

# Online Library Basic Mechanical Engineering Techmax Publication Pune University Free Download Pdf

**THERMAL AND HYDRAULIC MACHINES** **Engineering Chemistry Basic Electrical And Electronics Engineering I (For Wbut)** **Artificial Intelligence Control System Engineering** *A Textbook of Applied Electronics* **Mechatronics** *Advanced Accounting* *A First Course in Continuum Mechanics* **Basic Mechanical Engineering (Fe Sem. I, Su)** **????? ? ?????????** *The Constitution of India* **An Introduction to Electrical Engineering Materials** *Applications of Digital Signal Processing* **Operation Research** *Automation, Production Systems, and Computer-integrated Manufacturing* *Electromagnetic Field Theory* *Mihir's Handbook of Chemical Process Engineering (Excerpts)* *Oxidative Stress and Antioxidant Defense* *Power Generation Technologies* **TEXTBOOK OF FINITE ELEMENT ANALYSIS** **Applied Thermodynamics** **Antennas and Wave Propagation** **Mechanical System Design** **Contracts & Accounts (WBSCTE)** **Mechanical system design** **Irrigation and Water Resources Engineering** **Systems in Mechanical Engineering** **Advanced Java Switchgear & Protection** *Digital Electronics Unposted Letter (English)* *Essential Engineering Mathematics* *Total Quality Management [in Education]*. *Machine Design Data Book* , Second Edition *Internet Programming* **ELECTRICAL ESTIMATION AND CONTRACTING (22627)** **Structural Design III** **ARTIFICIAL INTELLIGENCE (ELECTIVE - V)** **Pharmaceutical Analysis - I (Practical)**

**Irrigation and Water Resources Engineering** Aug 03 2020 The Book Irrigation And Water Resources Engineering Deals With The Fundamental And General Aspects Of Irrigation And Water Resources Engineering And Includes Recent Developments In Hydraulic Engineering Related To Irrigation And Water Resources Engineering. Significant Inclusions In The Book Are A Chapter On Management (Including Operation, Maintenance, And Evaluation) Of Canal Irrigation In India, Detailed Environmental Aspects For Water Resource Projects, A Note On Interlinking Of Rivers In India, And Design Problems Of Hydraulic Structures Such As Guide Bunds, Settling Basins Etc.The First Chapter Of The Book Introduces Irrigation And Deals With The Need, Development And Environmental Aspects Of Irrigation In India. The Second Chapter On Hydrology Deals With Different Aspects Of Surface Water Resource. Soil-Water Relationships Have Been Dealt With In Chapter 3. Aspects Related To Ground Water Resource Have Been Discussed In Chapter 4. Canal Irrigation And Its Management Aspects Form The Subject Matter Of Chapters 5 And 6. Behaviour Of Alluvial Channels And Design Of Stable Channels Have Been Included In Chapters 7 And 8, Respectively. Concepts Of Surface And Subsurface Flows, As Applicable To Hydraulic Structures, Have Been Introduced In Chapter 9. Different Types Of Canal Structures Have Been Discussed In Chapters 10, 11, And 13. Chapter 12 Has Been Devoted To Rivers And River Training Methods. After Introducing Planning Aspects Of Water Resource Projects In Chapter 14, Embankment Dams, Gravity Dams And Spillways Have Been Dealt With, Respectively, In Chapters 15, 16 And 17.The Students Would Find Solved Examples (Including Design Problems) In The Text, And Unsolved Exercises And The List Of References Given At The End Of Each Chapter Useful.

**Internet Programming** Oct 25 2019 This textbook provides comprehensive introduction to scripting languages that are used for creating web based applications. The book is divided into five different sections. In the first section the book introduces web site basics, HTTP, HTML5 and CSS3. The second and third section is based on client side and server side scripting. In these sections, the client side scripting such as JavaScript, DHTML and JSON is introduced. The sever side programming includes Servlet programming and JSP. In this section Java Database Connectivity is introduced and Simple Web Applications based on database connectivity have been developed. The fourth section deals with PHP and

XML. The last section includes introduction to AJAX and Web Services. A database driven web service is developed and explained in step by step manner. At the end of the book some sample programs based on various scripting languages are given. The books helps the reader to learn the internet programming in the most lucid way. Various programming examples discussed in this book will motivate the students to learn the subject.

**Basic Electrical And Electronics Engineering I (For Wbut)** Aug 27 2022

**Contracts & Accounts (WBSCTE)** Oct 05 2020 This book has been written with total focus on meeting the objectives of the subject 'Contracts and Accounts' as given by the syllabus of WBSCTE. The text has been written so as to create interest in the minds of students in learning further.

*Digital Electronics* Mar 30 2020 The fundamentals and implementation of digital electronics are essential to understanding the design and working of consumer/industrial electronics, communications, embedded systems, computers, security and military equipment. Devices used in applications such as these are constantly decreasing in size and employing more complex technology. It is therefore essential for engineers and students to understand the fundamentals, implementation and application principles of digital electronics, devices and integrated circuits. This is so that they can use the most appropriate and effective technique to suit their technical need. This book provides practical and comprehensive coverage of digital electronics, bringing together information on fundamental theory, operational aspects and potential applications. With worked problems, examples, and review questions for each chapter, Digital Electronics includes: information on number systems, binary codes, digital arithmetic, logic gates and families, and Boolean algebra; an in-depth look at multiplexers, de-multiplexers, devices for arithmetic operations, flip-flops and related devices, counters and registers, and data conversion circuits; up-to-date coverage of recent application fields, such as programmable logic devices, microprocessors, microcontrollers, digital troubleshooting and digital instrumentation. A comprehensive, must-read book on digital electronics for senior undergraduate and graduate students of electrical, electronics and computer engineering, and a valuable reference book for professionals and researchers.

*Oxidative Stress and Antioxidant Defense* Apr 11 2021 Oxidative Stress and Antioxidant Defense: Biomedical Value in Health and Diseases represent current findings on the impact of oxidative stress in the pathogenesis of diseases and underlying mechanisms of antioxidants influencing health and disease processes. This book is divided into seven sections that describe how antioxidants defend oxidative stress-mediated diseases as well as recent developments, future opportunities, and challenges. Section 1 analyzes the role of oxidative stress in aging and associated diseases as well as the use of antioxidants in health maintenance, preventing and repairing injuries caused by oxidative stress. Section 2 represents the status of various antioxidants in cigarette smoking and antioxidant defense against exercise-induced oxidative stress. Section 3 focuses on the effect of oxidative stress in the pathogenesis of neurodegeneration and the existing status of antioxidant therapy. Section 4 covers the impact of oxidative stress at different levels of chronic degenerative diseases, as well as treatment with antioxidants to revert and diminish the cellular injury. Section 5 offers the importance of antioxidants in abating the pathological processes involved in hypertension and stroke. Section 6 presents the complexity associated with oxidative stress and metabolic disorders as well as the potential of antioxidants used in amelioration of related pathologies. Section 7 discusses the antioxidant defense against oxidative stress-mediated erectile dysfunctions and the significance of antioxidants in pregnancy. This book represents the copious set of specific research updates and diaphanous understanding of oxidative stress-mediated cellular damages and role of antioxidants in disease processes from experienced and eminent academicians, researchers, and scientists from throughout the world. This book is suitable for professionals, academicians, students, researchers, scientists and industrialists around the world in the biomedical, health, and life science fields.

**THERMAL AND HYDRAULIC MACHINES** Oct 29 2022 The second edition of this well-received book, continues to present the operating principles and working aspects of thermal and hydraulic machines. First, it covers the laws and the essential principles of thermodynamics that form the basis on which thermal machines operate. It subsequently presents the principles, construction details and the methods of control of hydraulic and thermal machines. The coverage of thermal machines includes steam turbines, gas turbines, IC engines, and reciprocating and centrifugal compressors. The coverage of

hydraulic machines includes hydraulic turbines, reciprocating pumps and centrifugal pumps. The classification, construction and efficiency of these machines have been discussed with plenty of diagrams and worked problems. This will help the readers understand easily the underlying principles. This new edition includes substantially updated chapters and also introduces additional text as per the syllabus requirement. The book is intended for the undergraduate engineering students pursuing courses in mechanical, electrical and civil branches. **KEY FEATURES** : Provides succinct coverage of all operating aspects of thermal and hydraulic machines. Includes a large number of worked problems at the end of each chapter to help students achieve a sound understanding of the subject matter. Gives objective type questions with explanatory answers to assist students in preparing for competitive examinations.

**Pharmaceutical Analysis - I (Practical)** Jun 20 2019 Topics 1. Introduction 2. Calibration Of Volumetric Apparatus 3. Preparation And Standardisation Of Standard Solutions 4. Indicators 5. Neutralisation Titrations 6. Non-Aqueous Titrations 7. Oxidation-Reduction Titrations 8. Precipitation Titrations 9. Complexometric Titrations 10. Special Category Of Volumetric Methods Of Analysis 11. Gravimetric Analysis

*A Textbook of Applied Electronics* May 24 2022 The present book has been thoroughly revised and lot of useful material has been added .saveral photographs of electronic devices and their specifications sheets have been included.This will help the students to have a better understanding of the electric devices and circuits from application point of view.the mistake and misprints,which has crept in,have been eliminated in this edition.

**Structural Design III** Aug 23 2019

*Mechatronics* Apr 23 2022 "The integration of electronic engineering, electrical engineering, computer technology and control engineering with mechanical engineering -- mechatronics -- now forms a crucial part in the design, manufacture and maintenance of a wide range of engineering products and processes. This book provides a clear and comprehensive introduction to the application of electronic control systems in mechanical and electrical engineering. It gives a framework of knowledge that allows engineers and technicians to develop an interdisciplinary understanding and integrated approach to engineering. This second edition has been updated and expanded to provide greater depth of coverage." -- Back cover.

*Applications of Digital Signal Processing* Sep 16 2021 Some applications of digital signal processing in telecommunications. Digital processing in audio signals. Digital processing of speech. Digital image processing. Applications of digital signal processing to radar. Sonar signal processing. Digital signal processing in geophysics.

**TEXTBOOK OF FINITE ELEMENT ANALYSIS** Feb 09 2021 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.

*Systems in Mechanical Engineering* Jul 02 2020 Mechanical engineering, as its name suggests, deals with the mechanics of operation of mechanical systems. This is the branch of engineering which includes design, manufacturing, analysis and maintenance of mechanical systems. It combines engineering physics and mathematics principles with material science to design, analyse, manufacture and maintain mechanical systems. This book covers the field requires an understanding of core areas including thermodynamics, material science, manufacturing, energy conversion systems, power transmission systems and mechanisms. This book includes basic knowledge of various mechanical systems used in day

to day life. My hope is that this book, through its careful explanations of concepts, practical examples and figures bridges the gap between knowledge and proper application of that knowledge.

**Control System Engineering** Jun 25 2022 The book is written for an undergraduate course on the Feedback Control Systems. It provides comprehensive explanation of theory and practice of control system engineering. It elaborates various aspects of time domain and frequency domain analysis and design of control systems. Each chapter starts with the background of the topic. Then it gives the conceptual knowledge about the topic dividing it in various sections and subsections. Each chapter provides the detailed explanation of the topic, practical examples and variety of solved problems. The explanations are given using very simple and lucid language. All the chapters are arranged in a specific sequence which helps to build the understanding of the subject in a logical fashion. The book starts with explaining the various types of control systems. Then it explains how to obtain the mathematical models of various types of systems such as electrical, mechanical, thermal and liquid level systems. Then the book includes good coverage of the block diagram and signal flow graph methods of representing the various systems and the reduction methods to obtain simple system from the analysis point of view. The book further illustrates the steady state and transient analysis of control systems. The book covers the fundamental knowledge of controllers used in practice to optimize the performance of the systems. The book emphasizes the detailed analysis of second order systems as these systems are common in practice and higher order systems can be approximated as second order systems. The book teaches the concept of stability and time domain stability analysis using Routh-Hurwitz method and root locus method. It further explains the fundamentals of frequency domain analysis of the systems including co-relation between time domain and frequency domain. The book gives very simple techniques for stability analysis of the systems in the frequency domain, using Bode plot, Polar plot and Nyquist plot methods. It also explores the concepts of compensation and design of the control systems in time domain and frequency domain. The classical approach loses the importance of initial conditions in the systems. Thus, the book provides the detailed explanation of modern approach of analysis which is the state variable analysis of the systems including methods of finding the state transition matrix, solution of state equation and the concepts of controllability and observability. The variety of solved examples is the feature of this book which helps to inculcate the knowledge of the design and analysis of the control systems in the students. The book explains the philosophy of the subject which makes the understanding of the concepts very clear and makes the subject more interesting.

**A First Course in Continuum Mechanics** Feb 21 2022 The modeling and simulation of fluids, solids and other materials with significant coupling and thermal effects is becoming an increasingly important area of study in applied mathematics and engineering. Necessary for such studies is a fundamental understanding of the basic principles of continuum mechanics and thermodynamics. This book is a clear introduction to these principles. It is designed for a one- or two-quarter course for advanced undergraduate and beginning graduate students in the mathematical and engineering sciences, and is based on over nine years of teaching experience. It is also sufficiently self-contained for use outside a classroom environment. Prerequisites include a basic knowledge of linear algebra, multivariable calculus, differential equations and physics. The authors begin by explaining tensor algebra and calculus in three-dimensional Euclidean space. Using both index and coordinate-free notation, they introduce the basic axioms of continuum mechanics pertaining to mass, force, motion, temperature, energy and entropy, and the concepts of frame-indifference and material constraints. They devote four chapters to different theories of fluids and solids, and, unusually at this level, they consider both isothermal and thermal theories in detail. The book contains a wealth of exercises that support the theory and illustrate various applications. Full solutions to odd-numbered exercises are given at the end of each chapter and a complete solutions manual for all exercises is available to instructors upon request. Each chapter also contains a bibliography with references covering different presentations, further applications and numerical aspects of the theory. Book jacket.

*Essential Engineering Mathematics* Jan 28 2020

*The Constitution of India* Nov 18 2021

**Basic Mechanical Engineering (Fe Sem. I, Su)** Jan 20 2022

**An Introduction to Electrical Engineering Materials** Oct 17 2021 A Textbook for the students of

B.Sc.(Engg.), B.E., B.Tech., AMIE and Diploma Courses. A new chapter on "Semiconductor Fabrication Technology and Miscellaneous Semiconductor Devices" had been included and additional self-assessment questions with answers and additional worked examples had been provided at the end of the BOOK.

**Advanced Java** Jun 01 2020 Advanced Java is a textbook specially designed for undergraduate and post graduate students of Computer Science. It focuses on developing the applications both at basic and moderate level. This text book is divided into seven units. The first unit introduces Java network programming. In this unit along with the basic concepts of networking, the programming using Sockets, InetAddress, URL and URLConnection class is discussed in a lucid manner. The second unit is based on JDBC programming. In this unit, connecting with the database is discussed with examples and illustrations. Then next two chapters focuses on server side programming by means of Servlet programming and JSP. In third unit, the illustration of how to create and execute servlets is given. Then the concept of cookies and session management is discussed. In the next subsequent unit the Java Server Pages - its overview and programming is studied. In the last three units the advanced concepts of Java programming such as JSF, Hibernate and Java Web Framework : Spring is discussed. The contents of this textbook is supported with numerous illustrations, examples, program codes, and screenshots. With its lucid presentation and inclusion of numerous examples the book will be very useful for the readers.

**Switchgear & Protection** Apr 30 2020 The knowledge of switchgear and apparatus protection plays an important role in the power system. The book is structured to cover the key aspects of the course Switchgear & Protection for undergraduate students. The book starts with the discussion of basics of protective relaying. The book includes comprehensive coverage of faults and analysis of symmetrical and unsymmetrical faults. The book explains the protection against overvoltage, lightning arresters and power system earthing. The book covers the characteristics of various types of relays such as electromagnetic relays, induction type relays, directional relays, differential relays, thermal relays, frequency relays and negative sequence relays. The detailed discussion of distance relays and static relays is also included in the book. The book also covers the various possible faults and methods of protection of transformers, generators, motors, busbars and transmission lines. The book further explains the theory of circuit interruption and various arc interruption methods. Finally, the book incorporates various types of circuit breakers, circuit breaker ratings and testing of circuit breakers. The book uses plain and lucid language to explain each topic. The book provides the logical method of explaining the various complicated topics and stepwise methods to make the understanding easy. Each chapter is well supported with necessary illustrations and self-explanatory diagrams. The book explains the philosophy of the subject which makes the understanding of the concepts very clear and makes the subject more interesting.

**Automation, Production Systems, and Computer-integrated Manufacturing** Jul 14 2021 For advanced undergraduate/ graduate-level courses in Automation, Production Systems, and Computer-Integrated Manufacturing. This exploration of the technical and engineering aspects of automated production systems provides the most advanced, comprehensive, and balanced coverage of the subject of any text on the market. It covers all the major cutting-edge technologies of production automation and material handling, and how these technologies are used to construct modern manufacturing systems.

**Power Generation Technologies** Mar 10 2021 This book makes intelligible the wide range of electricity generating technologies available today, as well as some closely allied technologies such as energy storage. The book opens by setting the many power generation technologies in the context of global energy consumption, the development of the electricity generation industry and the economics involved in this sector. A series of chapters are each devoted to assessing the environmental and economic impact of a single technology, including conventional technologies, nuclear and renewable (such as solar, wind and hydropower). The technologies are presented in an easily digestible form. Different power generation technologies have different greenhouse gas emissions and the link between greenhouse gases and global warming is a highly topical environmental and political issue. With developed nations worldwide looking to reduce their emissions of carbon dioxide, it is becoming increasingly important to explore the effectiveness of a mix of energy generation technologies. Power Generation Technologies gives a clear, unbiased review and comparison of the different types of power generation technologies available. In the light of the Kyoto protocol and OSPAR updates, Power Generation Technologies will provide an

invaluable reference text for power generation planners, facility managers, consultants, policy makers and economists, as well as students and lecturers of related Engineering courses. · Provides a unique comparison of a wide range of power generation technologies - conventional, nuclear and renewable · Describes the workings and environmental impact of each technology · Evaluates the economic viability of each different power generation system

Machine Design Data Book , Second Edition Nov 25 2019 The present book is a self-contained data book for the graduate level students of Mechanical, Production and Industrial Engineering. The data and formulae in the book are presented in an easy-to-locate-and-use style. Salient Features \* Compact in size \* Easy to refer and locate data \* Follows the SI System of Units throughout \* Uses standard symbols throughout \* As per Indian Standards (IS) \* Design formulae and the corresponding figures appear on the same page \* Fully compatible with the textbook (by the same author and publisher) \* Includes design data related to human factors \* Includes design data for statistical and reliability \* Enriched design data on journal bearings and antifriction bearings \* Includes figures and proportions of various types of joints like sleeve and cotter, gib and cotter, foundation bolt etc. \* New chapter on levers \* Figures for applications for power screws like screw jack, machine vice, gate valve, turn-buckle etc.

ELECTRICAL ESTIMATION AND CONTRACTING (22627) Sep 23 2019

**ARTIFICIAL INTELLIGENCE (ELECTIVE - V)** Jul 22 2019 The basic objective of this book is to bridge the gap between the vast contents of the reference books, written by the renowned Intertiol Authors and the concise requirements of Undergraduate Students. This book has been written in a comprehensive manner using Simple and Lucid language, keeping in mind students' requirements. The main emphasis has been given on exploring the basic concepts rather than merely the Information. Solved Examples and Exercises have been provided throughout the book and at the end of the Unit. Also we have given Model Question Papers for practice at the end of book.

**Operation Research** Aug 15 2021 Operations research is the fast developing branch of science which deals with the most of the engineering activities. It consist of many models which are used to obtain the optimum solution for different activities. Operations research is a procedure which is executed iteratively for comparing various solutions till the optimum or satisfactory solution is obtained. An important aspect of the optimal design process is the formulation of the problem in a mathematical format which is acceptable to an algorithm and thus find out the optimal solution. These techniques are extensively used in those engineering design problem where the emphasis is on maximising or minimising a certain goal. This book is the introduction to the different techniques in operations research. The subject does not require a high level of mathematical knowledge. Each chapter of the book have examples from variety of fields. Our hope is that this book, through its careful explanations of concepts, practical examples and techniques bridges the gap between knowledge and proper application of that knowledge.

**Unposted Letter (English)** Feb 27 2020 'Unposted Letters' by Mahtria Ra is one of those books that aims to transcend all religions and castes, and touch the core of the readers in a profound way irrespective of their social position, status and the likes. 'Unposted Letters' is a spiritual and inspirational book that urges the readers to find happiness in every small things and feel the presence of God Almighty everywhere. By illustrating the simple with the powerful, this is a book that deals with knowledge and enlightenment and talks about Life as it is, about how it should be led that is bereft of any jealousy and wrath. Published by Manjul Publishing House, this book is available in hardcover.

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Artificial Intelligence Jul 26 2022 For the students of B.E./B.Tech Computer Science Engineering and Information Technology (CSE/IT)

*Total Quality Management [in Education].* Dec 27 2019

**Mechanical system design** Sep 04 2020 There are a number of books dealing only with the design of machine elements and not machines, which are systems as a whole. To design a system or a machine, integration of the various principles of engineering such as thermodynamics, hydrodynamics, fluid mechanics, heat transfer and so on is very essential. This book presents the subjects of mechanical system design and automobile system design, which will help students to design a mechanical system as a complete machine. It will be useful for students studying at the undergraduate and post-graduate levels.

**Mechanical System Design** Nov 06 2020 In machine design or design of machine elements we study

about the design of individual components of machinery like shafts, keys, belts, bolts, gears, etc. In mechanical system design we mean that how these components are going to work in collaboration, reliability of the system when different components work together. This book includes design of conveyors for material handling systems (belt conveyors), design of multispeed gearbox for machine tools, design of I.C. engine components and optimum design. It also includes the design of pressure vessels used in mechanical systems. This book provides a systematic exposition of the basic concepts and techniques involved in design of mechanical systems. Our hope is that this book, through its careful explanations of concepts, practical examples and figures bridges the gap between knowledge and proper application of that knowledge.

Mihir's Handbook of Chemical Process Engineering (Excerpts) May 12 2021 This book will aid the chemical engineer to carry out chemical process engineering in a very practical way. The process engineer can use the excel based calculation templates effectively to do correct and proper process design. Chemical engineering is a very vast and complex field. This book aims to simplify the process engineering design. Design of a chemical plant involves one being adept in technical aspects of process engineering. The book aims at making the chemical engineer proficient in the art of process design. Included are chemical engineering basics on simulation, stoichiometry, fluid property calculation, dimensionless numbers, thermodynamics and on chemical engineering equipment like pump, compressor, steam turbine, gas turbine, flare, motor, fired heater, incinerator, heat exchanger, distillation column, fractionation column, absorber, stripper, packed column, solar evaporation pond, separator. Utility design of nitrogen, compressed air, water, effluent treatment, steam, condensate, desalination, fuel selection is covered. Many chemical engineering calculations have been included. Special process items like flame arrestor, demister, feed device, pressure reducing and desuperheating station (PRDS), vortex breaker, electric heater, manual valve have been covered. Process engineering design criteria, process control, material of construction, specialized process studies, safety studies, precommissioning and commissioning have been covered. Project engineer will also benefit from information provided on types of project (EPC, EPCM, Cost + Fee, etc) as well as interdisciplinary interaction between various engineering disciplines i.e. process, piping, mechanical, instrumentation, electrical, civil and THSE. Process engineering documentation like process design basis, process philosophies, process flow diagram (PFD), piping and instrumentation diagram (P&ID), block flow diagram (BFD), DP-DT diagram, material selection diagram (MSD), line list, summaries like utility summary, effluent and emission summary, tie in summary and flare relief load summary have been covered with blank templates. Excerpts from few chapters have been provided.

Advanced Accounting Mar 22 2022 TYBCOM textbook of Advanced Accounting for Savitribai Phule Pune university (2015-16).

Electromagnetic Field Theory Jun 13 2021 The comprehensive study of electric, magnetic and combined fields is nothing but electromagnetic engineering. Along with electronics, electromagnetics plays an important role in other branches. The book is structured to cover the key aspects of the course Electromagnetic Field Theory for undergraduate students. The knowledge of vector analysis is the base of electromagnetic engineering. Hence book starts with the discussion of vector analysis. Then it introduces the basic concepts of electrostatics such as Coulomb's law, electric field intensity due to various charge distributions, electric flux, electric flux density, Gauss's law, divergence and divergence theorem. The book continues to explain the concept of elementary work done, conservative property, electric potential and potential difference and the energy in the electrostatic fields. The detailed discussion of current density, continuity equation, boundary conditions and various types of capacitors is also included in the book. The book provides the discussion of Poisson's and Laplace's equations and their use in variety of practical applications. The chapter on magnetostatics incorporates the explanation of Biot-Savart's law, Ampere's circuital law and its applications, concept of curl, Stoke's theorem, scalar and vector magnetic potentials. The book also includes the concept of force on a moving charge, force on differential current element and magnetic boundary conditions. The book covers all the details of Faraday's laws, time varying fields, Maxwell's equations and Poynting theorem. Finally, the book provides the detailed study of uniform plane waves including their propagation in free space, perfect dielectrics, lossy dielectrics and good conductors. The book uses plain, lucid language to explain each topic. The book provides the logical

method of explaining the various complicated topics and stepwise methods to make the understanding easy. The variety of solved examples is the feature of this book which helps to inculcate the knowledge of the electromagnetics in the students. Each chapter is well supported with necessary illustrations and self-explanatory diagrams. The book explains the philosophy of the subject which makes the understanding of the concepts very clear and makes the subject more interesting.

**Antennas and Wave Propagation** Dec 07 2020 Antennas and Wave Propagation is written for the first course on the same. The book begins with an introduction that discusses the fundamental concepts, notations, representation and principles that govern the field of antennas. A separate chapter on mathematical preliminaries is discussed followed by chapters on every aspect of antennas from Maxwell's equations to antenna array analysis, antenna array synthesis, antenna measurements and wave propagation.

**Engineering Chemistry** Sep 28 2022 Having basic knowledge on all the concepts of Chemistry for engineering students is must need, it makes them as a professional and expert engineer in various design and material fields, along with the usage of available resources. Hence, top government & private universities, small institutes include Engineering Chemistry Subject in 1st semester to provide a basic understanding of the chemical engineering. The purpose of this textbook is to present an introduction to the subject of Engineering Chemistry of Bachelor of Engineering (BE) Semester-I. The book contains the syllabus from basics of the subjects going into the complexities of the subjects. All the concepts have been explained with relevant examples and diagrams to make it interesting for the readers. An attempt is made here by the experts of TMC to assist the students by way of providing Study text as per the curriculum with non-commercial considerations. We owe to many websites and their free contents; we would like to specially acknowledge contents of website [www.wikipedia.com](http://www.wikipedia.com) and various authors whose writings formed the basis for this book. We acknowledge our thanks to them. At the end we would like to say that there is always a room for improvement in whatever we do. We would appreciate any suggestions regarding this study material from the readers so that the contents can be made more interesting and meaningful. Readers can email their queries and doubts to [tmcnagpur@gmail.com](mailto:tmcnagpur@gmail.com). We shall be glad to help you immediately.

**Applied Thermodynamics** Jan 08 2021

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