Contents

Foreword by Shrijeet Chakraborti		vii	
-	to the Second Edition	ix	
Prejace i	to the First Edition	xi	
Section I: Hematology			
1. Red	Blood Cells and Anemia	3	
2. Lab	oratory Tests in Bleeding Disorders	6	
3. Aut	omation in Hematology	10	
4. Bon	e Marrow Examination	12	
5. Cell	ular Components in Blood Film	14	
6. Coa	gulation Cascade	16	
7. Con	nposition and Functions of Blood	18	
8. Coc	ombs' Test (Anti-globin Test)	19	
9. Eryt	hropoiesis	21	
10. Eryt	hrocyte Sedimentation Rate (ESR)	22	
11. Her	noglobin Estimation	24	
12. Her	noglobin and its Variants	26	
13. Her	nostasis	29	
14. LE (Cell	31	
15. Leu	kopoiesis	32	
16. Leu	kemia	33	
17. Osn	notic Fragility Test	35	
18. Pac	ked Cell Volume (PCV)	37	
19. Phle	ebotomy	39	
20. Plat	elets	41	
21. Red	Cell Indices	43	
22. Reti	culocyte Count	44	
23. Sick	cling Test	46	
24. Tota	al Leukocyte Count	47	
25 Wh	ite Blood Cells (WBCs)	50	

Section II: Histological Techniques			
26. Stains for Amyloid	55		
27. Cryostat	56		
28. Cytochemical Stains	58		
29. Fixatives	61		
30. Hematoxylin and Eosin Stain	64		
31. Masson-Fontana Silver Stain	66		
32. Microbial Staining	67		
33. Microtomy	69		
34. Classification of Pigments	71		
35. Mucin Stains	73		
36. Museum Techniques	76		
37. Oil Red O Stain	78		
38. Pap (Papanicolaou) Stain	79		
39. Romanowsky Stain	81		
40. Stains used for Collagen Demonstration	83		
41. Tissue Processing	85		
Section III: Histopathology and Cytology			
42. Automation in Cytology	91		
43. Automation in Histopathology	92		
44. Electron Microscopy	93		
45. Photography and Gross Microphotography	95		
46. Grossing and Specimen Management	96		
47. Management of Cytological Specimen	97		
48. Sources, Types of Cytological and Histopathological Specimens	98		
Section IV: Laboratory Management			
49. Biomedical Waste (BMW) Management	101		
50. Hospital Organization and Operations	103		
51. Internal Quality Control Involving Quantitative Results	105		
52. Inventories	107		
53. Job Analysis	108		
54. Management Review Meetings	109		
55. Maintenance of Laboratory Refrigerators, Freezers and			
Other Equipment	110		
56. Material Safety Data Sheet (MSDS)	112		
57. Medical Ethics and their Role in Laboratory Medicine	113		

1	Contents	xvii
58.	Principles of Laboratory Management	115
	. Quality Control	117
60.	Quality Control in Cytology	119
	Quality Assurance in Hematology	121
	Quality Control in Histopathology	123
	Record Keeping in Laboratory	126
	Role of Medical Laboratory Technology in Healthcare	127
	Setting up of a Blood Bank	128
	Biohazardous Waste Management (Spill Management)	131
	Standard Operating Procedure (SOP)	132
	Statistical use in a Clinical Laboratory	134
	Turnaround Time	135
70.	Disposal of Pathological Waste	137
	Section V: Clinical Pathology	
71.	Fluids	141
72.	Semen Analysis	144
73.	Sputum Examination	146
	Stool Examination	148
75.	Collection and Processing of Urine	150
	Section VI: Transfusion Medicine	
76.	. Blood Group Systems	157
	Blood Grouping	159
78.	Blood Banking	160
79.	Crossmatching	162
80.	Transfusion Reactions	163
81.	. Blood Components	165
82.	Plasmapheresis	167
83.	Record Keeping in Blood Bank	168
84.	Antibody	169
	Section VII: Management of COVID-19 Samples in Laboratory	
85.	Laboratory Diagnosis of COVID-19	173
86.	COVID-19: Safe Handling and Processing of	
	Samples in Laboratories	176
Ina	lex	179