

Fundamental Of Digital Computer

This text is intended for an introductory digital design course for students at the freshman level; it also is intended for an introductory computer design course with assembly language programming for students at the sophomore level. This text uses a spiral teaching approach by introducing a design problem and then, in the same chapter or a later chapter, either (1) reemphasizing the same concepts when a different design is presented, or (2) working the same problem using a different technique. This is done to increase the likelihood of retention.

This meticulously organized book dwells on fundamentals that one must learn in order to pursue any venture in the computer field. This book has 13 chapters, each chapter covering basic as well as advanced concepts. Designed for undergraduate students of commerce and management as per the syllabus of different Indian universities, Fundamentals of Computers may also be used as a textual resource in training programmes offered by computer institutes and as a self-study guide by professionals who want to improve their proficiency with computers.

In the recent years there has been rapid advances in the field of Digital Electronics and Microprocessor. This book is intended to help students to keep pace with these latest developments. The Present book is revised version of earlier book 'Introduction to Digital Computers' by the same author. Now this book is written in a lucid and simple language, which gives clear explanation of basics of Digital Electronics, Computers and icroprocessors.

Architecture and Organization

Introduction to Computers

Digital Computer Design

Examining Computer Hardware from the Bottom to the Top

Image Restoration: Fundamentals and Advances responds to the need to update most existing references on the subject, many of which were published decades ago. Providing a broad overview of image restoration, this book explores breakthroughs in related algorithm development and their role in supporting real-world applications associated with various scientific and engineering fields. These include astronomical imaging, photo editing, and medical imaging, to name just a few. The book examines how such advances can also lead to novel insights into the fundamental properties of image sources. Addressing the many advances in imaging, computing, and communications technologies, this reference strikes just the right balance of coverage between core fundamental principles and the latest developments in this area. Its content was designed based on the idea that the reproducibility of published works on algorithms makes it easier for researchers to build on each other's work, which often benefits the vitality of the technical community as a whole. For that reason, this book is as experimentally reproducible as possible. Topics covered include: Image denoising and deblurring Different image restoration methods and recent advances such as nonlocality and sparsity Blind restoration under space-varying blur Super-resolution restoration Learning-based methods Multi-spectral and color image restoration New possibilities using hybrid imaging systems Many existing references are scattered throughout the literature, and there is a significant gap between the cutting edge in image restoration and what we can learn from standard image processing textbooks. To fill that need but avoid a rehash of the many fine existing books on this subject, this reference focuses on algorithms rather than theories or applications. Giving readers access to a large amount of downloadable source code, the book illustrates fundamental techniques, key ideas developed over the years, and the state of the art in image restoration. It is a valuable resource for readers at all levels of understanding.

The absolute beginner's guide to learning basic computer skills Computing Fundamentals, Introduction to Computers gets you up to speed on basic computing skills, showing you everything you need to know to conquer entry-level computing courses. Written by a Microsoft Office Master Instructor, this useful guide walks you step-by-step through the most important concepts and skills you need to be proficient on the computer, using nontechnical, easy-to-understand language. You'll start at the very beginning, getting acquainted with the actual, physical machine, then progress through the most common software at your own pace. You'll learn how to navigate Windows 8.1, how to access and get around on the Internet, and how to stay connected with email. Clear instruction guides you through Microsoft Office 2013, helping you create documents in Word, spreadsheets in Excel, and presentations in PowerPoint. You'll even learn how to keep your information secure with special guidance on security and privacy. Maybe you're preparing for a compulsory computing course, brushing up for a new job, or just curious about how a computer can make your life easier. If you're an absolute beginner, this is your complete guide to learning the essential skills you need:

Understand the basics of how your computer works Learn your way around Windows 8.1 Create documents, spreadsheets, and presentations Send email, surf the Web, and keep your data secure With clear explanations and step-by-step instruction, Computing Fundamentals, Introduction to Computers will have you up and running in no time.

The Basic Computing Skills You Need to Enhance Your Academic Education Computing Fundamentals provides students with the basic computing skills needed to get the most from their educational endeavors, regardless of field of study. Written by Microsoft Office Master Instructor Faithe Wempen, this detailed resource helps you develop a strong understanding of how computers work and how they affect our society. In addition to helping you master essential computing tasks such as working with operating systems, applications, and the Internet, this book also provides you with all the knowledge you need for computing basics. Learn the types of computer hardware and how they work together Understand operating systems and application software Get a complete introduction to Windows® 7 Learn the basics of Microsoft® Office applications Understand the essential technologies behind networking, the Internet, and the web Learn how to protect your online privacy and security Explore legal, ethical, and health issues of computing Each chapter includes a summary, list of key terms, and sample questions to help you master basic computer skills.

By Thomas C. Bartee. 2d Ed

Fundamentals of Digital Logic and Microcomputer Design

Digital Computer Fundamentals

Fundamentals of Digital and Computer Design with VHDL

For courses in digital circuits, digital systems (including design and analysis), digital fundamentals, digital logic, and introduction to computers Digital Fundamentals, Eleventh Edition, continues its long and respected tradition of offering students a strong foundation in the core fundamentals of digital

technology, providing basic concepts reinforced by plentiful illustrations, examples, exercises, and applications. The text's teaching and learning resources include an Instructor's Manual, PowerPoint lecture slides, and Test Bank, as well as study resources for students. Teaching and Learning Experience: * Provides a strong foundation in the core fundamentals of digital technology. * Covers basic concepts reinforced by plentiful illustrations, examples, exercises, and applications. * Offers a full-color design, effective chapter organization, and clear writing that help students grasp complex concepts. This book teaches the basic principles of digital circuits. It is appropriate for an introductory course in digital electronics for the students of: • B.Sc. (Computer Science) • B.Sc. (Electronics) • B.Sc. (Information Technology) • B.Sc. (Physics) • Bachelor of Computer Applications (BCA) • Postgraduate Diploma in Computer Applications • Master of Computer Applications (MCA) The book emphasizes the must know concepts that should be covered in an introductory course and provides an abundance of clearly explained examples, so essential for a thorough understanding of the principles involved in the analysis and design of digital computers. The book takes students step-by-step through digital theory, focusing on: » Number representation systems and codes for representing information in digital systems » Use of logic gates in building digital circuits » Basic postulates and theorems of Boolean algebra » Karnaugh map method for simplifying Boolean functions » Arithmetic circuits such as adders and subtractors » Combinational circuit building blocks such as multiplexers, decoders and encoders » Sequential circuit building blocks such as flip-flops, counters and registers » Operation of memory elements such as RAM, DRAM, magnetic disk, magnetic bubble, optical disk, etc. 1. Number Systems and Codes 2. Logic Gates and Circuits 3. Boolean Algebra 4. Combinational Logic Circuits 5. Sequential Logic Circuits 6. Counters and Shift Registers 7. MEMORY ELEMENTS Computer Fundamentals is specifically designed to be used at the beginner level. It covers all the basic hardware and software concepts in computers and its peripherals in a very lucid manner.

Computer Systems

Fundamentals of Computers

Fundamentals of Digital Systems Design

FUNDAMENTALS OF COMPUTERS

The sixth edition of the highly acclaimed "Fundamentals of Computers" lucidly presents how a computer system functions. Both hardware and software aspects of computers are covered. The book begins with how numeric and character data are represented in a computer, how various input and output units function, how different types of memory units are organized, and how data is processed by the processor. The interconnection and communication between the I/O units, the memory, and the processor is explained clearly and concisely. Software concepts such as programming languages, operating systems, and communication protocols are discussed. With growing use of wireless to access computer networks, cellular wireless communication systems, WiFi (Wireless high fidelity), and WiMAX have become important. Thus it has now become part of "fundamental knowledge" of computers and has been included. Besides this, use of computers in multimedia processing has become commonplace and hence is discussed. With the increase in speed of networks and consequently the Internet, new computing environments such as peer to peer, grid, and cloud computing have emerged and will change the future of computing. Hence a new chapter on this topic has been included in this edition. This book is an ideal text for undergraduate and postgraduate students of Computer Applications (BCA and MCA), undergraduate students of engineering and computer science who study fundamentals of computers as a core course, and students of management who should all know the basics of computer hardware and software. It is ideally suited for working professionals who want to update their knowledge of fundamentals of computers. Key features • Fully updated retaining the style and all contents of the fifth edition. • In-depth discussion of both wired and wireless computer networks. • Extensive discussion of analog and digital communications. • Advanced topics such as multiprogramming, virtual memory, DMA, RISC, DSP, RFID, Smart Cards, WiGig, GSM, CDMA, novel I/O devices, and multimedia compression (MP3, MPEG) are described from first principles. • A new chapter on Emerging Computing Environments, namely, peer to peer, grid, and cloud computing, has been added for the first time in an entry level book. • Each chapter begins with learning goals and ends with a summary to aid self-study. • Includes an updated glossary of over 340 technical terms used in the book.

Computer Fundamentals and Programming in C 2e is designed to serve as a textbook for students of engineering (BE/B Tech), computer applications (BCA/MCA), and computer science (B Sc) for an introductory core course on computers and programming in C.

Updated to reflect the latest advances in the field, the Sixth Edition of Fundamentals of Digital Logic and Microcontrollers further enhances its reputation as the most accessible introduction to the basic principles and tools required in the design of digital systems. Features updates and revision to more than half of the material from the previous edition Offers an all-encompassing focus on the areas of computer design, digital logic, and digital systems, unlike other texts in the marketplace Written with clear and concise explanations of fundamental topics such as number system and Boolean algebra, and simplified examples and tutorials utilizing the PIC18F4321 microcontroller Covers an enhanced version of both combinational and sequential logic design, basics of computer organization, and microcontrollers

Digital Fundamentals

For Undergraduate Courses in Commerce and Management

Fundamentals of Digital Electronics

Digital Computer Design Fundamental

Fundamentals of Digital Logic and Microcomputer Design, has long been hailed for its clear and simple presentation of the principles and basic tools required to design typical digital systems such as microcomputers. In this Fifth Edition, the author focuses on computer design at three levels: the device level, the logic level, and the system level. Basic topics are covered, such as number systems and Boolean algebra, combinational and sequential logic design, as well as more advanced subjects such as assembly language programming and microprocessor-based system design. Numerous examples are provided throughout the text. Coverage includes: Digital circuits at the gate and flip-flop levels Analysis and design of combinational and sequential circuits Microcomputer organization, architecture, and programming concepts Design of computer instruction sets, CPU, memory, and I/O System design features associated with popular microprocessors from Intel and Motorola Future plans in microprocessor development An instructor's manual, available upon request

Additionally, the accompanying CD-ROM, contains step-by-step procedures for installing and using Altera Quartus II software, MASM 6.11 (8086), and 68asmsim (68000), provides valuable simulation results via screen shots. Fundamentals of Digital Logic and Microcomputer Design is an essential reference that will provide you with the fundamental tools you need to design typical digital systems.

This textbook covers digital design, fundamentals of computer architecture, and assembly language. The book starts by introducing basic number systems, character coding, basic knowledge in digital design, and components of a computer. The book goes on to discuss information representation in computing; Boolean algebra and logic gates; sequential logic; input/output; and CPU performance. The author also covers ARM architecture, ARM instructions and ARM assembly language which is used in a variety of devices such as cell phones, digital TV, automobiles, routers, and switches. The book contains a set of laboratory experiments related to digital design using Logisim software; in addition, each chapter features objectives, summaries, key terms, review questions and problems. The book is targeted to students majoring Computer Science, Information System and IT and follows the ACM/IEEE 2013 guidelines. • Comprehensive textbook covering digital design, computer architecture, and ARM architecture and assembly • Covers basic number system and coding, basic knowledge in digital design, and components of a computer • Features laboratory exercises in addition to objectives, summaries, key terms, review questions, and problems in each chapter

Digital Computer Fundamentals McGraw-Hill College Fundamentals of Digital Computers New York : Holt, Rinehart and Winston Digital Computer Fundamentals Tata McGraw-Hill Education Fundamentals of Digital Computers Fundamentals of Digital and Computer Design with VHDL McGraw-Hill Education

Digital Design, Fundamentals of Computer Architecture and Assembly Language

Principles of Digital Electronics

Computer Organization and Design Fundamentals

This book presents the fundamentals of digital electronics in a focused and comprehensive manner with many illustrations for understanding of the subject with high clarity. Digital Signal Processing (DSP) application information is provided for many topics of the subject to appreciate the practical significance of learning. To summarize, this book lays a foundation for students to become DSP engineers. Computer Organization and Design Fundamentals takes the reader from the basic design principles of the modern digital computer to a top-level examination of its architecture. This book can serve either as a textbook to an introductory course on computer hardware or as the basic text for the aspiring geek who wants to learn about digital design. The material is presented in four parts. The first part describes how computers represent and manipulate numbers. The second part presents the tools used at all levels of binary design. The third part introduces the reader to computer system theory with topics such as memory, caches, hard drives, pipelining, and interrupts. The last part applies these theories through an introduction to the Intel 80x86 architecture and assembly language. The material is presented using practical terms and examples with an aim toward providing anyone who works with computer systems the ability to use them more effectively through a better understanding of their design.

Fundamentals of Digital Logic and Microcomputer Design, has long been hailed for its clear and simple presentation of the principles and basic tools required to design typical digital systems such as microcomputers. In this Fifth Edition, the author focuses on computer design at three levels: the device level, the logic level, and the system level. Basic topics are covered, such as number systems and Boolean algebra, combinational and sequential logic design, as well as more advanced subjects such as assembly language programming and microprocessor-based system design. Numerous examples are provided throughout the text. Coverage includes: Digital circuits at the gate and flip-flop levels Analysis and design of combinational and sequential circuits Microcomputer organization, architecture, and programming concepts Design of computer instruction sets, CPU, memory, and I/O System design features associated with popular microprocessors from Intel and Motorola Future plans in microprocessor development An instructor's manual, available upon request Additionally, the accompanying CD-ROM, contains step-by-step procedures for installing and using Altera Quartus II software, MASM 6.11 (8086), and 68asmsim (68000), provides valuable simulation results via screen shots. Fundamentals of Digital Logic and Microcomputer Design is an essential reference that will provide you with the fundamental tools you need to design typical digital systems.

Computer Fundamentals

Computing Fundamentals

Digital Computers

Digital Literacy Edition

The first industrial revolution was concerned with the machine solely as an alternative to human muscle. It displaced man and animal as a source of power, without appreciably affecting other human functions. The development of automation which can handle problems of programming on an automatic basis will, to a large extent, condition the entire social and technical life of the future. The picture of the automatic age will be quite different from the picture of any other period. The technical revolution of automation will bring deeper and more incisive changes to man's life than did the first industrial revolution. The digital computer is the universal machine which has already revolutionized modern technology and which will be the main instrument to render factories and business places automatic. The digital computer has brought increased impetus and new direction to the whole field of applied mathematics and to the description of problems in precisely defined and solvable relations. Since the arrival of digital computers, applied mathematics takes a place of importance at least equal to abstract mathematics. Modern engineers and scientists have become more conscious of the powerful tool of mathematical analysis through the use of computers.

An Introduction to Digital Computing provides information pertinent to the fundamental aspects of digital computing. This book represents a major step towards the universal availability of programmed material. Organized into four chapters, this book begins with an overview of the fundamental workings of the computer, including the way it handles simple arithmetic problems. This text then provides a brief survey of the basic features of a typical computer that is divided into three sections, namely, the input and output system, the memory system for data storage, and a processing system. Other chapters focus on programming and on the workings of the computer control unit. This book discusses as well the

various arithmetic codes such as binary, decimal, octal, duodecimal, and hexadecimal codes. The final chapter deals with some of the more detailed workings of the control unit. This book is a valuable resource for university students and computer specialists.

Digital Computer Design: Logic, Circuitry, and Synthesis focuses on the logical structure, electronic realization, and application of digital information processors. The manuscript first offers information on numerical symbols, fundamentals of computing aids, quantization, representation of numbers in an electronic digital computer, and computer applications. The text then ponders on the nature of automatic computation and Boolean algebra. Discussions focus on the advantages of a Boolean algebraic description of a digital computer; clock pulse generators and timing circuits; sequential switching networks; elements of information processing systems and types of digital computers; and automatic sequencing methods. The book elaborates on circuit descriptions of switching and storage elements and large capacity storage systems. Topics include static magnetic storage, dynamic delay line storage, cathode-ray storage, vacuum tube systems of circuit logic, and magnetic core systems of circuit logic. The publication also examines the system design of GP computers, digital differential analyzer, and the detection and correction of errors. The text is a valuable source of data for mathematicians and engineers interested in digital computer design.

Fundamental of Digital Electronics And Microprocessors

Pergamon Programmed Texts

Fundamentals of Digital Machine Computing

An Introduction to Microcomputers