Contents

PART A	1
Section I Sets and Operations with Sets	3
Section II Spaces	6
Section III Directed Families	12
Section IV Compact Sets and Bolzano-Weierstrass Sets	14
Section V Functions	17
Section VI Metric Spaces and a Metrization Theorem	22
Section VII Diameters and Distances	28
Section VIII Topological Limits	31
Section IX Relativization	33
	ix

x	Contents
Section X Connected Sets	34
Section XI Connectedness of Limit Sets and Separations	38
Section XII Continua	41
Section XIII Irreducible Continua and a Reduction Theorem	43
Section XIV Locally Connected Sets	45
Section XV Property S and Uniformly Locally Connected Sets	48
Section XVI Functions and Mappings	51
Section XVII Complete Spaces	55
First Semester Examination	59
Section XVIII Mapping Theorems	66
Section XIX Simple Arcs and Simple Closed Curves	70
Section XX Arcwise Connectedness	74
Appendix I Localization of Property S	77
Appendix II Cyclic Element Theory	79
PART B	83
Section I Product Spaces	85

Contents	xi
Section II Decomposition Spaces	93
Section III Component Decomposition	100
Section IV Homotopy	105
Section V Unicoherence	111
Section VI Plane Topology	119
Appendix Dynamic Topology by G.T. Whyburn	130
Bibliography	145

Index

151