

Contents

Preface	...(v)
Chapter 1: Introduction	...1-11
Biopharmaceutics, Scope of Biopharmaceutics, Applications of Biopharmaceutics, Pharmacokinetics, Application of Pharmacokinetics, Fields in Pharmacokinetics, Questions, Descriptive Questions	
Chapter 2: Absorption of Drugs	...12-55
Routes of Administration, Oral Administration and Subsequent Absorption of Drugs, Structure and Composition of Cell Membrane, Mechanism of Drug Absorption through Gastrointestinal Tract, Mechanisms Involved in Passive Transport of Drug, Factors Influencing Absorption of Drug in the Gastrointestinal Tract, Non-peroral Extravascular Routes, Questions, Long Questions	
Chapter 3: Distribution of Drugs	...56-72
Introduction, Apparent Volume of Distribution, Significance of V_d , Miscellaneous Factors Affecting Drug Distribution, Role of Transporters in Distribution, Distribution Coefficient, Questions, Long Questions	
Chapter 4: Protein Binding of Drugs	...73-94
Factors Affecting Protein-Drug Binding, Significance of Protein/Tissue Binding of Drugs, Questions, Short Questions, Long Questions	

- Chapter 5: Biotransformation of Drugs** ...95-112
Drug Metabolizing Organs, Drug Metabolizing Enzymes, Chemical Pathways of Drug Biotransformation, Factors Affecting Biotransformation of Drugs, Questions, Short Questions, Long Questions
- Chapter 6: Excretion of Drugs** ...113-135
Renal Excretion, Active Tubular Secretion, Tubular Reabsorption, Clearance, Factors Affecting Renal Excretion, Non-Renal Routes of Drug Excretion, Renal Dysfunction, Drug Dosing in Renal Diseases, Dosing Adjustments, Questions, Short Questions, Long Questions
- Chapter 7: Bioavailability and Bioequivalence** ...136-164
Bioavailability, Purpose of Bioavailability Studies, Estimation of Bioavailability, Absolute (systemic) Bioavailability, Relative Bioavailability, Practice Problem, Methods of Assessment of Bioavailability, In Vitro in Vivo Correlation (IVIVC), Bioequivalence, Bioequivalence Studies, Acceptance Criteria for Bioequivalence, Test Procedures, Methods of Enhancement of Bioavailability, Questions, Short Questions, Long Questions
- Chapter 8: Concepts of Pharmacokinetics** ...165-181
Plasma Drug Concentration-time Profile, Pharmacokinetic Parameters, Pharmacodynamic Parameters, Basic Pharmacokinetics and Pharmacokinetic Models, Compartment Models, Non Compartment Modelling, Non Compartmental Analysis based on Statistical Moment Theory, Questions, State True (T) or False (F), Short Questions, Long Questions
- Chapter 9: Compartment Modelling** ...182-203
One Compartment Open Model, One Compartment Open Model - Intravenous (i.v.) Bolus Administration, Determination of Pharmacokinetic Parameters – i.v. Bolus, Significance of the Apparent Volume of Distribution, Clearance, Drug Clearance in the One-Compartment Model, Determination of Clearance, One Compartment Open Model i.v. Infusion, Calculation of Pharmacokinetic Parameters, One Compartment Open Model,

(Extravascular Administration), Pharmacokinetic Parameters, Urinary Excretion Method, Questions, Short Questions

Chapter 10: Multicompartment Modelling ...204-214

Two Compartment Open Model, Two Compartment Open Model-Intravenous Infusion, Two Compartment Open Model Extravascular Administration, Three Compartment Model, Questions, Short Questions, Long Questions

Chapter 11: Non-linear Pharmacokinetics ...215-226

Michaelis-Menten Equations, One Compartment Model with Michaelis-Menten Elimination (IV BOLUS), Estimation of K_m and V_m , Determination of K_m and V_m for One Compartment Steady State Concentration, Questions, Short Questions, Long Questions