

CONTENTS

Subjects	Page No.
PART I : GENETICS	1-170
1. Extensions of Mendelian Genetics	3-36
Incomplete Dominance	3
Lethal Alleles	7
Co-dominance	15
Multiple Alleles	20
2. Linkage and Chromosome Mapping	37-75
Linkage	37
Crossing Over	40
Interference and Coincidence	42
Problems	43
3. Sex-linked Inheritance	76-88
Characters	76
Problems	79
4. Cell Cycle and Cancer	89-107
Cell Cycle	89
Oncogene	92
Carcinogenesis	99
Exercise	104
5. Pedigree Analysis	108-122
Structural Components	108
Problems	115
6. Biostatistics (A + B)	123-170
Introduction	123
Chi-square (A)	125
Problems	137
Student 't' Distribution (B)	154
Problems	159
PART II : MOLECULAR GENETICS	171-264
1. DNA, Replication, Transcription and Translation	173-201
DNA	173
Problems	176
Replication (Problems)	181
Transcription (Problems)	190
Translation (Problems)	195

Subjects	Page No.
2. Bacterial Genetics and Complementation Mapping	202–229
Bacterial Genetics	202
Problems	205
Complementation Mapping	216
Problems	218
3. Gene Regulation	230–248
Introduction	230
Problems	239
4. Genetic Engineering and Biotechnology	249–264
Recombinant DNA Technology	249
Problems	251
Restriction Map	258
Problems	260
PART III : EVOLUTIONARY GENETICS	265–329
1. Population Genetics	267–298
Hardy-Weinberg Equilibrium	267
Problems	270
Multiple Alleles and H-W Equilibrium (Problems)	289
Sex-linkage and H-W Equilibrium (Problems)	294
2. Evolutionary Steps	299–323
Selection	299
Mutation and Selection (Problems)	305
Mutation and Problems	313
Migration and Problems	317
Genetic Drift and Problems	322
3. Linkage Disequilibrium	324–329
Introduction	324
Problems	325
BIBLIOGRAPHY	331