

Contents

<i>Preface</i>	<i>page vii</i>
1 Historical Introduction and Overview	1
Part I Strings in Flat Backgrounds	11
2 The Classical Closed Bosonic String	13
3 Free Bosonic Quantum Field Theory	23
4 Covariant Quantization	32
5 Light-Cone Quantization	44
6 Branes and Quantization of Open Strings	53
7 Open Strings and Gauge Theory	63
8 Free Fermionic Quantum Field Theory	73
9 Supersymmetry in 10 Dimensions	81
10 Construction of Type IIA/B Superstrings	93
11 Branes in Type II Superstring Theory	103
12 Construction of Heterotic Superstrings	115
Part II Strings in Curved Backgrounds	125
13 Introduction to Conformal Field Theory	127
14 Modular Invariants and Orbifolds	137
15 Closed Strings on the 3-Sphere	149

vi	<i>Contents</i>	
16	CALABI-YAU Spaces	161
17	CALABI-YAU Compactifications	170
18	String Dualities	181
19	Gauge/String Dualities	193
20	AdS/CFT Correspondence	205
	<i>Bibliography</i>	217
	<i>Index</i>	221