CONTENTS

1	Basic Set Theory 1.1—Introduction 1.2—Notation 1.3—Set Inclusion and Equality of Sets 1.4—Special Sets 1.5—Combinations of Sets 1.6—Venn-Euler Diagrams 1.7—Laws of Operation 1.8—Simplification of Expressions Involving Sets 1.9—Applications of Set Theory to Arithmetic and Logical Problems	1
2	Binary Operations	21
	2.1–2.2—Commutative, Associative, Distributive, and Idempotent Binary Operations	
3	The Algebra of Propositions	25
	3.1—Introduction 3.2—The Negation of a Proposition 3.3—Combinations of Propositions 3.4—Equality of Propositions 3.5—Algebra of Propositions 3.6—Further Combinations of Propositions	
4	Introduction to Matrix Algebra	39
	4.1—Preliminary Ideas and Definitions 4.2—Matrix Addition, Subtraction, and Scalar Multiplication 4.3—Diagonal, Scalar, Unit, and Null Matrices 4.4—The Transpose of a Matrix: Symmetric and Skew-Symmetric Matrices 4.5—The Multiplication of Matrices 4.6—The Laws of Matrix Multiplication 4.7—The Transpose of a Product 4.8—Linear Equations in Matrix Notation 4.9—Revision of Determinantal Theory 4.10—The Determinant of a Square Matrix 4.11—The Inverse of a Matrix 4.12—The Adjugate Matrix 4.13—The Inverse of the Product of Two Matrices	
5	Groups	70
۸ı	uswers	77
		85
In	Index	