. As such, this book serves as a databook for various subjects of Mechanical Engineering. It also acts as a supplement to our popular book, Design of Machine Elements. It's a concise, updated data handbook that maps with the syllabi of all major universities and technical boards of India as well as professional examining bodies such as Institute of Engineers.

Engineering Thermodynamics

Fully updated, this guide is one of the most practical introductions to the design construction, installation and troubleshooting of virtually all types of antennas. This is a book enhanced by a wealth of illustrations, including example and worked-out solutions of equations. The CD-ROM includes popular shareware for antenna modeling and Visual Basic programs for customized designs.

Practical Antenna Handbook

The Book Provides An Integrated Treatment Of Continuous-Time And Discrete-Time Systems For Two Courses At Undergraduate Level Or One Course At Postgraduate Level. The Stress Is On The Interdisciplinary Nature Of The Subject And Examples Have Been Drawn From Various Engineering Disciplines To Illustrate The Basic System Concepts. A Strong Emphasis Is Laid On Modeling Of Practical Systems Involving Hardware; Control Components Of A Wide Variety Are Comprehensively Covered. Time And Frequency Domain Techniques Of Analysis And Design Of Control Systems Have Been Exhaustively Treated And Their Interrelationship Established. Adequate Breadth And Depth Is Made Available For A Second Course. The Coverage Includes Digital Control Systems: Analysis, Stability And Classical Design; State Variables For Both Continuous-Time And Discrete-Time Systems; Observers And Pole-Placement Design; Liapunov Stability; Optimal Control; And Recent Advances In Control Systems: Adaptive Control, Fuzzy Logic Control, Neural Network Control. Salient Features * State Variables Concept Introduced Early In Chapter 2 * Examples And Problems Around Obsolete Technology Updated. New Examples Added * Robotics Modeling And Control Included * Pid Tuning Procedure Well Explained And Illustrated * Robust Control Introduced In A Simple And Easily Understood Style * State Variable Formulation And Design Simplified And Generalizations Built On Examples * Digital Control; Both Classical And Modern Approaches, Covered In Depth * A Chapter On Adaptive, Fuzzy Logic And Neural Network Control, Amenable To Undergraduate Level Use, Included * An Appendix On Matlab With Examples From Time And Frequency Domain Analysis And Design, Included

Basic Electrical and Electronics Engineering:

Applied Thermodynamics

Aspiring engineers need a text that prepares them to use thermodynamics in professional practice. Thermodynamics instructors need a concise textbook written for a one-semester undergraduate course—a text that foregoes clutter and unnecessary details but furnishes the essential facts and methods.

Thermodynamics for Engineers, Second Edition continues to fill both those needs. Paying special attention to the learning process, the author has developed a unique, practical guide to classical thermodynamics. His approach is remarkably cohesive. For example, he develops the same example through his presentation of the first law and both forms of the second law—entropy and exergy. He also unifies his treatments of the conservation of energy, the creation of entropy, and the destruction of availability by using a balance equation for each, thus emphasizing the commonality between the laws and allowing easier comprehension and use. This Second Edition includes a new chapter on thermodynamic property relations and gives updated, expanded problem sets in every chapter. Accessible, practical, and cohesive, the text builds a solid foundation for advanced engineering studies and practice. It exposes students to the "big picture" of thermodynamics, and its streamlined presentation allows glimpses into important concepts and methods rarely offered by texts at this level. What's New in This Edition: Updated and expanded problem sets New chapter on thermodynamic property relations Updated chapter on heat transfer Electronic figures available upon qualifying course adoption End-of-chapter poems to summarize engineering principles

Structural Analysis-I, 4th Edition

Thermal Engineering-I

MECHANISM AND MACHINE THEORY

Designed for a one-semester course in Finite Element Method, this compact and well-organized text presents FEM as a tool to find approximate solutions to differential equations. This provides the student a better perspective on the technique and its wide range of applications. This approach reflects the current trend as the present-day applications range from structures to biomechanics to electromagnetics, unlike in conventional texts that view FEM primarily as an extension of matrix methods of structural analysis. After an introduction and a review of mathematical preliminaries, the book gives a detailed discussion on FEM as a technique for solving differential equations and variational formulation of FEM. This is followed by a lucid presentation of one-dimensional and two-dimensional finite elements and finite element formulation for dynamics. The book concludes with some case studies that focus on industrial problems and Appendices that include mini-project topics based on near-real-life problems. Postgraduate/Senior undergraduate students of civil, mechanical and aeronautical engineering will find this text extremely useful; it will also appeal to the practising engineers and the teaching community.

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