Preface		V11
Chapter 1	Renal Functions, Anatomy, and Basic Processes Functions / 2 Anatomy of the Kidneys and Urinary System / 4 The Nephron / 5 Blood Supply to the Nephrons / 12 Basic Renal Processes / 16	1
Chapter 2	Renal Blood Flow and Glomerular Filtration Glomerular Filtration and Renal Blood Flow / 25 Flow, Resistance, and Pressure in The Kidneys / 25 Glomerular Filtration / 26 Autoregulation / 33	24
Chapter 3	Clearance Clearance Units / 38 Plasma Creatinine and Urea Concentrations as Indicators of GFR Changes / 42	37
Chapter 4	Basic Transport Mechanisms Crossing the Epithelial Barriers / 47 Receptor-Mediated Endocytosis and Transcytosis / 51 Transport Mechanisms in Reabsorption / 53	46
Chapter 5	Renal Handling of Organic Substances  Active Proximal Reabsorption of Organic Nutrients (Eg, Glucose, Amino Acids) / 61  Proteins and Peptides / 63  Active Proximal Secretion of Organic Anions / 64  Active Proximal Secretion of Organic Cations / 66  pH Dependence of Passive Reabsorption or Secretion Urea / 68	60
Chapter 6	Basic Renal Processes for Sodium, Chloride, and Water Overview / 74 Individual Tubular Segments / 79 Urinary Concentration: The Medullary Osmotic Gradient / 90	73

Chapter 7	Control of Sodium and Water Excretion: Regulation	
•	of Plasma Volume and Plasma Osmolality and	
	Renal Control of Systemic Blood Pressure	97
	Regulation of Blood Pressure / 98	
	Contribution of The Kidney to The Long-Term Regulation	
	of Blood Pressure / 104	
	Control of Sodium Balance / 116	
	Control of Water Excretion / 122	
Chapter 8	Renal Regulation of Potassium Balance	134
1	Regulation of Potassium Between the Intracellular and	
	Extracellular Compartments / 135	
	Renal Potassium Handling / 136	
	C	
Chapter 9	Regulation of Hydrogen Ion Balance	150
F>	Guidelines for Studying Acid-Base Biology / 151	
	Renal Handling of Acids and Bases / 157	
	Renal Excretion of Acid and Base / 161	
	Hydrogen Ion Excretion on Urinary Buffers / 163	
	Phosphate and Organic Acids as Buffers / 165	
	Hydrogen Ion Excretion on Ammonium / 166	
	Quantification of Renal Acid-Base Excretion / 167	
	Regulation of the Renal Handling of Acids and Bases / 170	)
	Control of Renal Glutamine Metabolism and	
	NH <sub>4</sub> Excretion / 171	
	Intravenous Solutions: Lactated Ringer's / 172	
	Specific Categories of Acid-Base Disorders / 173	
	Renal Response to Metabolic Acidosis and Alkalosis / 174	
	Factors Causing the Kidneys to Generate or Maintain	
	A Metabolic Alkalosis / 175	
	D. 1.1. CO.1.1 1 Dh. ambata Palaman	180
Chapter 10	Regulation of Calcium and Phosphate Balance Effector Sites for Calcium Balance / 182	100
	Lifector offes for Carefain Parameter	
	Hormonal Control of Effector Sites / 185	
	Overview of Renal Phosphate Handling / 189	
<b>.</b>	See to Oversions	193
Answers to S	Study Questions	1,0
Appendix A		201
F F		202
Appendix B		203
T 1		205
Index		