

Contents

Part 1 Orientation

1	Scope of Pharmacy	3
2	Evolution of Pharmacy	7
3	Ethics and Professionalism	20
4	The Practice of Community Pharmacy	30
5	Pharmacists in Industry	35
6	Pharmacists in Government	40
7	Pharmacists and Public Health	51
8	Information Resources in Pharmacy and the Pharmaceutical Sciences	64
9	Clinical Drug Literature	74
10	Research	87

Part 2 Pharmaceutics

11	Metrology and Pharmaceutical Calculations	99
12	Statistics	127
13	Molecular Structure, Properties, and States of Matter	162
14	Complex Formation	186
15	Thermodynamics	201
16	Solutions and Phase Equilibria	211
17	Ionic Solutions and Electrolytic Equilibria	231
18	Tonicity, Osmoticity, Osmolality, and Osmolarity	250
19	Chemical Kinetics	266
20	Interfacial Phenomena	280
21	Colloidal Dispersions	293
22	Coarse Dispersions	319
23	Rheology	338

Part 3 Pharmaceutical Chemistry

24	Inorganic Pharmaceutical Chemistry	361
25	Organic Pharmaceutical Chemistry	386
26	Natural Products	410
27	Drug Nomenclature—United States Adopted Names	443
28	Structure-Activity Relationship and Drug Design	468
29	Fundamentals of Medical Radionuclides	479

Part 4 Pharmaceutical Testing, Analysis, and Control

30	Analysis of Medicinals	495
31	Biological Testing	553
32	Clinical Analysis	565
33	Chromatography	599
34	Instrumental Methods of Analysis	633
35	Dissolution	672

Part 5 Pharmaceutical Manufacturing

36	Separation	691
37	Powders	702
38	Property-Based Drug Design and Preformulation	720
39	Solutions, Emulsions, Suspensions, and Extracts	745
40	Sterilization	776
41	Parenteral Preparations	802
42	Intravenous Admixtures	837
43	Ophthalmic Preparations	850
44	Medicated Topicals	871
45	Oral Solid Dosage Forms	889
46	Coating of Pharmaceutical Dosage Forms	929
47	Extended-Release and Targeted Drug Delivery Systems	939
48	The New Drug Approval Process and Clinical Trial Design	965

49	Biotechnology and Drugs	976
50	Aerosols	1000
51	Quality Assurance and Control	1018
52	Stability of Pharmaceutical Products	1025
53	Bioavailability and Bioequivalency Testing	1037
54	Plastic Packaging Materials	1047
55	Pharmaceutical Necessities	1058

Part 6 Pharmacokinetics and Pharmacodynamics

56	Diseases: Manifestations and Pathophysiology	1095
57	Drug Absorption, Action, and Disposition	1142
58	Basic Pharmacokinetics and Pharmacodynamics	1171
59	Clinical Pharmacokinetics and Pharmacodynamics	1191
60	Principles of Immunology	1206
61	Adverse Drug Reactions and Clinical Toxicology	1221
62	Pharmacogenomics	1230
63	Pharmacokinetics/Pharmacodynamics in Drug Development	1249

Part 7 Pharmaceutical and Medicinal Agents

64	Diagnostic Drugs and Reagents	1261
65	Topical Drugs	1277
66	Gastrointestinal and Liver Drugs	1294
67	Blood, Fluids, Electrolytes, and Hematological Drugs	1318
68	Cardiovascular Drugs	1350
69	Respiratory Drugs	1371
70	Sympathomimetic Drugs	1379
71	Cholinomimetic Drugs	1389
72	Adrenergic Antagonists and Adrenergic Neuron Blocking Drugs	1399
73	Antimuscarinic and Antispasmodic Drugs	1405
74	Skeletal Muscle Relaxants	1411
75	Diuretic Drugs	1422
76	Uterine and Antimigraine Drugs	1432
77	Hormones and Hormone Antagonists	1437
78	General Anesthetics	1474
79	Local Anesthetics	1479
80	Antianxiety Agents and Hypnotic Drugs	1486
81	Antiepileptic Drugs	1501
82	Psychopharmacologic Agents	1509
83	Analgesic, Antipyretic, and Anti-Inflammatory Drugs	1524
84	Histamine and Antihistaminic Drugs	1543
85	Central Nervous System Stimulants	1551
86	Antineoplastic Drugs	1556
87	Immunoactive Drugs	1588
88	Parasiticides	1595
89	Immunizing Agents and Allergenic Extracts	1600
90	Anti-Infectives	1626
91	Enzymes	1685
92	Nutrients and Associated Substances	1688
93	Pesticides	1719

Part 8 Pharmacy Practice

A Fundamentals of Pharmacy Practice

94	Application of Ethical Principles to Practice Dilemmas	1745
95	Technology and Automation	1753
96	The Patient: Behavioral Determinants	1762
97	Patient Communication	1770
98	Patient Compliance	1782
99	Drug Education	1796

100	Professional Communications	1808
101	The Prescription	1823
102	Providing a Framework for Ensuring Medication Use Safety	1840
103	Poison Control	1881
104	Drug Interactions	1889
105	Extemporaneous Prescription Compounding	1903
106	Nuclear Pharmacy Practice	1913
107	Nutrition in Pharmacy Practice	1925
108	Pharmacoepidemiology	1958
109	Surgical Supplies	1968
110	Health Accessories	1979
B Social, Behavioral, Economic, and Administrative Sciences		
111	Laws Governing Pharmacy	2015
112	Re-engineering Pharmacy Practice	2055
113	Pharmacoeconomics	2070
114	Community Pharmacy Economics and Management	2082
115	Product Recalls and Withdrawals	2098
116	Marketing Pharmaceutical Care Services	2107
117	Documenting, Billing, and Reimbursement for Pharmaceutical Care Services	2114
118	Pharmaceutical Risk Management	2124
119	Integrated Health Care Delivery Systems	2130
C Patient Care		
120	Specialization in Pharmacy Practice	2155
121	Pharmacists and Disease State Management	2163
122	Development of a Pharmacy Care Plan and Patient Problem-Solving	2170
123	Ambulatory Patient Care	2179
124	Self-Care	2197
125	Diagnostic Self-Care	2206
126	Preventive Care	2223
127	Hospital Pharmacy Practice	2247
128	Emergency Medicine Pharmacy Practice	2265
129	Long-Term Care	2272
130	Aseptic Processing for Home Infusion Pharmaceuticals	2290
131	The Pharmacist's Role in Substance Use Disorders	2303
132	Complementary and Alternative Medical Health Care	2318
133	Chronic Wound Care	2342