

Contents

Foreword by Dr B Suresh

v

Contributors

vii

Preface

ix

Section 1: PHARMACOLOGY

1. General Pharmacology	2	8. Autacoids and their Antagonists	106
2. Pharmacology of Peripheral Nervous System	12	9. Pharmacology of Drug Acting on the Gastrointestinal Tract	112
3. Pharmacology of Cardiovascular System	30	10. Immunopharmacology	122
4. Drugs Acting on Urinary System	50	11. Vitamin and Minerals	124
5. Drugs Acting on Respiratory System	58	12. Hormones	132
6. Pharmacology of Central Nervous System	69		
7. Chemotherapy	89		

Section 2: PHARMACOGNOSY

1. Introduction to Pharmacognosy	144	13. Poisonous Plants	261
2. Sources and Classification of Crude Drugs	147	14. Enzymes	263
3. Factors Influencing Quality of Crude Drugs	150	15. Quantitative Microscopy	267
4. Techniques in Microscopy	160	16. Biogenetic Pathways	269
5. Introduction of Phytoconstituents	161	17. Herbarium	297
6. Glycosides	167	18. Herbal Formulation	309
7. Alkaloids	185	19. Plant Tissue Culture	312
8. Terpenoids, Volatile Oils and Resins	200	20. Herbal Cosmetics	324
9. Principles of Plant Classification	224	21. Herbal Formulation	329
10. Pharmaceutical Aids	225	22. Marine Drugs, Chemical Constituents and Uses	344
11. Plant Products	225		
12. Toxic Drugs	261		

Section 3: BIOCHEMISTRY

1. Cellular Components	366	6. Biological Oxidation and Reduction	412
2. Carbohydrates	372	7. Enzymes	412
3. Proteins	385	8. Nucleic Acids	424
4. Lipids	397	9. Hereditary Diseases	436
5. Vitamins	404		

Section 4: BIOTECHNOLOGY

1. Plant Cell	438	3. Fermentation	440
2. Animal Cell Culture (Mammalian Cell Culture)	439	4. Recombinant DNA Technology	441
		5. Proteomics	442

Section 5: Microbiology

1. Introduction to Microbiology	458	6. Aseptic Technique, Sterilisation and Disinfection	487
2. Microscopy	459	7. Microbial Spoilage and the Immune System	500
3. Staining Methods	464	8. Vaccines	523
4. Biology of Microorganisms	470	9. Important Terminology, Tables and Figures	536
5. Fungi and Viruses	479		

Section 6: Pathophysiology

1. Cell	548	6. Disorders of GIT	578
2. Inflammation and Repair	551	7. Diseases of Bones and Joints, and Cancer	585
3. Cardiovascular System	554	8. Infectious Diseases	590
4. Renal System	560	9. Sexually Transmitted Diseases	596
5. Gastrointestinal System	577		

Section 7: Biopharmaceutics and Pharmacokinetics

1. Biopharmaceutics	604	3. Bioavailability and Bioequivalence	616
2. Biopharmaceutical Statistics	615		

Section 8: Clinical Pharmacy and Therapeutics

1. Clinical Pharmacy and Therapeutics	628		
---------------------------------------	-----	--	--

Section 9: Pharmaceutical Jurisprudence

1. Pharmaceutical Jurisprudence	648		
---------------------------------	-----	--	--

Section 10: Dispensing and Hospital Pharmacy

1. Definitions	672		
----------------	-----	--	--

Section 11: Physical Chemistry

1. Intermolecular Forces	692	6. Solutions	712
2. Colligative Properties	698	7. Ionic Equilibrium	717
3. Thermodynamics	702	8. Electrochemistry	718
4. Phase Rule	707	9. Kinetics	723
5. Refractive Index	710		

Section 12: Physical Pharmacy

1. Matter and Properties of Matter	728	3. Surface and Interfacial Phenomenon	737
2. Micromeritics and Powder Rheology	732	4. Viscosity and Rheology	743



5. Dispersion Systems	747	7. Buffers	757
6. Complexation	754	8. Solubility	760

Section 13: Organic Chemistry

1. General Chemistry	766	7. Heterocyclic Chemistry	815
2. Different Classes of Compounds	774	8. Bridged Rings	823
3. Aromaticity and Aromatic Chemistry	791	9. Carbohydrates	830
4. Different Aromatic Classes of Compounds	794	10. Amino Acids and Proteins	833
5. Polycyclic Aromatic Hydrocarbons	804	11. Organometallic Chemistry	836
6. Carbonyl Chemistry	807		

Section 14: Pharmaceutical Chemistry

1. Pharmaceutical Impurities	848	11. Drug Acting on Central Nervous System	911
2. Monographs	852	12. Drugs Acting on Kidney	922
3. Isotopes	854	13. Neoplastic Drugs	925
4. Therapeutic Class of Drugs	857	14. Drug Acting on Autonomic Nervous System	928
5. Drug Affecting Blood and Blood Formation	858	15. Drugs Acting on Peripheral (Somatic) Nervous System	934
6. Cardiovascular Drugs	862	16. Autacoids and Related Drugs	938
7. Drug Metabolism	867	17. Quantitative Structure Activity Relationship (QSAR)	941
8. Antimicrobials Drugs	870	18. Chemistry Combination	947
9. Hormones and Related Drugs	896		
10. Gastric Intestinal Drugs	908		

Section 15: Pharmaceutical Analysis

1. Acid–Base Titration	954	15. Atomic Suction Spectroscopy	1003
2. Non-aqueous Titration (NAT)	960	16. IR Spectrometry	1004
3. Oxidation–Reduction Titration	962	17. Proton Nuclear Magnetic Resonance Spectrometry	1008
4. Precipitation Titration	965	18. Mass Spectroscopy	1012
5. Complex Formation Titration	968	19. Polarographic	1016
6. Gravimetric Analysis	973	20. Nephelometry and Turbidimetry	1019
7. Extraction Techniques	975	21. Chromatography	1023
8. Potentiometry	977	22. Chromatography of the Thin Layer	1028
9. Miscellaneous Methods of Analysis	980	23. Paper Chromatography	1029
10. Calibration of an Instrument	985	24. Column Chromatography	1030
11. General Principle of Spectroscopy	988	25. High-Performance Thin Layer Chromatography (HPTLC)	1033
12. Ultraviolet Spectroscopy	992	26. Electrophoresis	1036
13. Spectrofluorimetry	995		
14. Flame Atomic Emission Spectroscopy	1001		

Section 16: Pharmaceutics

1. Pharmacy Profession	1044	4. Route of Administration with Respect to Dosage Form	1053	xiii
2. Introduction to Pharmaceutics	1047	5. ADME	1057	
3. Introduction to Dosage Form	1051			

6. Sources of Drug Information	1063	22. Suppositories	1146
7. Allopathic Dosage Forms	1067	23. Semi-solid Dosage Forms	1151
8. Crude Extract	1078	24. Liquid Dosage Forms	1157
9. Allergenic Extracts	1083	25. Aerosols	1163
10. Ayurvedic Formulations	1086	26. Ophthalmic Preparations	1170
11. Homeopathic System of Medicine	1090	27. Preformulations	1174
12. Biological Product	1092	28. Radiopharmaceuticals	1182
13. Good Manufacturing Practice (Gmp)	1098	29. Stability of Formulated Product	1188
14. Pharmaceutical Plant, Location and Layout	1101	30. Kinetic Principles and Stability Testing	1192
15. Dosage Form Necessities and Additives	1105	31. Prolonged Action Pharmaceuticals	1199
16. Powders	1110	32. Novel Drug Delivery System	1202
17. Capsule	1113	33. Cosmetics	1211
18. Tablet	1120	34. Packaging Materials	1217
19. Parenterals	1128	35. Good Manufacturing Practice and Validation	1225
20. Suspension	1134	36. Pilot Plant Scale-up Techniques	1231
21. Emulsion	1138		

Section 17: Pharmaceutical Management

1. Pharmaceutical Management	1238
------------------------------	------

Section 18: Model Question Papers

1. Chhattisgarh Drug Inspector: 2009	1252	16. Gujarat Public Service Commission: 2011	1357
2. Tamil Nadu Drug Inspector: 2012	1257	17. Bihar Drug Inspector: 2008	1361
3. Jharkhand Drug Inspector: 2013	1267	18. Solved Drug Controller Officer (DCO) Exam Paper (Rajasthan): 2012	1369
4. UPSC Drug Inspector Examination: 2011	1273	19. Chhattisgarh Drug Inspector: 2015	1373
5. Odisha Drug Inspector: 2012	1280	20. CBRT 26.07.2015 (AN): Pharmaceutical Sciences	1380
6. Madhya Pradesh Drug Inspector: 2012	1285	21. Peb Drug Inspector Examination: 2017	1387
7. Gujarat Drug Inspector Exam Paper	1294	22. Rajasthan Drug Inspector Examination: 2018	1391
8. MPSC Drug Assistant Commissioner: 2014	1299	23. Himachal Pradesh Pharmacist	1396
9. Himachal Pradesh Drug Inspector: 2009	1306	24. Miscellaneous Revision Questions	1401
10. Andhra Pradesh Drug Inspector: 2012	1315	– Pharmaceutics	1401
11. Gujarat Government Lecturer Examination in Degree/Diploma Pharmacy Colleges: 2010	1321	– Pharmacology	1406
12. MPSC Assistant Commissioner (Drugs) Examination: 2012	1326	– Microbiology	1411
13. Drugs Inspector Selection Test, Bihar: 1998	1338	– Pharmaceutical Chemistry	1415
14. MPSC Drug Inspector Examination: 2008	1343		
15. Drugs Inspector Exam, Rajasthan: 1996	1352		

Section 19: Important Tables and Figures for Quick Revision

1. Important Tables and Figures for Quick Revision	1422
---	------

<i>Bibliography</i>	1473
---------------------	------