## Contents

Preface	viii
Introduction	1
Quality assurance in bacteriology	2
Introduction Definitions Internal quality control External quality assessment	2 2 6 16
PART I Bacteriological investigations	19
Blood	20
Introduction When and where bacteraemia may occur Blood collection Blood-culture media Processing of blood cultures	20 20 20 22 23
Cerebrospinal fluid	25
Introduction Collection and transportation of specimens Macroscopic inspection Microscopic examination Preliminary identification Susceptibility testing	25 25 26 26 28 29
Urine	30
Introduction Specimen collection Culture and interpretation Interpretation of quantitative urine culture results Identification Susceptibility tests	30 30 32 34 35 36
Stool	37
Introduction Etiological agents and clinical features Appropriate use of laboratory resources Collection and transport of stool specimens Visual examination of stool specimens Enrichment and inoculation of stool specimens Media for enteric pathogens Primary isolation Preliminary identification of isolates	37 37 39 40 41 41 42 42

Final microbiological identification Serological identification	50 54
Upper respiratory tract infections	60
Introduction Normal flora of the pharynx Bacterial agents of pharyngitis Collection and dispatch of specimens Direct microscopy Culture and identification Susceptibility testing	60 61 62 63 65
Lower respiratory tract infections	66
Introduction The most common infections Collection of sputum specimens Processing of sputum in the laboratory (for	66 68
non-tuberculous infections)	68
Culture for Mycobacterium tuberculosis Interpretation of cultures for M. tuberculosis	72 74
General note on safety	74
Sexually transmitted diseases	76
Introduction	76
Urethritis in men	77
Genital specimens from women	79
Specimens from genital ulcers	82
Purulent exudates, wounds and abscesses	86
Introduction	86
Commonly encountered clinical conditions and the	
most frequent etiological agents	86
Collection and transportation of specimens	89
Macroscopic evaluation	90
Microscopic examination	91
Culture Identification	92
Susceptibility testing	93 97
Anaerobic bacteriology	98
Introduction Description of bacteria in relation to oxygen requirement Bacteriology	98 98 98
Antimicrobial susceptibility testing	103
Introduction	103
General principles of antimicrobial susceptibility testing Clinical definition of terms "resistant" and "susceptible":	103
the three category system	104
Indications for routine susceptibility tests	106

Choice of drugs for routine susceptibility tests in the clinical laboratory	107
The modified Kirby-Bauer method	109
Direct versus indirect susceptibility tests	117
Technical factors influencing the size of the zone in the	
disc-diffusion method	118
Quality control	120
Serological tests	122
Introduction	122
Quality control measures	122
Serological reactions	125
Serological tests for syphilis	126
Febrile agglutinins tests	133
Antistreptolysin O test	135
Bacterial antigen tests	137
PART II	
Essential media and reagents	141
	440
Introduction	142
Pathogens, media and diagnostic reagents	143
Blood	144
Cerebrospinal fluid	144
Urine	145
Stool	146
Upper respiratory tract	147
Lower respiratory tract	148
Urogenital specimens for exclusion of sexually transmitted	
diseases	149
Pus and exudates	149
List of recommended media and diagnostic reagents	
for the intermediate microbiological laboratory	150
Selected further reading	154
Index	155