

CONTENTS

PART I	General Aspects of Inheritance	
CHAPTER 1	Genetics and the Organism	1
CHAPTER 2	Patterns of Inheritance	9
CHAPTER 3	Chromosomal Basis of Heredity	35
CHAPTER 4	Gene Interaction	45
PART II	Genetic Mapping	
CHAPTER 5	Basic Eukaryotic Chromosome Mapping	85
CHAPTER 6	Specialized Eukaryotic Chromosome Mapping Techniques	115
CHAPTER 7	Gene Transfer in Bacteria and Their Viruses	147
PART III	Molecular Genetics	
CHAPTER 8	The Structure and Replication of DNA	157
CHAPTER 9	Genetics of DNA Function	163
CHAPTER 10	Molecular Biology of Gene Function	175
CHAPTER 11	Regulation of Gene Transcription	181
CHAPTER 12	Recombinant DNA Technology	185
CHAPTER 13	Applications of Recombinant DNA Technology	197
CHAPTER 14	Genomics	209

PART IV	Generation of Genetic Variation	219
CHAPTER 15	Gene Mutation	229
CHAPTER 16	Mechanisms of Gene Mutation	235
CHAPTER 17	Chromosome Mutation I: Chromosome Structure	257
CHAPTER 18	Chromosome Mutation II: Changes in Chromosome Number	275
CHAPTER 19	Mechanisms of Recombination	281
CHAPTER 20	Transposable Genetic Elements	
PART V	Development	287
CHAPTER 21	Extranuclear Genes	297
CHAPTER 22	Regulation of Cell Number: Normal and Cancer Cells	301
CHAPTER 23	The Genetic Basis of Development	
PART VI	Genes at the Population Level	305
CHAPTER 24	Population Genetics	315
CHAPTER 25	Quantitative Genetics	325
CHAPTER 26	Genetics and Evolution	