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function of the AND and OR gates; 2.10 The inversion function; 2.11 Gate or switch implementation of a Boolean function; 2.12 The Boolean theorems; 2.13 Complete sets; 2.14 The exclusive-OR (XOR) function; 2.15 The Reed-Muller equation; 2.16 Set theory and the Venn diagram; Chapter 3. Karnaugh maps and function simplification; 3.1 Introduction; 3.2 Minterms and maxterms; 3.3 Canonical forms; 3.4 Boolean functions of two variables; 3.5 The Karnaugh map; 3.6 Plotting Boolean functions on a Karnaugh map
 3.7 Maxterms on the Karnaugh map
 3.8 Simplification of Boolean functions; 3.9 The inverse function; 3.10 'Don't care' terms; 3.11 Simplification of products of maxterms; 3.12 The Quine-McCluskey tabular simplification method; 3.13 Properties of prime implicant tables; 3.14 Cyclic prime implicant tables; 3.15 Semi-cyclic prime implicant tables; 3.16 Quine-McCluskey simplification of functions containing 'don't care' terms; 3.17 Decimal approach to Quine-McCluskey simplification of Boolean functions; 3.18 Multiple output circuits; 3.19 Tabular methods for multiple output functions
 3.20 Reduced dimension maps
 3.21 Plotting RDMs from truth tables; 3.22 Reading RDM functions; 3.23 Looping rules for RDMs; 3.24 Criteria for minimisation; Chapter 4. Combinational logic design principles; 4.1 Introduction; 4.2 The NAND function; 4.3 NAND logic implementation of AND and OR functions; 4.4 NAND logic implementation of sums-of-products; 4.5 The NOR function; 4.6 NOR logic implementation of AND and OR functions; 4.7 NOR logic implementation of products-of-sums; 4.8 NOR logic implementation of sums-of-products; 4.9 Boolean algebraic analysis of NAND and NOR networks
 4.10 Symbolic circuit analysis for NAND and NOR networks

Sommario/riassunto

New, updated and expanded topics in the fourth edition include: EBCDIC, Grey code, practical applications of flip-flops, linear and shaft encoders, memory elements and FPGAs. The section on fault-finding has been expanded. A new chapter is dedicated to the interface between digital components and analog voltages. *A highly accessible, comprehensive and fully up to date digital systems text* A well known and respected text now revamped for current courses *Part of the Newnes suite of texts for HND/1st year modules
