

Contents

Contributors	ix
Preface	xv
Preface to the First Edition	xvii
Unit I	
General Principles of Toxicology	1
1. The Evolving Journey of Toxicology: A Historical Glimpse	3
Philip Wexler and Antoinette N. Hayes	
2. Principles of Toxicology	25
Lauren M. Aleksunes and David L. Eaton	
3. Mechanisms of Toxicity.....	65
Lois D. Lehman-McKeeman	
4. Risk Assessment	127
Elaine M. Faustman	
Unit II	
Disposition of Toxicants	157
5 Absorption, Distribution, and Excretion of Toxicants.....	159
Angela L. Slitt	
6 Biotransformation of Xenobiotics	193
Andrew Parkinson, Brian W. Ogilvie, David B. Buckley, Faraz Kazmi and Oliver Parkinson	
7 Toxicokinetics.....	401
Kannan Krishnan	
Unit III	
Non-Organ-Directed Toxicity	431
8 Chemical Carcinogenesis.....	433
James E. Klaunig and Zemin Wang	
9 Genetic Toxicology	497
Joanna Klapacz and B. Bhaskar Gollapudi	
10 Developmental Toxicology	547
John M. Rogers	
Unit IV	
Target Organ Toxicity	591
11 Toxic Responses of the Blood	593
Martyn T. Smith and Cliona M. McHale	
12 Toxic Responses of the Immune System	633
Barbara L.F. Kaplan, Courtney E.W. Sulentic, Helen G. Haggerty, Michael P. Holsapple, and Norbert E. Kaminski	
13 Toxic Responses of the Liver.....	719
Robert A. Roth, Hartmut Jaeschke, and James P. Luyendyk	
14 Toxic Responses of the Kidney.....	767
Rick G. Schnellmann	
15 Toxic Responses of the Respiratory System.....	793
George D. Leikauf	
16 Toxic Responses of the Nervous System.....	839
Virginia C. Moser, Michael Aschner, Jason R. Richardson, Aaron B. Bowman, and Rudy J. Richardson	
17 Toxic Responses of the Cornea, Retina, and Central Visual System	877
Donald A. Fox and William K. Boyes	
18 Toxic Responses of the Heart and Vascular System.....	909
Matthew J. Campen	
19 Toxic Responses of the Skin	953
Donald V. Belsito	
20 Toxic Responses of the Endocrine System.....	977
Patricia B. Hoyer and Jodi A. Flaws	
21 Toxic Responses of the Reproductive System	1003
Paul M.D. Foster and L. Earl Gray Jr.	
Unit V	
Toxic Agents	1053
22 Toxic Effects of Pesticides.....	1055
Lucio G. Costa	
23 Toxic Effects of Metals.....	1107
Alexander C. Ufelle and Aaron Barchowsky	
24 Toxic Effects of Solvents and Vapors	1163
James V. Bruckner, S. Satheesh Anand, and D. Alan Warren	
25 Toxic Effects of Radiation and Radioactive Materials	1257
David G. Hoel	
26 Toxic Effects of Plants and Animals	1275
John B. Watkins, III	
27 Food Toxicology: Fundamental and Regulatory Aspects	1315
Supratim Choudhuri, Ronald F. Chanderbhan, and Antonia Mattia	
28 Toxic Effects of Calories	1361
Martin J.J. Ronis, Kartik Shankar, and Thomas M. Badger	
29 Nanoparticle Toxicology.....	1381
David B. Warheit, Günter Oberdörster, Agnes B. Kane, Scott C. Brown, Rebecca D. Klaper, and Robert H. Hurt	

Unit VI		
Environmental Toxicology 1431		
30	Ecotoxicology Richard T. Di Giulio and Michael C. Newman	1433
31	Air Pollution Daniel L. Costa and Terry Gordon	1465
Unit VII		
Applications of Toxicology 150		
32	Analytical and Forensic Toxicology Bruce A. Goldberger, Dayong Lee, and Diana G. Wilkins	151
33	Clinical Toxicology Louis R. Cantilena, Jr.	153
34	Occupational Toxicology Peter S. Thorne	155
35	Regulatory Toxicology Gary E. Marchant	157
Index		158