

CONTENTS

SECTION ONE - Introduction: Cell Physiology

<i>Chapter 1</i>	
Introduction to Human Physiology.....	3
<i>Chapter 2</i>	
The Cell and Its Composition.....	12
<i>Chapter 3</i>	
Functional Systems of the Cell.....	22
<i>Chapter 4</i>	
Genetic Control of Protein Synthesis, Cell Function, and Cell Reproduction.....	31
<i>Chapter 5</i>	
Fluid Environment of the Cell and Transport Through the Cell Membrane.....	44
<i>Chapter 6</i>	
The Nerve, and Membrane Potentials	58
<i>Chapter 7</i>	
Muscle Physiology	69

SECTION TWO - Blood and Immunity

<i>Chapter 8</i>	
The Blood Cells.....	85
<i>Chapter 9</i>	
The Reticuloendothelial System, Immunity, and Allergy	99
<i>Chapter 10</i>	
Blood Coagulation, Transfusion, and Transplantation of Organs	107

SECTION THREE - The Cardiovascular System

<i>Chapter 11</i>	
The Pumping Action of the Heart, and Its Regulation	119

<i>Chapter 12</i>	
Blood Flow Through the Systemic Circulation and Its Regulation	132
<i>Chapter 13</i>	
Special Areas of the Circulatory System.....	143
<i>Chapter 14</i>	
Systemic Arterial Pressure and Hypertension.....	155
<i>Chapter 15</i>	
Cardiac Output, Venous Pressure, Cardiac Failure, and Shock	168

SECTION FOUR - The Body Fluids and the Urinary System

<i>Chapter 16</i>	
Body Fluids, Capillary Membrane Dynamics, and the Lymphatic System	181
<i>Chapter 17</i>	
Formation of Urine by the Kidney, and Micturition	195
<i>Chapter 18</i>	
Regulation of Body Fluid Constituents and Volumes.....	207

SECTION FIVE - Respiration

<i>Chapter 19</i>	
Mechanics of Respiration and Transport of Oxygen and Carbon Dioxide	221
<i>Chapter 20</i>	
Regulation of Respiration and the Physiology of Respiratory Abnormalities	236
<i>Chapter 21</i>	
Aviation, Space, and Deep Sea Diving Physiology.....	245

SECTION SIX - The Nervous System

<i>Chapter 22</i>	
Design of the Nervous System, and Basic Neuronal Circuits.....	259
<i>Chapter 23</i>	
Somesthetic Sensations and Interpretation of Sensations by the Brain.....	272
<i>Chapter 24</i>	
The Eye.....	286
<i>Chapter 25</i>	
Hearing, Taste, and Smell.....	299
<i>Chapter 26</i>	
Motor Functions of the Spinal Cord and Lower Brain Stem	310
<i>Chapter 27</i>	
Function of the Cerebral Cortex, Basal Ganglia, and Cerebellum for Control of Muscle Movement	321
<i>Chapter 28</i>	
The Autonomic Nervous System and Hypothalamus	332
<i>Chapter 29</i>	
Intellectual Processes; Sleep and Wakefulness; Behavioral Patterns; and Psychosomatic Effects.....	341

SECTION SEVEN - The Gastrointestinal and Metabolic Systems.....	355
<i>Chapter 30</i>	
Gastrointestinal Movements and Secretion, and Their Regulation.....	357
<i>Chapter 31</i>	
Digestion and Assimilation of Carbohydrates, Fats, and Proteins.....	371
<i>Chapter 32</i>	
Release of Energy from Foods, and Nutrition.....	385
<i>Chapter 33</i>	
Body Heat, and Temperature Regulation	396
SECTION EIGHT - Endocrinology and Reproduction	407
<i>Chapter 34</i>	
Introduction to Endocrinology: The Hypophyseal Hormones and Thyroxine	409
<i>Chapter 35</i>	
Adrenocortical Hormones and Insulin	419
<i>Chapter 36</i>	
Calcium Metabolism, Bone, Parathyroid Hormone, and Physiology of Teeth	428
<i>Chapter 37</i>	
Sexual Functions of the Male and Female, and the Sex Hormones	438
<i>Chapter 38</i>	
Reproduction and Fetal Physiology.....	448
INDEX.....	461