

Contents

Preface

v

1. Introduction to Microbiology

1

- A. History and Evolution of Microbiology 3
- B. The Role of Microbiology in Disease Diagnosis and Management 4

2. General Microbiology

5

- A. Causative Agents of Infectious Diseases—Bacteria 8, 9
- B. Causative Agents of Infectious Diseases—Viruses 10, 11
- C. Causative Agents of Infectious Diseases—Fungi 12
- D. Causative Agents of Infectious Diseases—Protozoans 13, 14
- E. Causative Agents of Infectious Diseases—Helminths 15, 16
- F. Causative Agents of Infectious Diseases—Miscellaneous 17
- G. Sample Collection 18, 19
- H. Culture Media and Culture Methods 20, 21, 22
 - I. Sterilization and Disinfection 23, 24, 25
- J. Staining Techniques in Microbiology 26, 27, 28
- K. Microscopy 29, 30, 31
- L. Drug Resistance and Monitoring of Antimicrobial Therapy 32, 33
- M. Laboratory Tests and Interpretation of Results 34, 35, 36

3. Immunology

37

- A. Antigen-antibody Reactions 40, 41
- B. Hypersensitivity 42, 43
- C. Autoimmunity 44
- D. Immunodeficiency 45, 46
- E. Transplantation and Tumour Immunity 47
- F. Serology 48
- G. Immuno-Haematology 49
- H. Vaccines 50, 51

4. Systemic Microbiology

52

- A. Cardiovascular System 52
- B. Respiratory System 53
- C. Gastrointestinal System 54
- D. Hepatobiliary System 55
- E. Blood 56
- F. Nervous System 57

- G. Genitourinary System 58
- H. Musculoskeletal System 59
- I. Skin and Soft Tissue 60
- J. Miscellaneous 61

5. Miscellaneous Topics 63

- A. Zoonoses 63, 69
- B. Opportunistic Infections 64, 70
- C. Healthcare Associated Infections 65, 71, 72
- D. Emerging Infectious Diseases 66, 73, 74
- E. Infection Control Practices 67, 75, 76
- F. Personal Protective Equipment 68, 77, 78

6. Recent Advances in Microbiology 79

7. Simulation Based Teaching (Skills Lab) 81

8. Attitude, Ethics and Communication (AETCOM) 85

9. Integration 88

Final Summary 91
