

Preface

Acknowledgments

Instructor and Student Resources

Learning Skills

Part I. Foundations

1. What Is Microbiology and Why Does It Matter?
2. Fundamental Chemistry for Microbiology
3. Essentials of Metabolism
4. An Introduction to Cell Structure and Host–Pathogen Relationships

Part II. Disease Mechanisms

5. Requirements for Infection
6. Transmission of Infection, the Compromised Host, Epidemiology, and Diagnosing Infections
7. Principles of Disease
8. Emerging and Re-Emerging Infectious Diseases

Part III. Characteristics of Disease-Causing Microorganisms

9. The Clinical Significance of Bacterial Anatomy
10. Bacterial Growth
11. Microbial Genetics and Infectious Disease
12. The Structure and Infection Cycle of Viruses
13. Viral Infection
14. Parasitic and Fungal Infections

Part IV. Host Defense

15. The Innate Immune Response
16. The Adaptive Immune Response
17. Failures of the Immune Response

Part V. Control and Treatment

18. Control of Microbial Growth

19. Antibiotics and Antimicrobial Drugs

20. Antibiotic Resistance

Part VI. Microbial Infections

21. Infections of the Respiratory System

22. Infections of the Digestive System

23. Infections of the Genitourinary System

24. Infections of the Central Nervous System

25. Infections of the Blood and Lymph

26. Infections of the Skin and Eyes

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Multiple Choice Answers

Glossary

Pathogen List

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