
CONTENTS

TO THE INSTRUCTOR	ix
1	
INTRODUCTION	1
2	
PROPOSITIONS AND PROPOSITIONAL FORMS	5
Negation	6
Conjunction	6
Disjunction	6
Truth-Functions	7
Punctuation	8
Symbolizing Negations, Conjunctions, and Disjunctions	11
Conditionals	15
Symbolizing Conditionals	17
Biconditionals	20
Symbolizing Biconditionals	21
Tautological, Contradictory, and Contingent Propositional Forms	23
3	
ARGUMENT FORMS AND VALIDITY	27
Argument Forms	27
Partial Truth Tables	32
Arguments and Argument Forms With Inconsistent Premises	35

	4	
	FORMAL PROOF	39
<i>Modus Ponens</i> and <i>Modus Tollens</i>		39
Proof		43
Hypothetical Syllogism		45
Disjunctive Syllogisms		49
Dilemmas		52
Conjunction and Simplification		56
Addition and Absorption		59
	5	
TRUTH-FUNCTIONAL EQUIVALENCES		63
Double Negation		63
Commutation and Association		64
DeMorgan's Theorems		69
Material Implication and Transposition		73
Distribution		76
Material Equivalence		79
Tautology and Exportation		81
Interdefinition of Truth-Functional Connectives		84
	6	
FORMAL AXIOMATIC SYSTEMS		86
Primitive Symbols		86
Object Language and Metalanguage		87
Formation Rules		88
Definitions		88
Axioms		89
Transformation Rules		91
Theorems		92
Derived Rules of Inference		101
Equivalence Theorems		102
Interpreted and Uninterpreted Systems		104
	7	
OTHER METHODS OF PROOF AND NOTATION		106
Conditional Proof		106
Indirect Proof		111
Alternative Notations		114

8	
THE PREDICATE CALCULUS	121
Quantification	121
Free and Bound Variables	127
Proof	128
Quantifier Negation	141
Indirect and Conditional Proof	144
Invalidity	145
Multiple Quantification	148
9	
TRADITIONAL LOGIC	150
Categorical Propositions	150
The Square of Opposition	157
Distribution	159
Other Inferences	160
Combining Inferences	161
Categorical Syllogisms	164
Enthymemes	169
Sorites	170
Other Methods of Symbolizing	
Categorical Propositions	172
Venn Diagrams as a Test for Validity	175
Antilogisms	180
Existential Import and Validity	182
10	
INDUCTION	184
Basic Character of Inductive Arguments	184
Probability	186
Types of Inductive Inferences	
and Their Misuses	196
Concluding Remarks	209
11	
LANGUAGE	211
Six Basic Functions of Language	211
Language Serving Multiple Functions	214
Signs	216
Symbols	216
Terms	217

Use and Mention	220
Types and Tokens	221
Ambiguity	222
Vagueness	224
Classes	225
Designation	225
Denotation	226
Connotation	227
Agreement and Disagreement	228

12

DEFINITION	234
Definitions Classified According to Purpose	234
Definitions Classified According to Method	236
Criteria for Evaluating Definitions	243
Postscript	245

13

FALLACIES	247
Linguistic Fallacies	248
Fallacies of Begging the Question	252
Fallacies of Unwarranted Assumption	255
Fallacies of Relevance	259
Fallacies of Insufficient Evidence	267
Selected Answers	277
Glossary	308
Index	317