

	<i>Preface</i>	Avii
A1	Types of Algorithm	A3
A2	The Method of Bisection Problems	A8 A13
A3	Searching and Sorting	A14
	A3.1 Binary Search	A15
	A3.2 Sorting Problems	A18 A25
A4	Pointers Problems	A27 A35
A5	Series Methods Problems	A37 A42
A6	Numerical Integration	A43
	A6.1 Trapezoidal Rule	A47
	A6.2 Simpson's Rule Problem	A51 A54
A7	The Monte Carlo Method Problems	A55 A58
A8	Evaluation of Functions	A60
	A8.1 Horner's Method	A61
	A8.2 Linear Interpolation Problems	A63 A67
A9	Solution of Linear Equations Problems	A68 A78

A10	Numerical Error	A80
	A10.1 Errors in Arithmetic (Rounding Error)	A80
	A10.2 Truncation of Error	A85
	A10.3 Amplification of Errors	A86
	Problems	A93
A11	Simulation	A95
	A11.1 Continuous Simulation	A96
	A11.2 Discrete Simulation	A100
	Problems	A110
A12	Trees, Queues, and Stacks	A113
	A12.1 Binary Trees	A113
	A12.2 Stacks and Queues	A121
	A12.3 Recursion and Stacks	A126
	Problems	A127
A13	Polish Notation	A128
	A13.1 Evaluating Polish Expressions	A135
	A13.2 Syntax Analysis and Conversion to Postfix	A139
	Problems	A146
A14	Solution of Nonlinear Equations	A148
	A14.1 Regula Falsi Method	A151
	A14.2 Chord Method	A154
	A14.3 Newton-Raphson Method	A155
	Problems	A158
A15	Best Approximation: Least Squares and Chebyshev	A159
	A15.1 Least-Squares Approximation	A159
	A15.2 Chebyshev Approximation	A164
	Problem	A166
	<i>Appendix: Answers to Selected Problems</i>	A167