

Basic Electrical Engineering ***By J S Katre***

Newly revised and edited, this comprehensive volume provides up-to-date information on the latest developments which impact planning and design of electrical distribution systems. Addressing topics such as mechanical designs, materials improvements, total quality control, computer, and electronic circuitry, this book answers questions on everything from the basics of electrical and mechanical design to the selection of optimum materials

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and equipment. Beginning with initial planning consideration, this book gives a step-by-step guide through each stage of mechanical design of the principal facilities, including substation installation. Also included is data-backed assessment of the latest advance in materials, conductors, insulators, transformers, regulators, capacitors, switches, and substation equipment. Also covered is key non-technical and operation considerations such as safety, quality of service, load shedding, brownouts, demand controls and more. New material in the third

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edition includes data on polymer insulators, expansion of coverage of cogeneration, distributed generation and underground systems.

Real-world engineering problems are rarely, if ever, neatly divided into mechanical, electrical, chemical, civil, and other categories. Engineers from all disciplines eventually encounter computer and electronic controls and instrumentation, which require at least a basic knowledge of electrical and other engineering specialties, as well as associated economics, and environmental, political, and social issues. Co-authored by

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Charles Gross—one of the most well-known and respected professors in the field of electric machines and power engineering—and his world-renowned colleague Thad Roppel, *Fundamentals of Electrical Engineering* provides an overview of the profession for engineering professionals and students whose specialization lies in areas other than electrical. For instance, civil engineers must contend with commercial electrical service and lighting design issues. Mechanical engineers have to deal with motors in HVAC applications, and chemical engineers are forced to handle problems involving

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process control. Simple and easy-to-use, yet more than sufficient in rigor and coverage of fundamental concepts, this resource teaches EE fundamentals but omits the typical analytical methods that hold little relevance for the audience. The authors provide many examples to illustrate concepts, as well as homework problems to help readers understand and apply presented material. In many cases, courses for non-electrical engineers, or non-EEs, have presented watered-down classical EE material, resulting in unpopular courses that students hate and senior faculty members understandingly avoid teaching. To remedy

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this situation—and create more well-rounded practitioners—the authors focus on the true EE needs of non-EEs, as determined through their own teaching experience, as well as significant input from non-EE faculty. The book provides several important contemporary interdisciplinary examples to support this approach. The result is a full-color modern narrative that bridges the various EE and non-EE curricula and serves as a truly relevant course that students and faculty can both enjoy.

This practical resource introduces electrical and electronic principles and technology

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covering theory through detailed examples, enabling students to develop a sound understanding of the knowledge required by technicians in fields such as electrical engineering, electronics and telecommunications. No previous background in engineering is assumed, making this an ideal text for vocational courses at Levels 2 and 3, foundation degrees and introductory courses for undergraduates.

Practical Electrical Engineering

Basic Concepts of Electrical Engineering

1. Ed

Basic Electrical Engg 3E

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The book is written per the syllabus of first year engineering degree course for various universities. It covers basic topics of electrical engineering. It also includes worked out examples, University examination questions and answers, exercise, etc in every chapter. This book is suitable for course in basic electrical engineering under various Universities. Authors have tried to elucidate the topics in such a way that even a mediocre student

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can assimilate them. Many solved problems, sample question papers and exercise given in every section will provide a thorough understanding of the topics. Other features include attractive writing style, well structured equations and numerical examples, pictures of high clarity, etc.

This book presents comprehensive coverage of all the basic concepts in electrical engineering. It is designed

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for undergraduate students of almost all branches of engineering for an introductory course in essentials of electrical engineering. This book explains in detail the properties of different electric circuit elements, such as resistors, inductors and capacitors. The fundamental concepts of dc circuit laws, such as Kirchhoff's current and voltage laws, and various network theorems, such as Thevenin's theorem, Norton's theorem,

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superposition theorem, maximum power transfer theorem, reciprocity theorem and Millman's theorem are thoroughly discussed. The book also presents the analysis of ac circuits, and discusses transient analysis due to switch operations in ac and dc circuits as well as analysis of three-phase circuits. It describes series and parallel RLC circuits, magnetic circuits, and the working principle of different kinds of transformers. In

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addition, the book explains the principle of energy conversion, the operating characteristics of dc machines, three-phase induction machines and synchronous machines as well as single-phase motors. Finally, the book includes a discussion on technologies of electric power generation along with the different types of energy sources. Key Features :

Includes numerous solved examples and illustrations for sound conceptual

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understanding. Provides well-graded chapter-end problems to develop the problem-solving capability of the students. Supplemented with three appendices addressing matrix algebra, trigonometric identities and Laplace transforms of commonly used functions to help students understand the mathematical concepts required for the study of electrical engineering.

The primary objective of vol. I of A Text Book of Electrical Technology is

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to provided a comprehensive treatment of topics in Basic Electrical Engineering both for electrical aswell as nonelectrical students pursuing their studies in civil,mechnacial,mining,text tile,chemical,industrial,nviromental,ae rospace,electronicand computer engineering both at the Degree and diplomalevel.Based on the suggestions received from our esteemed readers,both from India and abroad,the scope of the book hasbeen enlarged according to

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their requirements. Almost half the solved examples have been deleted and replaced by latest examination papers set upto 1994 in different engineering collage and technical institutions in India and abroad.

*Electrical Distribution Engineering,
Third Edition*

*Everything You Should Have Learned in
School...but Probably Didn't*

Electrical Engineering 101

Schaum's Outline of Basic Electrical

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Engineering

A comprehensive guide to electrical engineering.

This book covers the basic areas of study in the basic, core electrical engineering course. Solved examples and problems enhance the reader's comprehension of the material. It serves as a self-study review for professional engineering exams.

For close to 30 years, "Basic Electrical Engineering" has been the go-to text for students of Electrical Engineering.

Emphasis on concepts and clear

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mathematical derivations, simple language coupled with systematic development of the subject aided by illustrations makes this text a fundamental read on the subject.

Divided into 17 chapters, the book covers all the major topics such as DC Circuits, Units of Work, Power and Energy, Magnetic Circuits, fundamentals of AC Circuits and Electrical Instruments and Electrical Measurements in a straightforward manner for students to understand.

Electrical Principles and Technology for Engineering

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Electrical and Electronic Principles and Technology

Schaum's Outline of Theory and Problems of Basic Electrical Engineering

Schaum's Outline Series Theory and Problems of Basic Electrical Engineering

This comprehensive book with a blend of theory and solved problems on Basic Electrical Engineering has been updated and upgraded in the Second Edition as per the current needs to cater undergraduate students of all branches of engineering and to all those who are appearing in competitive examinations such as AMIE, GATE and graduate IETE. The text provides a lucid yet exhaustive

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exposition of the fundamental concepts, techniques and devices in basic electrical engineering through a series of carefully crafted solved examples, multiple choice (objective type) questions and review questions. The book covers, in general, three major areas: electric circuit theory, electric machines, and measurement and instrumentation systems.

This Book Is Written For Use As A Textbook For The Engineering Students Of All Disciplines At The First Year Level Of The B.Tech. Programme. The Text Material Will Also Be Useful For Electrical Engineering Students At Their Second Year And Third Year Levels.It Contains Four Parts, Namely, Electrical Circuit Theory, Electromagnetism And Electrical Machines, Electrical Measuring

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Instruments, And Lastly The Introduction To Power Systems. This Book Also Contains A Good Number Of Solved And Unsolved Numerical Problems. At The End Of Each Chapter References Are Included For Those Interested In Pursuing A Detailed Study.

An earnest attempt has been made in the book 'Basic Concepts of Electrical Engineering' to elucidate the principles and applications of Electrical Engineering and also its importance, so as to evince interest on the topics so that the student gets motivated to study the subject with interest.

*Basic Electrical Engineering
Basic Electrical and Electronics Engineering
Second Edition*

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Basic Engineering Circuit Analysis

This updated version of its internationally popular predecessor provides an introductory problem-solved text for understanding fundamental concepts of electronic devices, their design, and their circuitry.

Providing an interface with Pspice, the most widely used program in electronics, new key features include a new chapter presenting the basics of switched mode power supplies, thirty-one new examples, and twenty-three PS solved problems.

Students will quickly understand the popularity of this helpful sourcebook--the first edition sold 46,000 copies! The chief emphasis is on solving realistic problems, hundreds of which are included with detailed solutions.

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This popular study guide concisely yet clearly covers all the areas taught in two-semester survey courses and serves as an ideal review for electrical engineers and others looking for high ratings on the Professional Engineer's Examination.

Pragmatic Electrical Engineering: Fundamentals introduces the fundamentals of the energy-delivery part of electrical systems. It begins with a study of basic electrical circuits and then focuses on electrical power. Three-phase power systems, transformers, induction motors, and magnetics are the major topics. All of the material in the text is illustrated with completely-worked examples to guide the student to a better understanding of the topics. This short lecture book will be of use at

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any level of engineering, not just electrical. Its goal is to provide the practicing engineer with a practical, applied look at the energy side of electrical systems. The author's ""pragmatic"" and applied style gives a unique and helpful ""non-idealistic, practical, opinionated"" introduction to the topic. Table of Contents: Basic Stuff / Power of the Sine / Three-Phase Power Systems / Transformers / Machines / Electromagnetics
Fundamentals of Electrical Engineering

Fundamentals

Basic Electrical and Electronics Engineering:

This book provides an overview of the basics of

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electrical and electronic engineering that are required at the undergraduate level. Efforts have been taken to keep the complexity level of the subject to bare minimum so that the students of non electrical/electronics can easily understand the basics. It offers an unparalleled exposure to the entire gamut of topics such as Electricity Fundamentals, Network Theory, Electro-magnetism, Electrical Machines, Transformers, Measuring Instruments, Power Systems, Semiconductor Devices, Digital Electronics and Integrated Circuits. For the first time in India, we have a comprehensive

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introductory book on Basic Electrical Engineering that caters to undergraduate students of all branches of engineering and to all those who are appearing in competitive examinations such as AMIE, GATE and graduate IETE. The book provides a lucid yet exhaustive exposition of the fundamental concepts, techniques and devices in basic electrical engineering through a series of carefully crafted solved examples, multiple choice (objective type) questions and review questions. The book covers, in general, three major areas: electric circuit theory, electric machines, and measurement and

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instrumentation systems.

This textbook provides comprehensive, in-depth coverage of the fundamental concepts of electrical engineering. It is written from an engineering perspective, with special emphasis on circuit functionality and applications. Reliance on higher-level mathematics and physics, or theoretical proofs has been intentionally limited in order to prioritize the practical aspects of electrical engineering. This text is therefore suitable for a number of introductory circuit courses for other majors such as mechanical, biomedical, aerospace, civil, architecture, petroleum,

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and industrial engineering. The authors' primary goal is to teach the aspiring engineering student all fundamental tools needed to understand, analyze and design a wide range of practical circuits and systems. Their secondary goal is to provide a comprehensive reference, for both major and non-major students as well as practicing engineers.

Introduction to Electrical Engineering

Schaum's Outline of Theory and Problems of Basic Electrical Engineering

Basic Electrical Engineering
A Textbook of Electrical Technology - Volume I
(Basic Electrical Engineering)

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Pragmatic Electrical Engineering

The book is written for an undergraduate course on the Basic Electrical Engineering. It provides comprehensive explanation of theory and practice of electrical engineering. It elaborates various aspects of d.c. and a.c. circuit analysis, magnetic circuits, measuring instruments, single phase transformers and various electrical machines. The book starts with the concepts of electric charge, current and potential difference. It explains Kirchhoff's laws, star-delta transformation, mesh analysis and node analysis. It also covers the application of various network theorems in analyzing d.c. circuits. The book incorporates detailed discussion of steady state analysis of single-phase

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series and parallel a.c. circuits along with the resonance. The book also explains the three phase balanced circuits, three phase power measurement and power factor improvement. The simple techniques and stepwise methods used to explain the phasor diagrams is the feature of the book. The book teaches the theory of various electrical measuring instruments. The book also covers the concept of earthing and electrical safety, which is most important while dealing with the electrical equipment's. The book also includes the discussion of magnetic circuits, self and mutual inductances and magnetic hysteresis. The book further explains the details of single-phase transformers and various electrical machines such as d.c. machines,

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three phase and single-phase induction motors and synchronous machines. The brief introduction of power system is also incorporated in the book. 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. All the chapters are arranged in a proper sequence that permits each topic to build upon earlier studies. The variety of solved examples is the feature of this book which helps to inculcate the knowledge of the basic electrical engineering 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.

The aim of this book is to provide a consolidated text for the first year B.E. Computer Science and Engineering students and B.Tech Information Technology students of Anna University. The syllabus has been thoroughly revised for the non-semester yearly pattern by the University. The book, made up of five chapters, systematically covers the five units of the syllabus. It begins with a detailed discussion on the fundamentals of electric circuits. DC circuits, AC circuits, 3-phase circuits, resonance and the network theorems. Lecture-type presentation of the rudiments of the fundamentals in conjunction with hundreds of solved examples is the strength of this book.

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Magnetic circuits and various magnetic elements and their properties, with number of illustrations are presented. DC machines and transformers are further dealt with. Equivalent circuits of machines supported with the respective photographs will ease the reader to understand the concepts of machines much better. Synchronous machines and asynchronous machines and fundamentals of control systems with various practical examples and relevant worked illustrations conclude this book. A large number of numerical illustrations and diagrammatic representations make this book valuable for students and teachers.

Schaum's Outline of Basic Electrical Engineering McGraw-

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Hill Education

Basic Electrical & Electronics Engineering

AC and DC machines (power apparatus)

Basic Electrical Engineering. By J. Shepherd ... A.H.

Morton ... L.F. Spence

A Text-book of Electrical Engineering for Second Year Students

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

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engineering to easily

Electrical Engineering 101 covers the basic theory and practice of electronics, starting by answering the question "What is electricity?" It goes on to explain the fundamental principles and components, relating them constantly to real-world examples. Sections on tools and troubleshooting give engineers deeper understanding and the know-how to create and maintain their own electronic design projects. Unlike other books that simply describe electronics and provide step-by-step build

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instructions, EE101 delves into how and why electricity and electronics work, giving the reader the tools to take their electronics education to the next level. It is written in a down-to-earth style and explains jargon, technical terms and schematics as they arise. The author builds a genuine understanding of the fundamentals and shows how they can be applied to a range of engineering problems. This third edition includes more real-world examples and a glossary of formulae. It contains new coverage of: Microcontrollers FPGAs Classes of

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components Memory (RAM, ROM, etc.) Surface mount High speed design Board layout Advanced digital electronics (e.g. processors) Transistor circuits and circuit design Op-amp and logic circuits Use of test equipment Gives readers a simple explanation of complex concepts, in terms they can understand and relate to everyday life. Updated content throughout and new material on the latest technological advances. Provides readers with an invaluable set of tools and references that they can use in their everyday work.

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The aim of this book is to introduce students to the basic electrical and electronic principles needed by technicians in fields such as electrical engineering, electronics and telecommunications. The emphasis is on the practical aspects of the subject, and the author has followed his usual successful formula, incorporating many worked examples and problems (answers supplied) into the learning process. Electrical Principles and Technology for Engineering is John Bird's core text for Further Education courses at BTEC levels N11 and N111

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and Advanced GNVQ. It is also designed to provide a comprehensive introduction for students on a variety of City & Guilds courses, and any students or technicians requiring a sound grounding in Electrical Principles and Electrical Power Technology.

A Text-book of Electrical Technology in S.I. System of Units

Basic Electrical Engineering for Students of Electrical Engineering

Schaum's Outline of Electronic Devices and Circuits, Second Edition

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THEORY AND PROBLEMS OF BASIC ELECTRICAL ENGINEERING

With practically-oriented coverage of all the basic concepts in electrical engineering, this text is a general introduction to the field. It integrates conceptual discussions with current, relevant technological applications, presenting modularized coverage of a wide range of topics. In addition, it aims to offer strong pedagogical support and clear explanations.

THEORY AND PROBLEMS OF BASIC ELECTRICAL ENGINEERING,, Second Edition

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Applied Electricity

Basic electrical Engineering

Basic Electronics