

Contents

I. Truth-Functions	1
Introduction	1
Formal terms	3
Disjunctive arguments	5
Conjunction	6
Implication and equivalence	8
Negation of mixed functions	9
Properties of implication	10
Applications	11
Formal validity and tautologous functions	12
Truth-tables	13
Application of truth-tables to problems	15
The axiomatic method	17
The concept of a logistic system	17
The propositional calculus	19
Properties of the postulate set	26
Exercises	27
II. Quantification	29
The universal quantifier	30
The existential quantifier	31
The categorical statement-forms	33
The square of opposition	34
Some quantificational equivalences	37
The diagrammatic method for testing inferences	38
Syllogistic inference	40
Distribution of terms	41
Syllogistic rules	42
Diagrammatic testing	43
Non-syllogistic inference	46
Formation rules	48
N-placed predicates	50
Definite descriptions	57
Exercises	58

III. Classes	60
Class membership and class inclusion	60
Class products and sums	61
Class complement	62
Class identity	62
The null class and the universal class	62
Classes and categorical statement-forms	64
Class negation, sums, products	64
Distributive laws	66
Valid formulas for 0 and 1	67
Laws of absorption	69
Reduction problems	69
The antilogism	70
The algebra of classes	73
<i>Exercises</i>	77