

Brief Contents

PART I THE MICROBES

1 The Microbial World	2
2 Bacteria	36
3 Eukaryal Microbes	72
4 Archaea	106
5 Viruses	130
6 Cultivating Microorganisms	164

PART II MICROBIAL GENETICS

7 DNA Replication and Gene Expression	202
8 Viral Replication Strategies	238
9 Bacterial Genetic Analysis	266
10 Microbial Genomics	302
11 Regulation of Gene Expression	328
12 Microbial Biotechnology	362

PART III MICROBIAL PHYSIOLOGY AND ECOLOGY

13 Metabolism	400
14 Biogeochemical Cycles	456
15 Microbial Ecosystems	484
16 The Microbiology of Food and Water	522
17 Microbial Symbionts	560

PART IV MICROBES AND DISEASE

18 Introduction to Infectious Diseases	600
19 Innate Host Defenses Against Microbial Invasion	636
20 Adaptive Immunity	672
21 Bacterial Pathogenesis	714
22 Viral Pathogenesis	760
23 Eukaryal Microbe Pathogenesis	792
24 Control of Infectious Diseases	822