Microprocessor And Microcontroller Godse

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SWITCHING THEORY AND LOGIC DESIGN A. ANAND KUMAR 2014-03-06 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

Microprocessor Techniques D.A.Godse A.P.Godse 2008 8085 Microprocessor architecture, instruction set, timing, diagram, Assembly language programming, stack, subroutines, interrupts, wait & hold state concept.Memory addressing; decoding, Memory design and interfacing techniques, Microprocessor input output, I/O mapping and memory maping of devices 8085, Interrupts, Interrupt handling, PIC 8259.Supporting peripheral chips - 8255 (I/O), 8254 (Timer counter), 8237 (DMA controller), 8279 (Keyboard display controller).8 bit microcontroller - MCS51 family architecture, instruction set, assembly language programming using special features of 8051.Typical application of microprocessor and microcontroller in system demonstrating advantage over

discrete circuits. Flowchart, Program listing of typical case. Use of ADC and DAC.Software and hardware debugging methods using tools like logic analyser, simulator, emulator etc.Serial I/O; 8085 SID, SOD, Synchronous Asynchronous serial I/O, 8251 USART interfacing and programming, RS232 C and RS 485 Interface standards.

Microprocessor and Interfacing Atul P. Godse 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.

Electrical Power Systems Technology, Third Edition Dale R. Patrick 2020-12-18 Covering the gamut of technologies and systems used in the generation of electrical power, this reference provides an easy-to understand overview of the production, distribution, control, conversion, and measurement of electrical power. The content is presented in an easy to understand style, so that readers can develop a basic comprehensive understanding of the many parts of complex electrical power systems. The authors describe a broad array of essential characteristics of electrical power systems from power production to its conversion to another form of energy. Each system is broken down into sub systems and equipment that are further explored in the chapters of each unit. Simple mathematical presentations are used with practical applications to provide an easier understanding of basic power system operation. Many illustrations are included to facilitate understanding. This new third edition has been edited throughout to assure its content and illustration clarity, and a new chapter covering control devises for power control has been added.

Digital and Microprocessor Fundamentals William Kleitz 2003 Focusing on the must know essentials, this text is designed for one-semester consolidated courses in digital and microprocessor fundamentals, or one-semester courses in digital fundamentals followed by one-semester courses in microprocessor fundamentals.

Microcontroller & Applications D.A.Godse A.P.Godse 2007 Microprocessors and Microcontrollers Microprocessors and microcontrollers, A microprocessors survey, Development systems for microcontrollers, RISC & CISC CPU architectures, Harvard & Von-Neumann CPU architecture.The 8051 Architecture 8051 microntroller hardware, Input/output pins, Ports and circuits. External memory, Counter and timers, Serial data input/output, Interrupts.8051 Addressing Modes and Moving DataAddressing modes, External data moves, Code memory, Read only data moves / Indexed addressing mode, PUSH and POP opcodes,

Data exchanges, Example programs.Logical Operations, Arithmetic Operations,
Jump OperationsLogical operations : Byte level logical operations, Bit level
logical operations, Rotate and Swap operations, Example programs. Arithmetic
operations : Flags, Incrementing and decrementing, Addition, Subtraction,
Multiplication and Division, Decimal arithmetic, Example programs. Jump
operations : The JUMP and CALL program range, Jump calls and subroutines,
Interrupts and returns, More detail on interrupts, Example problems.Counter /
Timer Programming in 8051Programming 8051 timers, Counter programming.8051
Serial CommunicationBasics of serial communication, 8051 connections to RS-232,
8051. Serial communication programming.Interrupts Programming8051 Interrupts,
Programming timer interrupts, Programming external hardware interrupts,
Interrupt priority in the 8051.8051 Interfacing and ApplicationsInterfacing
8051 to LCD, ADC, Temperature sensor, DAC, Stepper motor, Keyboard, 8255.

Electrical Machines - II Uday A. Bakshi 2020-11-01 The importance of various
electrical machines is well known in the various engineering fields. The book
provides comprehensive coverage of the synchronous generators (alternators),
synchronous motors, three phase and single phase induction motors and various
special machines. The book is structured to cover the key aspects of the course
Electrical Machines - II. The book starts with the explanation of basics of
synchronous generators including construction, winding details and e.m.f.
equation. The book then explains the concept of armature reaction, phasor
diagrams, regulation and various methods of finding the regulation of
alternator. Stepwise explanation and simple techniques used to elaborate these
methods is the feature of this book. The book further explains the concept of
synchronization of alternators, two reaction theory and parallel operation of
alternators. The chapter on synchronous motor provides the detailed discussion
of construction, working principle, behavior on load, analysis of phasor
diagram, Vee and Inverted Vee curves, hunting and applications. The book
further explains the three phase induction motors in detail. It includes the
construction, working, effect of slip, torque equation, torque ratios, torque-
slip characteristics, losses, power flow, equivalent circuit, effect of
harmonics on the performance and applications. This chapter includes the
discussion of induction generator and synchronous induction motor. The detailed
discussion of circle diagram is also included in the book. The book teaches the
various starting methods, speed control methods and electrical braking methods
of three phase induction motors. Finally, the book gives the explanation of
various single phase induction motors and special machines such as reluctance
motor, hysteresis motor, repulsion motor, servomotors and stepper motors. The
discussion of magnetic levitation 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. Each chapter is well supported with necessary
illustrations, self explanatory diagrams 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.

MICROPROCESSORS AND MICROCONTROLLERS KRISHNA KANT 2007-10-22 This book provides

the students with a solid foundation in the technology of microprocessors and microcontrollers, their principles and applications. It comprehensively presents the material necessary for understanding the internal architecture as well as system design aspects of Intel's legendary 8085 and 8086 microprocessors and Intel's 8051 and 8096 microcontrollers. The book throughout maintains an appropriate balance between the basic concepts and the skill sets needed for system design. Besides, the book lucidly explains the hardware architecture, the instruction set and programming, support chips, peripheral interfacing, and cites several relevant examples to help the readers develop a complete understanding of industrial application projects. Several system design case studies are included to reinforce the concepts discussed. With exhaustive coverage provided and practical approach emphasized, the book would be indispensable to undergraduate students of Electrical and Electronics, Electronics and Communication, and Electronics and Instrumentation Engineering. It can be used for a variety of courses in Microprocessors, Microcontrollers, and Embedded System Design.

Microprocessors and Interfacing N Senthil Kumar 2012-07-12 Microprocessors and Interfacing is a textbook for undergraduate engineering students who study a course on various microprocessors, its interfacing, programming and applications.

Microprocessors and Microcomputers Ronald J. Tocci 1979

The 8085 Microprocessor: Architecture, Programming and Interfacing: Architecture, Programming and Interfacing K. Udaya Kumar 2008 The 8085 Microprocessor: Architecture, Programming and Interfacing is designed for an undergraduate course on the 8085 microprocessor, this text provides comprehensive coverage of the programming and interfacing of the 8-bit microprocessor. Written in a simple and easy-to-understand manner, this book introduces the reader to the basics and the architecture of the 8085 microprocessor. It presents balanced coverage of both hardware and software concepts related to the microprocessor.

Microprocessors and Microcontrollers N. Senthil Kumar 2010 Key Features --

Electronic Measurements and Instrumentation RS Sedha 2013 The book is meant for B.E./B.Tech. students of different universities of India and abroad. It contains all basic material required at undergraduate level. The author has included "Examination questions" from several Indian Universities as solved examples. The sections on "Descriptive Questions" and "Multiple Choice Questions" contains the theory type examination questions and objective questions respectively.

Computer Organization & Architecture 7e Stallings 2008-02

Microprocessors & Introduction to Microcontroller Atul P. Godse 2020-12-01 The book is written for an undergraduate course on the 8085 and 8086

microprocessors and 8051 microcontroller. It provides comprehensive coverage of the hardware and software aspects of 8085 and 8086 microprocessors and 8051 microcontroller. The book uses plain and lucid language to explain each topic. A large number of programming examples is the feature of this book. The book provides the logical method of describing the various complicated concepts and stepwise techniques for easy understanding, making the subject more interesting. The book is divided into three parts. The first part focuses on the 8085 microprocessor. It teaches you the 8085 architecture, pin description, bus organization, instruction set, addressing modes, instruction formats, Assembly Language Programming (ALP), instruction timing diagrams, interrupts and interfacing 8085 with support chips, memory and peripheral ICs - 8251, 8253, 8255, 8259 and 8279. It also explains the interfacing of 8085 with data converters - ADC and DAC- and introduces a temperature control system design. The second part focuses on the 8086 microprocessor. It teaches you the 8086 architecture, register organization, memory segmentation, interrupts, addressing modes, operating modes - minimum and maximum modes, interfacing 8086 with support chips, minimum and maximum mode 8086 systems and timings. The third part focuses on the 8051 microcontroller. It teaches you the 8051 architecture, pin description, instruction set, programming 8051 and interfacing 8051 with external memory. It explains timers/counters, serial port, interrupts of 8051 and their programming. It also describes the interfacing 8051 with keyboards, LCDs and LEDs and explains the control of servomotor, stepper motors and washing machine using 8051.

Microprocessors and Microcontrollers A. NAGOOR. KANI 2022-03-30 Designed for the students of engineering and arts and science colleges of various universities in India.

8051 Microcontroller Architecture, Programming and Application M. Mahalakshmi 2012-03-01

Embedded Systems Design Steve Heath 2002-10-30 In this new edition the latest ARM processors and other hardware developments are fully covered along with new sections on Embedded Linux and the new freeware operating system eCOS. The hot topic of embedded systems and the internet is also introduced. In addition a fascinating new case study explores how embedded systems can be developed and experimented with using nothing more than a standard PC. * A practical introduction to the hottest topic in modern electronics design * Covers hardware, interfacing and programming in one book * New material on Embedded Linux for embedded internet systems

Computer Architecture Atul P. Godse 2008 Structure of ComputersFunctional units, Basic operational concepts, Bus structures, Software performance, Memory locations and address, Memory operations, Instruction and instruction sequencing, Addressing modes, Assembly language, Basic I/O operations, Stacks and queues.Arithmetic UnitAddition and subtraction of signed numbers, Design of fast addres, Multiplication of positive numbers, Signed operand multiplication and fast multiplication, Integer division, Floating point numbers and

operations.Processing Unit Fundamental concepts, Execution of a complete instruction, Multiple bus organization, Hardwired control, Microprogrammed control, Pipelining, Basic concepts, Data hazards, Instruction hazards, Influence on instruction sets, Data path and control consideration, Superscalar operation.Memory SystemBasic concepts, Semiconductor RAMs, ROMs, Speed, Size and cost, Cache memories, Performance consideration, Virtual memory, Memory Management requirements, Secondary storage.I/O OrganizationAccessing I/O devices, Interrupts, Direct Memory Access, Buses, Interface circuits, Standard I/O interfaces (PCI, SCSI, USB)

Microprocessors & Microcontrollers Atul P. Godse 2021-01-01 The book is written for an undergraduate course on the 8086 microprocessor and 8051 microcontroller. It provides comprehensive coverage of the hardware and software aspects of 8086 microprocessor and 8051 microcontroller. The book is divided into three parts. The first part focuses on 8086 microprocessor. It teaches you the 8086 architecture, instruction set, Assembly Language Programming (ALP), interfacing 8086 with support chips, memory, and peripherals such as 8251, 8253, 8255, 8259, 8237 and 8279. It also explains the interfacing of 8086 with data converters - ADC and DAC and introduces a traffic light control system. The second part focuses on multiprogramming and multiprocessor configurations, numeric processor 8087, I/O processor 8089 and introduces features of advanced processors such as 80286, 80386, 80486 and Pentium processors. The third part focuses on 8051 microcontroller. It teaches you the 8051 architecture, instruction set, programming 8051 and interfacing 8051 with external memory. It explains timers/counters, serial port, interrupts of 8051 and their programming. It also describes the interfacing 8051 with data converters - ADC and DAC, keyboards, LCDs, LEDs, stepper motors, and sensors.

Microcontrollers Atul P. Godse 2020-12-01 The book is written for an undergraduate course on the 8051 and MSP430 microcontrollers. It provides comprehensive coverage of the hardware and software aspects of 8051 and MSP430 microcontrollers. The book is divided into two parts. The first part focuses on 8051 microcontroller. It teaches you the 8051 architecture, instruction set, programming 8051 and interfacing 8051 with external memory. It explains timers/counters, serial port, interrupts of 8051 and their programming. It also describes the interfacing 8051 with data converters - ADC and DAC, keyboards, LCDs, LEDs, stepper motors and DC motor interfacing. The second part focuses on MSP430 microcontroller. It teaches you the low power features, architecture, instruction set, programming, digital I/O and on-chip peripherals of MSP430. It describes how to use code composer studio for assembly and C programming. It also describes the interfacing MSP430 with external memory, LCDs, LED modules, wired and wireless sensor networks.

Microprocessor and Microcontroller Atul P. Godse 2010

Microprocessors and Interfacing Douglas V. Hall 1992

ARM Controller Atul P. Godse 2020-12-01 The book presents the fundamentals of

microprocessor-and-microcontroller-godse   *6/11*

ARM processor in a simple, lucid and systematic way. It also gives comprehensive coverage of the popular ARM microcontroller - LPC2148. The book is divided into two parts. The first part focuses on the RISC design philosophy, ARM design philosophy, embedded system hardware, embedded system software, ARM processor fundamentals, instruction set, programming, exceptions and interrupt handling schemes. The second part focuses on LPC2148 CPU, its features, architecture, registers, GPIO, Timers, Interrupt controller, PLL and other peripherals.

Internet Programming Anuradha A. Puntambekar 2020-12-01 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.

Power Electronics B. W. Williams 1987

Basic Electronics 2013

The 8086 Microprocessor Kenneth Ayala 1994-12-01 Intended for the beginning programming student taking the first course on the 8086, a 16-bit microprocessor manufactured by Intel. It serves as a campanion text to Ayala's The 8051 Microcontroller: Architecture, Programming, and Applications, 2nd (1997). The text has a software programming emphasis and focuses on assembly language geared to IBM PCs. Digital logic design or basic binary fundamentals are prerequisites, but no prior study of computers or assembly language is necessary. ALSO AVAILABLE INSTRUCTOR SUPPLEMENTS CALL CUSTOMER SUPPORT TO ORDER Transparency Masters, ISBN: 0-314-05764-1

80X86 IBM PC and Compatible Computers Muhammad Ali Mazidi 2000-01-01

Microprocessor - I A. P. Godse 2008 8086/8088 CPU : Architecture programming model segmentation, Addressing modes, Instruction sets, Assembly language programming BIOS and DOS interrupts.BIOS and DOS Interrupts : Introduction to DOS, Assembly language programming in MSDOS using BIOS and DOS Interrupts, Programming technique, Time delay loop, Produce and macros.8086 Configuration : Basic 8086 configuration, Maximum and minimum modes, System bus timing, Interrupt priority management, Programmable interrupt controller (PIC) 8259A

8089(IOP).Main Memory Design : 8086 CPU Read/Write timing SRAM and ROM interfacing requirement, Address decoding technique full partial block PROM, Troubleshooting the memory module. DMA : Basic DMA operation, 8237 DMA controller.Multiprocessor Configuration : Queue status and block facility 8086 based multiprocessor system, Co-processor configuration, Closely coupled configuration, Overview of loosely coupled configuration, 8087 NDP, 8087 data types and processor architecture, 8087 programming.

Operational Amplifiers G B Clayton 2013-10-22 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.

Digital Electronics Anil K. Maini 2007-09-27 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.

Introduction to Embedded Systems, Second Edition Edward Ashford Lee 2016-12-30 An introduction to the engineering principles of embedded systems, with a focus on modeling, design, and analysis of cyber-physical systems. The most visible use of computers and software is processing information for human consumption. The vast majority of computers in use, however, are much less visible. They run the engine, brakes, seatbelts, airbag, and audio system in your car. They digitally encode your voice and construct a radio signal to send it from your cell phone to a base station. They command robots on a factory floor, power generation in a power plant, processes in a chemical plant, and traffic lights in a city. These less visible computers are called embedded systems, and the software they run is called embedded software. The principal challenges in designing and analyzing embedded systems stem from their interaction with physical processes. This book takes a cyber-physical approach to embedded systems, introducing the engineering concepts underlying embedded systems as a technology and as a subject of study. The focus is on modeling, design, and analysis of cyber-physical systems, which integrate computation, networking, and physical processes. The second edition offers two new chapters, several new exercises, and other improvements. The book can be used as a textbook at the advanced undergraduate or introductory graduate level and as a professional reference for practicing engineers and computer scientists. Readers should have some familiarity with machine structures, computer programming, basic discrete mathematics and algorithms, and signals and systems.

The Intel Microprocessors Barry B. Brey 2009

Digital Electronics and Introduction to Microprocessors and Microcontrollers Atul P. Godse 2021-01-01 The book begins with bipolar and unipolar logic families. It teaches you the TTL and CMOS logic families. It provides in-depth information about analog to digital converters and digital to analog converters. It also covers semiconductor memories and programmable logic devices. Then the book introduces microprocessors and microcontrollers. It introduces microprocessor with basic concepts, terminologies, phases in the execution process, evolution, block diagram, programming, instruction format, addressing modes, architectural advancements, selection criteria and applications. It also explains the block diagram, various types and applications of the microcontrollers. Finally, the book incorporates a detailed discussion of display devices.

Microprocessor 8086 : Architecture, Programming and Interfacing Mathur Sunil

Microprocessor and Interfacing Atul P. Godse 2021-01-01 The book is written for an undergraduate course on the 8085 microprocessor. It provides comprehensive coverage of the hardware and software aspects of the 8085 microprocessor, and it introduces advanced processors from Intel family. 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 - 8251, 8253, 8255, 8259, and 8237. It also explains the interfacing of 8085 with keyboard, display, data converters - ADC

and DAC and introduces a temperature control system, stepper motor control system, and data acquisition system design. The book also explains the architecture, programming model, memory segmentation, addressing modes, pin description of Intel 8086 microprocessor, and features of Intel 80186, 80286, 80386, and 80486 processors.

Introduction to Microprocessors and Microcontrollers John Crisp 2003-11-13 Assuming only a general science education this book introduces the workings of the microprocessor, its applications, and programming in assembler and high level languages such as C and Java. Practical work and knowledge-check questions contribute to building a thorough understanding with a practical focus. The book concludes with a step-by-step walk through a project based on the PIC microcontroller. The concise but clearly written text makes this an ideal book for electronics and IT students and a wide range of technicians and engineers, including IT systems support staff, and maintenance / service engineers. *Crisp's conversational style introduces the fundamentals of the micro (microprocessors, microcontrollers, systems on a chip) in a way that is utterly painless but technically spot-on: the talent of a true teacher. *Microprocessors and microcontrollers are covered in one book, reflecting the importance of embedded systems in today's computerised world. *Practical work and knowledge-check questions support a lively text to build a firm understanding of the subject.

Microprocessors & Microcontrollers Atul P. Godse 2008 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 OrganisationInitialization 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 programmingProgrammer'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 ModeIntroduction, 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/OMultitasking - 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-controllerMicro-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-controllerOverview 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.

Microprocessors and Microcontrollers Atul P. Godse 2020-12-01 The book is written for an undergraduate course on the 8085 microprocessor and 8051 microcontroller. It provides comprehensive coverage of the hardware and software aspects of 8085 microprocessor and 8051 microcontroller. The book is divided into two parts. The first part focuses on 8085 microprocessor. It teaches you the 8085 architecture, instruction set, Assembly Language Programming (ALP), interfacing 8085 with support chips, memory and peripheral ICs - 8251, 8253, 8255, 8259, 8237 and 8279. It also explains the interfacing of 8085 with data converters - ADC and DAC - and introduces a temperature control system and data acquisition system design. The second part focuses on 8051 microcontroller. It teaches you the 8051 architecture, instruction set, programming 8051 with ALP and C and interfacing 8051 with external memory. It also explains timers/counters, serial port and interrupts of 8051 and their programming in ALP and C. It also covers the interfacing 8051 with data converters - ADC and DAC, keyboards, LCDs, LEDs, stepper motors, servo motors and introduces the washing machine control system design.