

# Introduction To Logic Design Third Edition Marcovitz

Digital Principles and Logic Design Introduction to Logic Design Digital Logic Design Digital Logic Design Principles Introduction to Logic Design A Systematic Approach to Digital Logic Design Digital Logic Design Introduction to Logic Design Introduction to Logic Circuits & Logic Design with VHDL Introduction to Logic Design Fundamentals of Logic Design Logic Design An Illustrative Approach To Logic Design Introduction to Logic and Computer Design Introduction to Logic Circuits & Logic Design with VHDL An Illustrative Approach To Logic Design Digital Logic Design Introduction to Logic and Computer Design Problems and Solutions in Logic Design Logic Design and Computer Organization Arijit Saha Sajjan G. Shiva Guy Even Norman Balabanian Sajjan G. Shiva Frederic J. Mowle B. Holdsworth Svetlana N. Yanushkevich Brock J. LaMeres Alan B. Marcovitz Charles H. Roth Mike Wharton Samuel R. D. Sudhaker Alan B. Marcovitz Brock J. LaMeres Dr. R D Sudhaker Samuel Ming-Bo Lin Alan B. Marcovitz D. Zissos Atul P. Godse Digital Principles and Logic Design Introduction to Logic Design Digital Logic Design Digital Logic Design Principles Introduction to Logic Design A Systematic Approach to Digital Logic Design Digital Logic Design Introduction to Logic Design Introduction to Logic Circuits & Logic Design with VHDL Introduction to Logic Design Fundamentals of Logic Design Logic Design An Illustrative Approach To Logic Design Introduction to Logic and Computer Design Introduction to Logic Circuits & Logic Design with VHDL An Illustrative Approach To Logic Design Digital Logic Design Introduction to Logic and Computer Design Problems and Solutions in Logic Design Logic Design and Computer Organization Arijit Saha Sajjan G. Shiva Guy Even Norman Balabanian Sajjan G. Shiva Frederic J. Mowle B. Holdsworth Svetlana N. Yanushkevich Brock J. LaMeres Alan B. Marcovitz Charles H. Roth Mike Wharton Samuel R. D. Sudhaker Alan B. Marcovitz Brock J. LaMeres Dr. R D Sudhaker Samuel Ming-Bo Lin Alan B. Marcovitz D. Zissos Atul P. Godse

this text and reference provides students and practicing engineers with an introduction to the classical methods of designing electrical circuits but incorporates modern logic design techniques used in the latest microprocessors microcontrollers microcomputers and various lsi components the book provides a review of the classical methods e g the basic concepts of boolean algebra combinational

logic and sequential logic procedures before engaging in the practical design approach and the use of computer aided tools the book is enriched with numerous examples and their solutions over 500 illustrations and includes a cd rom with simulations additional figures and third party software to illustrate the concepts discussed in the book

this textbook based on the authors fifteen years of teaching is a complete teaching tool for turning students into logic designers in one semester each chapter describes new concepts giving extensive applications and examples assuming no prior knowledge of discrete mathematics the authors introduce all background in propositional logic asymptotics graphs hardware and electronics important features of the presentation are all material is presented in full detail every designed circuit is formally specified and implemented the correctness of the implementation is proved and the cost and delay are analyzed algorithmic solutions are offered for logical simulation computation of propagation delay and minimum clock period connections are drawn from the physical analog world to the digital abstraction the language of graphs is used to describe formulas and circuits hundreds of figures examples and exercises enhance understanding the extensive website [eng.tau.ac.il/~guyeven/](http://eng.tau.ac.il/~guyeven/) includes teaching slides links to logisim and a dlx assembly simulator

this book is an introduction on the principles of digital logic circuits while providing coverage to the usual topics in combinational and sequential circuit principles it also includes a chapter on the use of the hardware description language abel in the design of circuits using plds and a chapter on computer organization

the second edition of this text provides an introduction to the analysis and design of digital circuits at a logic instead of electronics level it covers a range of topics from number system theory to asynchronous logic design a solution manual is available to instructors only requests must be made on official school stationery

number systems base r arithmetic boolean algebra special boolean functions and basic logic conventions minimization procedures for boolean function binary arithmetic units decimal arithmetic introduction to sequential circuit design practical flip flop circuits binary counters register design techniques advanced arithmetic units

digital logic design second edition provides a basic understanding of digital logic design with emphasis on the two alternative methods

of design available to the digital engineer this book describes the digital design techniques which have become increasingly important organized into 14 chapters this edition begins with an overview of the essential laws of boolean algebra k map plotting techniques as well as the simplification of boolean functions this text then presents the properties and develops the characteristic equations of a number of various types of flip flop other chapters consider the design of synchronous and asynchronous counters using either discrete flip flops or shift registers this book discusses as well the design and implementation of event driven logic circuits using the nand sequential equation the final chapter deals with simple coding techniques and the principles of error detection and correction this book is a valuable resource for undergraduate students digital engineers and scientists

with an abundance of insightful examples problems and computer experiments introduction to logic design provides a balanced easy to read treatment of the fundamental theory of logic functions and applications to the design of digital devices and systems requiring no prior knowledge of electrical circuits or electronics it supplies the

this textbook introduces readers to the fundamental hardware used in modern computers the only pre requisite is algebra so it can be taken by college freshman or sophomore students or even used in advanced placement courses in high school this book presents both the classical approach to digital system design i e pen and paper in addition to the modern hardware description language hdl design approach computer based this textbook enables readers to design digital systems using the modern hdl approach while ensuring they have a solid foundation of knowledge of the underlying hardware and theory of their designs this book is designed to match the way the material is actually taught in the classroom topics are presented in a manner which builds foundational knowledge before moving onto advanced topics the author has designed the content with learning goals and assessment at its core each section addresses a specific learning outcome that the learner should be able to do after its completion the concept checks and exercise problems provide a rich set of assessment tools to measure learner performance on each outcome this book can be used for either a sequence of two courses consisting of an introduction to logic circuits chapters 1 7 followed by logic design chapters 8 13 or a single accelerated course that uses the early chapters as reference material written the way the material is taught enabling a bottom up approach to learning which culminates with a high level of learning with a solid foundation emphasizes examples from which students can learn contains a solved example for nearly every section in the book includes more than 600 exercise problems as well as concept check questions for each section tied directly to specific learning outcomes

introduction to logic design by alan marcovitz is intended for the first course in logic design taken by computer science computer engineering and electrical engineering students as with the previous editions this edition has a clear presentation of fundamentals and an exceptional collection of examples solved problems and exercises the text integrates laboratory experiences both hardware and computer simulation while not making them mandatory for following the main flow of the chapters design is emphasized throughout and switching algebra is developed as a tool for analyzing and implementing digital systems the presentation includes excellent coverage of minimization of combinational circuits including multiple output ones using the karnaugh map and iterated consensus there are a number of examples of the design of larger systems both combinational and sequential using medium scale integrated circuits and programmable logic devices the third edition features two chapters on sequential systems the first chapter covers analysis of sequential systems and the second covers design complete coverage of the analysis and design of synchronous sequential systems adds to the comprehensive nature of the text the derivation of state tables from word problems further emphasizes the practical implementation of the material being presented

this is a clear introduction to logic circuit design as well as providing a first guide for the beginner the volume includes practical information and reference material for the more experienced electronics amateur or student

introduction to logic and computer design by alan marcovitz takes the successful formula realized in the author s previous books and makes it even better with the inclusion of several chapters on computer design marcovitz now offers everything a fundamentals oriented logic design course might include further this new book is supported by an aris site and a host of new media supplements to make both the instructor s and the student s job easier as with marcovitz s previous books the clear presentation of concepts and well paced writing style make introduction to logic and computer design the ideal companion to any first course in digital logic users rave about the book s extensive set of examples well integrated into the body of the text and included at the end of each chapter in sections of solved problems that give students multiple opportunities to understand the topics being presented

this textbook introduces readers to the fundamental hardware used in modern computers the only pre requisite is algebra so it can be taken by college freshman or sophomore students or even used in advanced placement courses in high school this book presents both the classical approach to digital system design i e pen and paper in addition to the modern hardware description language hdl design approach computer based this textbook enables readers to design digital systems using the modern hdl approach while ensuring they

have a solid foundation of knowledge of the underlying hardware and theory of their designs this book is designed to match the way the material is actually taught in the classroom topics are presented in a manner which builds foundational knowledge before moving onto advanced topics the author has designed the content with learning goals and assessment at its core each section addresses a specific learning outcome that the learner should be able to do after its completion the concept checks and exercise problems provide a rich set of assessment tools to measure learner performance on each outcome this book can be used for either a sequence of two courses consisting of an introduction to logic circuits chapters 1 7 followed by logic design chapters 8 13 or a single accelerated course that uses the early chapters as reference material

packed with nearly 400 illustrative examples and exercises this book begins with boolean algebra and combination logic circuits and goes on to explain the various methods of simplification of boolean expressions a brief deviation is taken to look at various logic families their structure and operation this is followed by a simple approach to the design of combination circuits with msi components and programmable logic devices with illustrations of adders comparators decoders encoders multipliers and various forms of plds a treatise on sequential circuits begins with explanations of all types of flip flops and their applications backed by delightful examples and exercises the book concludes with an interesting chapter on the analysis and design of synchronous sequential circuits while the book is a remarkable reference material for logic design engineers it provides a simplified and well illustrated approach to students who desire a systematic and vibrant approach to the study of logic design contents logic design using msi components and programmable logic devices simplification of boolean expression logic gates and families flip flops and their applications synchronous sequential circuits appendix

digital logic design is a comprehensive textbook which aims to provide entrylevel readers a quick start to the field of digital logic design so as to facilitate them with the capability suitable for the versatility of social change and interdisciplinary learning this textbook can be used as a textbook for classroom use in the fields of electronics electrical computer science information engineering mechanical and soon the salient features of this textbook are as follows 1 introduce incrementally the principles of digital logic design and exemplify each basic theme and concept with abundant illustrations 2 detail design principles of various combinational modules including decoders encoders multiplexers demultiplexers arithmetic circuits and so on 3 introduce design principles of various sequential modules including counters registers shift registers sequence generators etc 4 address the structures features and applications of pld fpga devices 5 exemplify applications of cpld fpga devices with verilog hdl modules 6 provide 20 basic and

application experiments of digital logic to help readers verify the consistence of digital logic between principles and practice 7 include an abundance of review questions in each section to help readers evaluate their understandings about the section 8 deal with verilog hdl concisely in relevant sections so as to make the reader understand how to describe a logic circuit in verilog hdl precisely digital logic design is an ideal textbook for the digital logic design course in the fields of electronics electrical computer science information engineering mechanical etc or serves as a valuable reference book for self study

this book presents the basic concepts used in designing and analyzing digital circuits and introduces digital computer organization and design principles the first part of the book teaches you the number systems logic gates logic families boolean algebra simplification of logic functions analysis and design of combinational circuits using ssi and msi circuits it also explains latches and flip flops types of counters synchronous and asynchronous counter design and applications and shift registers and its applications the second part of the book teaches you functional units of computer von neumann and harvard architectures processor organization control unit hardwired control unit and microprogrammed control unit processor instructions instruction cycle instruction formats instruction pipelining risc and cisc architectures interrupts interrupt handling multiprocessor systems multicore processors memory and i o organizations

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