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# Godse Bakshi Communication Engineering

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IoT Fundamentals

Electrical Machines - I

Fundamentals of Microelectronics

PULSE AND DIGITAL CIRCUITS

Fundamentals of Signals and Systems

Digital Systems Design

Linear Integrated Circuits And Applications

Introduction to Digital Electronics

Control System Engineering

Electronic Devices and Circuits

Microprocessors & Microcontrollers

Analog Communication

A Textbook of Strength of Materials

Supply Chain Strategies and the Engineer-to-Order Approach

Statistical Physics for Electrical Engineering

Operational Amplifiers  
Digital Electronics  
Free Space Laser Communication with Ambient Light Compensation  
Electronic Circuits-I  
Electrical Measurements and Instrumentation  
Principles of Communication  
Analog Electronic Circuits  
Basic Electrical Engineering  
Analog Electronics  
Radio Frequency Modulation Made Easy  
Electrical Measurements  
Microprocessor and Interfacing  
Electrical Machines - II  
Advanced Computer and Communication Engineering Technology  
Introduction to Embedded Systems, Second Edition  
Basic Electrical and Electronics Engineering:  
Signals & Systems  
Electronics - From Theory Into Practice  
Electromagnetic Field Theory  
Basic Electronics

Modern Control Theory  
Digital IC Applications  
Signals and Systems  
SWITCHING THEORY AND LOGIC DESIGN

*Godse Bakshi*  
*Communication Engineering*  
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## **JAZMIN BURGESS**

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IoT Fundamentals Charles River Media  
Operational Amplifiers, Second Edition, provides a more comprehensive coverage of known modes of operational amplifier action. Greater emphasis is given to the factors influencing the

performance limitations of practical circuits to make the book immediately useful to the ever increasing number of operational amplifier users. The book begins with a preliminary introduction to the capabilities of operational amplifiers. It then explains the significance of the performance parameters of practical amplifiers and describes amplifier testing

procedures. Separate chapters illustrate the commonly used modes of operation for an operational amplifier. These include applications in basic scaling circuits, nonlinear circuits, and integrators and differentiators. The final chapter provides a resume and an overview of the practical considerations which the designer must take into

account in order to exploit fully the operational amplifier approach to electronic instrumentation. This book is intended for both the user and the potential user of operational amplifiers and as such it should prove equally valuable to both the undergraduate student and the practicing engineer in the measurement sciences.

**Electrical Machines - I**  
Bookboon

This text takes the student from the very basics of digital

electronics to an introduction of state-of-the-art techniques used in the field. It is ideal for any engineering or science student who wishes to study the subject from its basic principles as well as serving as a guide to more advanced topics for readers already familiar with the subject. The coverage is sufficiently in-depth to allow the reader to progress smoothly onto higher level texts.

Fundamentals of Microelectronics Elsevier  
Electronics – From Theory Into Practice deals with

design procedures in electronics and bridges the gap between theoretical knowledge and practice. It provides design examples and discusses the use of the Laplace Transform for solving engineering problems. The book introduces bipolar and field effect transistor, the unijunction transistor and the silicon-controlled rectifier, and shows how data sheets are used in design calculations. It then examines the development of integrated circuits and

their characteristics. Following this discussion are chapters that contain a brief treatment of theory limited to the extraction of necessary design relationships. The book concludes by considering the general aspects of electronic engineering practice. This book will be of use to practising engineers, particularly those trained in other disciplines, who are taking on a certain amount of electronic design.

PULSE AND DIGITAL CIRCUITS Pearson

Educación  
Pentium Microprocessor  
Historical evolution of 80286, 386 and 486 processors, Pentium features and architecture, Pin description, Functional description, Pentium real mode, Pentium RISC features, Pentium super-scalar architecture - pipelining, Instruction paring rules, Branch prediction, Instruction and data caches The floating-point unit. Bus Cycles and Memory  
Organisation Initialization and configuration, Bus operations-reset, Non

pipelined and pipelined (read and write), Memory organisation and I/O organisation, Data transfer mechanism-8 bit, 16 bit, 32 bit data bus interface. Pentium programming Programmer's model, Register set, Addressing modes, Instruction set, Data types, Data transfer instructions, String instructions, Arithmetic instructions, Logical instructions, Bit manipulation instructions, Program transfer instructions and Processor control

instructions. Protected Mode Introduction, Segmentation-support registers, Related instructions descriptors, Memory management through segmentation, Logical to linear address translation, Protection by segmentation, Privilege level-protection, Related instructions, Inter-privilege level transfer of control, Paging-support registers, descriptors, Linear to physical address translation, TLB, Page level protection, Virtual memory. Multitasking, Interrupts Exceptions and

I/O Multitasking - Support registers, Related descriptors, Task switching, I/O Permission bit map. Virtual mode - features, Address generation, Privilege level, Instructions and registers available, entering and leaving V86 mode. Interrupt structure - Real, Protected and Virtual 8086 modes, I/O handling in Pentium, Comparison of all three modes. 8051 Micro-controller Micro-controller MCS-51 family architecture, On-chip data memory and program

memory organization - Register set, Register bank, SFRs, External data memory and program memory, Interrupts structure, Timers and their programming, Serial port and programming, Other features, Design of minimum system using 8051 micro-controller for various applications. PIC Micro-controller Overview and features of PIC16C, PIC 16F8XX, Pin diagram, Capture mode, Compare mode, PWM mode, Block diagram, Programmer's model PIC, Reset and clocking. Memory

organization - program memory, data memory, Flash, EEPROM, PIC 16F8XX addressing modes, Instruction set, programming, I/O ports, Interrupts, Timers, ADC. IGI Global  
Free Space Laser Communication with Ambient Light CompensationSpringer Nature  
Fundamentals of Signals and Systems Technical Publications  
The importance of measuring instruments and transducers is well known in the various

engineering fields. The book provides comprehensive coverage of various electrical and electronic measuring instruments, transducers, data acquisition system, storage and display devices . The book starts with explaining the theory of measurement including characteristics of instruments, classification, standards, statistical analysis and limiting errors. Then the book explains the various electrical and electronic instruments such as PMMC, moving iron,

electrodynamometer type, energy meter, wattmeter, digital voltmeters and multimeters. It also includes the discussion of various magnetic measurements, instrument transformers, power factor meters, frequency meters, phase meters and synchros. The book further explains d.c. and a.c. potentiometers and their applications. The book teaches various d.c. and a.c. bridges along with necessary derivations and phasor diagrams. The book

incorporates the various storage and display devices such as, recorders, plotters, printers, oscilloscopes, LED, LCDs and dot matrix displays. The chapter on transducers is dedicated to the detailed discussion of various types of transducers such as resistive, capacitive, strain gauges, RTD, thermistors, inductive, LVDT, thermocouples, piezoelectric, photoelectric and digital transducers. It also adds the discussion of optical fiber sensors. The book

also includes good coverage of data acquisition system, data loggers, DACs and ADCs. 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 book explains the philosophy of the subject which makes the understanding of the concepts very clear and

makes the subject more interesting.

### **Digital Systems Design**

Springer

With the rise of global competitiveness among industries, it has become increasingly vital to develop novel strategies to assist in optimizing value-chain networks, thus helping to secure economic success. By employing engineer-to-order practices, many enterprises have improved their manufacturing processes. Supply Chain Strategies and the Engineer-to-Order



Approach evaluates innovative processes and original operational models, frameworks, and architectures in the topic areas of industrial engineering and management science. Featuring optimized enterprise chain management strategies and emergent research within the field, this book is an essential reference source for professional, academics, and researchers specializing in enterprise operations and engineer-to-order procedures.

Linear Integrated Circuits And Applications Laxmi Publications Fundamentals of Microelectronics, 2nd Edition is designed to build a strong foundation in both design and analysis of electronic circuits this text offers conceptual understanding and mastery of the material by using modern examples to motivate and prepare readers for advanced courses and their careers. The books unique problem-solving framework enables readers to deconstruct

complex problems into components that they are familiar with which builds the confidence and intuitive skills needed for success.

Introduction to Digital Electronics John Wiley & Sons

Analysis of signals is given in first chapter. Types of signals, properties of systems are also presented. Second chapter presents Fourier series analysis. Its properties are also discussed. Fourier transform is given in third chapter, along with its

properties. The transmission of signals through linear systems is given in fourth chapter. Realizability and distortion less transmission is also discussed. Fifth chapter discusses, convolution, its properties and impulse response properties of LTI systems. Causality and stability are discussed. Autocorrelation and cross correlation is also given. Energy spectral density and power spectral density along with their properties are also given. Sampling principles and types are given in sixth

chapter. Chapter seventh and eighth presents Laplace transforms and z-transforms in detail. Their properties, inversion and applications to LTI systems are analyzed in detail. Relationships among transforms are also given. All the concepts are supported with lot of solved examples.

### **Control System**

#### **Engineering** Elsevier

This comprehensive text on switching theory and logic design is designed for the undergraduate students of electronics

and communication engineering, electrical and electronics engineering, electronics and instrumentation engineering, telecommunication engineering, computer science and engineering, and information technology. It will also be useful to AMIE, IETE and diploma students. Written in a student-friendly style, this book, now in its Second Edition, provides an in-depth knowledge of switching theory and the design techniques of digital circuits. Striking a

balance between theory and practice, it covers topics ranging from number systems, binary codes, logic gates and Boolean algebra to minimization using K-maps and tabular method, design of combinational logic circuits, synchronous and asynchronous sequential circuits, and algorithmic state machines. The book discusses threshold gates and programmable logic devices (PLDs). In addition, it elaborates on flip-flops and shift registers. Each chapter

includes several fully worked-out examples so that the students get a thorough grounding in related design concepts. Short questions with answers, review questions, fill in the blanks, multiple choice questions and problems are provided at the end of each chapter. These help the students test their level of understanding of the subject and prepare for examinations confidently. NEW TO THIS EDITION • VHDL programs at the end of each chapter • Complete answers with

figures • Several new problems with answers  
**Electronic Devices and Circuits** Technical Publications  
This authoritative book, highly regarded for its intellectual quality and contributions provides a solid foundation and life-long reference for anyone studying the most important methods of modern signal and system analysis. The major changes of the revision are reorganization of chapter material and the addition of a much wider range of difficulties.

## Microprocessors & Microcontrollers

Pearson Education India  
Diode Circuits Diode resistance, Diode equivalent circuits, Transition and diffusion capacitance, Reverse recovery time, Load line analysis, Rectifiers, Clippers and clampers. Transistor Biasing Operating point, Fixed bias circuits, Emitter stabilized biased circuits, Voltage divider biased, D.C. bias with voltage feedback, Miscellaneous bias configurations, Design operations,

Transistor switching networks, PNP transistors, Bias stabilization. Transistor at Low Frequencies BJT transistor modeling, Hybrid equivalent model, CE fixed bias configuration, Voltage divider bias, Emitter follower, CB configuration, Collector feedback configuration, Hybrid equivalent model. Transistor Frequency Response General frequency considerations, Low frequency response, Miller effect capacitance,

High frequency response, Multistage frequency effects. General Amplifiers Cascade connections, Cascode connections, Darlington connections. Feedback Amplifier Feedback concept, Feedback connections type, Practical feedback circuits. Power Amplifiers Definitions and amplifier types, Series fed class A amplifier, Transformer coupled class A amplifiers, Class B amplifier operations, Class B amplifier circuits, Amplifier

distortions. Oscillators Oscillator operation, Phase shift oscillator, Wien bridge oscillator, Tuned oscillator circuits,, Crystal oscillator. FET Amplifiers FET small signal model, Biasing of FET, Common drain common gate configurations, MOSFETs, FET amplifier networks.

### Analog Communication

Elsevier

Today, billions of devices are Internet-connected, IoT standards and protocols are stabilizing, and technical professionals must

increasingly solve real problems with IoT technologies. Now, five leading Cisco IoT experts present the first comprehensive, practical reference for making IoT work. IoT Fundamentals brings together knowledge previously available only in white papers, standards documents, and other hard-to-find sources—or nowhere at all. The authors begin with a high-level overview of IoT and introduce key concepts needed to successfully design IoT solutions. Next,

they walk through each key technology, protocol, and technical building block that combine into complete IoT solutions. Building on these essentials, they present several detailed use cases, including manufacturing, energy, utilities, smart+connected cities, transportation, mining, and public safety. Whatever your role or existing infrastructure, you'll gain deep insight what IoT applications can do, and what it takes to deliver them. Fully covers the principles and

components of next-generation wireless networks built with Cisco IOT solutions such as IEEE 802.11 (Wi-Fi), IEEE 802.15.4-2015 (Mesh), and LoRaWAN Brings together real-world tips, insights, and best practices for designing and implementing next-generation wireless networks Presents start-to-finish configuration examples for common deployment scenarios Reflects the extensive first-hand experience of Cisco experts  
*A Textbook of Strength of*

*Materials* John Wiley & Sons  
 The book covers all the aspects of theory, analysis, and design of Electronic Circuits for the undergraduate course. The concepts of biasing of BJT, JFET, MOSFET, along with the analysis of BJT, FET, and MOSFET amplifiers, are explained comprehensively. The frequency response of amplifiers is explained in support. The detailed essential of rectifiers, filters, and power supplies are also incorporated in the book. The book covers

biasing of BJT, JFET, and MOSFET and analysis of basic BJT, JFET, and MOSFET amplifiers with Hybrid  $\pi$  equivalent circuits. It also includes the Darlington amplifier discussion, amplifiers using Bootstrap technique, multistage amplifiers, differential amplifiers, and BiCMOS cascade amplifier. The in-depth analysis of the frequency response of various amplifiers is also included in the book. Finally, the book covers all the aspects of rectifiers, types of filters,

linear regulators, power supplies, and switching regulators. The book uses straightforward and lucid language to explain each topic. The book provides the logical method of describing the various complicated issues and stepwise methods to make understanding easy. The variety of solved examples is the feature of this book. The book explains the subject's philosophy, which makes understanding the concepts evident and makes the subject more interesting.

*Supply Chain Strategies and the Engineer-to-Order Approach* S. Chand Publishing  
 Differential Amplifiers Analysis of differential amplifier, common mode and differential mode gains, transfer characteristics, CMRR, I/P and O/P impedances, high performance amplifiers using current source bias and current mirror connection. Drift Problem Thermal drift, input error signals and their compensation in differential

amplifier. Operational Amplifier Ideal op-amp characteristics, cascading of differential amplifier. I/P, O/P stages and level translators, multistage op-amps, frequency response and stability. Frequency and phase compensation techniques. Some commercial op-amp parameters, features (IC 741, MC 1530). Op-amp Applications Inverting and non-inverting, differential and bridge amplifiers, summer, integrator, differentiator. V to I and I to V converters, op-amp feedback limiters using

diodes, zener diodes, log and antilog amplifiers, analog multipliers, dividers, sample and hold circuits. Peak detectors, precision rectifiers, instrumentation amplifier, monostable and astable multivibrators, comparators-Schmitt trigger using op-amp.Active FiltersFirst and second order Butterworth filters, design and its response (LP, HP, BP, BE, Narrow band, all pass filters).TimersBasic timer circuit 555 timer used as astable and monostable

multivibrator.Data Converters and Data Acquisition SystemD/A converters, basic D/A converter, weighted binary type, ladder R-2R D/A converters, performance parameters and source of errors.A/D ConvertersBasic V/F converter, V/T converter, single slope and dual slope converter. A/D converter using D/A converter, counter ramp, continuous counter ramp, successive approximation, flash converter.Communication AmplificationsCascade

amplifiers MC1550 for video, RF and amplitude modulation, AGC application, PLL, brief study of PLL system, applications of PLL for AM, FM detection, FSK decoder, frequency synthesis using commercial PLL (IC 565).Voltage RegulatorsAnalysis and design of series and shunt regulators using DC amplifiers, some commercial voltage regulators (MC 78XX series, IC 723), high current negative voltage with foldback limiting



concepts, switching regulators - basic concepts and applications.

Statistical Physics for Electrical Engineering MIT Press

The book provides comprehensive coverage of the hardware and software aspects of the 8085 microprocessor. It also introduces advanced processors from Intel family, SUN SPARC microprocessor and ARM Processor. The book teaches you the 8085 architecture, instruction set, machine cycles and

timing diagrams, Assembly Language Programming (ALP), Interrupts, interfacing 8085 with support chips, memory and peripheral ICs - 8255 and 8259. The book explains the features, architecture, memory addressing, operating modes, addressing modes of Intel 8086, 80286, 80386 microprocessors, segmentation, paging and protection mechanism provided by 80386 microprocessor and the features of 80486 and Pentium Processors. It

also explains the architecture of SUN SPARC microprocessor and ARM Processor.

### **Operational Amplifiers**

Technical Publications

This book covers diverse aspects of advanced computer and communication engineering, focusing specifically on industrial and manufacturing theory and applications of electronics, communications, computing and information technology. Experts in research, industry, and academia

present the latest developments in technology, describe applications involving cutting-edge communication and computer systems and explore likely future directions. In addition, access is offered to numerous new algorithms that assist in solving computer and communication engineering problems. The book is based on presentations delivered at ICOCOE 2014, the 1st International Conference on Communication and

Computer Engineering. It will appeal to a wide range of professionals in the field, including telecommunication engineers, computer engineers and scientists, researchers, academics and students.

*Digital Electronics*

Technical Publications  
 Communication process,  
 Source of information,  
 Communication channels,  
 Base-band and Pass-band signals, Representation of signal and systems, The modulation process,  
 Primary communication resources, Analog versus

digital communications. Amplitude modulation  
 Frequency division and time division multiplexing, Suppressed carrier systems, Single side band transmission, Amplitude modulation with carrier power, Effect of frequency and phase errors in synchronous detection, Comparison of various AM systems, Vestigial side band transmission. Angle Modulation  
 Narrow and wide band FM, Multiple frequency and square wave modulation, Linear and Non-linear

modulation, Phase modulation, Demodulation of FM signals, Noise reduction. Pulse Modulation Pulse amplitude modulation, Other forms of pulse modulation, Bandwidth required for transmission PAM signals, Comparison of frequency division and Time division multiplexed systems. Noise Different types of noise, Noise calculations, Equivalent noise bandwidth, Noise figures, Effective noise temperature, Noise figure in cascaded stages. Performance of

Communication Systems Noise calculation in communication systems, Noise in amplitude modulated, angle modulated and pulse modulated systems, Comparison of coded and un-coded systems. Information Transmission Measures of information, Channel capacity, transmission of continuous signals, Exchange of bandwidth for signal to noise ratio, Efficiency of PCM systems. **Free Space Laser Communication with Ambient Light**

**Compensation** Technical Publications  
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.  
Electronic Circuits-I PHI Learning Pvt. Ltd.  
This book addresses 5G network capacity requirements with a new architecture for 5G Optical Backhaul Network. The author first describes the challenges for 5G backhaul network requirements and then the details of an Optical Backhaul Network for 5G. The author describes an architecture, in which small cells deploy as a cluster (i.e., 3-5 small cells in one cluster),

where one small cell works as an aggregation point using an optical transceiver to backhaul the aggregated traffic to the nearest optical network unit, before it then goes to the core network. This book also illustrates the optical link budget analysis that can be used to determine the availability and the performances of the optical backhaul link in different deployment scenarios and different weather conditions. Provides a single-source reference to the basics of

free space laser communication with ambient light compensation; Offers timely information, blending theory and

practice; Written to be accessible to readers with varying backgrounds, including numerous illustrations; Provides

hands-on experience through practical examples, which can be put to work to deploy and optimize cellular networks.