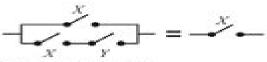
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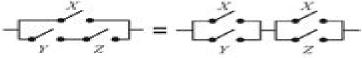
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Unit 2 Solutions

Unit 2 Problem Solutions

- 2.1 See FLD p. 731 for solution.
- 2.2 (a) In both cases, if X = 0, the transmission is 0, and if X = 1, the transmission is 1.
- 2.2 (b) In both cases, if X = 0, the transmission is YZ, and if X = 1, the transmission is 1.





- 2.3 Answer is in FLD p. 731
- **2.4 (a)** $F = [(A \cdot 1) + (A \cdot 1)] + E + BCD A + E + BCD$
- 2.5 (a) (A + B) (C + B) (D' + B) (ACD' + E) - (AC + B) (D' + B) (ACD' + E) By Dist Law - (ACD' + B) (ACD' + E) By Dist Law - ACD' + BE By Dist Law
- 2.6 (a) AB + C'D' (AB C')(AB + D')- (A + C')(B + C')(A + D')(B + D')
- 2.6 (c) A'BC + EF + DEF' A'BC + E(F + DF') -A'BC + E(F + D) - (A'BC + E)(A'BC + F + D) -(A' + E)(B + E)(C + E)(A' + F + D) (B + F + D)(C + F + D)
- 2.6 (c) ACD' + C'D' + A'C = D' (AC + C') + A'C = D' (A + C') + A'C By Elimination Theorem = (D' + A'C) (A + C' + A'C) = (D' + A') (D' + C) (A + C' + A') By Distributive Law and Elimination Theorem
- 2.7 (a) (A' + D') (C + D)(A + B + C + D) (A + B + C + E) (A + B + C + F)-A + B + C + DEFApply second Distributive Law twice

- 2.4 (b) Y (AB' + (AB + B)) B + A (AB' + B) B + A - (A + B) B + A - AB + B + A - A + B
- 2.5 (b) (A' + B + C') (A' + C' + D) (B' + D') - (A' + C' + BD) (B' + D') {By Distributive Law with X - A' + C'} - A'B' + B'C' + B'BD + A'D' + C'D' + BDD' - A'B' + A'D' + C'B' + C'D'
- 2.6 (b) WX + WYX + ZYX X(W + WY' + ZY) -X(W + ZY) {By Absorption} -X(W + Z)(W + Y)
- 2.6 (d) XYZ + W'Z + XQ'Z Z(XY + W' + XQ') -Z[B'' + X(Y + Q')]-Z(B'' + X)(B'' + Y + Q') By Distributive Law
- 2.6 (f) A + BC + DE= (A + BC + D)(A + BC + E)= (A + B + D)(A + C + D)(A + B + E)(A + C + E)
- 2.7 (b) WXYZ + VXYZ = UXYZ XYZ (W + V + U)By first Distributive Law



- 2.8 (a) [(AB)' + CD]' AB(C'D)' AB(C + D')- ABC + ABD'



- 2.8 (b) [A + B (C' + D)]' A (B(C' + D))' - A (B' + (C' + D))' - A (B' + CD') - A B' + A CD'
- 2.9 (b) G = {||(R + S + T)' PT(R + S)'| T}' = (R + S = T)' PT(R + S)' + T' = T' + (R'S'T') P(R'S')T = T' + PR'S'TT = T'

Fundamentals Of Logic Design Problem Solutions

John S. Gero, Nathalie Bonnardel

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Fundamentals of Logic Design Charles H. Roth, 1992 Fundamentals of Logic Design Charles H. Roth, 1985 Introduction to Logic Design Syetlana N. Yanushkevich, Vlad P. Shmerko, 2008-01-25 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 **Fundamentals of Switching Theory and Logic Design** Jaakko Astola, Radomir S. Stankovic, 2006-03-07 Fundamentals of Switching Theory and Logic Design discusses the basics of switching theory and logic design from a slightly alternative point of view and also presents links between switching theory and related areas of signal processing and system theory Switching theory is a branch of applied mathematic providing mathematical foundations for logic design which can be considered as a part of digital system design concerning realizations of systems whose inputs and outputs are described by logic functions Digital Logic Design B. Holdsworth, 2014-05-12 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 seguential 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 Ref Man Logicaid Cad Users Win Roth, J.D., Charles H. Roth, 1992-06 This is a computer aided logic design program that enables readers to easily derive logic equations from interns truth tables and state tables and provides tutorial help for Karnaugh maps and derivation of state graphs

Introduction to the Comparative Method With Boolean Algebra Daniele Caramani,2008-07-02 Offering students and researchers in the behavioural and social sciences a brief and accessible introduction to the comparative method it is ideal for students of public administration policy sociology political science social psychology and international relations It provides readers with basic guidelines for comparative research by addressing all key methodological issues **Digital**System Design Using VHDL Rishabh Anand,2023 The book covers the complete syllabus of subject as suggested by most of the universities in India Generic VHDL code is taught and used through out the book so that different companies VHDL tools can be used if desired Moving from the unknown in a logical manner Subject matter in each chapter develops systematically from inceptions Large number of carefully selected worked examples in sufficient details No other reference is required

Ideally suited for self study Introduction to Logic Design, Second Edition Sajjan G. Shiva,1998-01-20 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 Project Impact - Disseminating Innovation in Undergraduate Education Ann McNeal, 1998-02 Contains abstracts of innovative projects designed to improve undergraduate education in science mathematics engineering and technology Descriptions are organized by discipline and include projects in astronomy biology chemistry computer science engineering geological sciences mathematics physics and social sciences as well as a selection of interdisciplinary projects Each abstract includes a description of the project published and other instructional materials additional products of the project and information on the principal investigator and participating Algorithms for VLSI Design Automation Sabih H. Gerez,1999-01-05 Modern microprocessors such as Intel's institutions Pentium chip typically contain many millions of transistors They are known generically as Very Large Scale Integrated VLSI systems and their sheer scale and complexity has necessitated the development of CAD tools to automate their design This book focuses on the algorithms which are the building blocks of the design automation software which generates the layout of VLSI circuits Courses on this area are typically elective courses taken at senior undergrad or graduate level by students of Electrical and Electronic Engineering and sometimes in Computer Science or Computer Engineering Science of Microelectronic Circuit Design Anatoly Belous, Vitali Saladukha, 2022-02-10 This book guides readers through the entire complex of interrelated theoretical and practical aspects of the end to end design and organization of production of silicon submicron integrated circuits The discussion includes the theoretical foundations of the operation of field effect and bipolar transistors the methods and peculiarities of the structural and schematic design basic circuit design and system design engineering solutions for bipolar CMOS BiCMOS and TTL integrated circuits standard design libraries and typical design flows Proceedings, IEEE Control Systems Society ... Symposium on Computer-Aided Control System Design (CACSD). ,2000 The Cumulative Book Index ,1980 A world list of books in the English language Basics Interactive Design: Interface Design Dave Wood, 2014-03-27 AVA's Basics Interactive Design titles are designed to provide visual arts student with a theoretical and practical exploration of each of the fundamental topics within the discipline of Interactive Design Packed with examples from students and professionals and fully illutrated with clear diagrams and inspiring imagery they offer an essential exploration of the subject Basics Interactive Design Interface Design is the first book in the new Basics series From a visual communication direction it focuses on the design of effective user focused front end designs for a range of digital media interfaces Using case studies and interviews to delve deeper the design of effective visual communication for user interfaces is clearly explained giving the reader the knowledge needed to design better websites apps for smartphones and tablts and DVD interfaces Switching Theory and Logic Design Rao, C. V. S., 2005 Switching Theory and Logic

Design is for a first level introductory course on digital logic design This book illustrates the usefulness of switching theory and its applications with examples to acquaint the student with the necessary background This book has been designed as a prerequisite to many other courses like Digital Integrated Circuits Computer Organisation Digital Instrumentation Digital Control Digital Communications and Hardware Description Languages

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