

TABLE OF CONTENTS

The numbers after each chapter indicate the chapters on which it depends (where dependence is a transitive relation). Everything depends on I and II.

I. ALGEBRAIC PRELIMINARIES

1.	Homomorphisms and extensions	1
2.	Direct sums and products	4
3.	Linear topologies	11

II. SET THEORY

1.	Ordinary set theory	16
2.	Filters and large cardinals	22
3.	Ultraproducts	29
4.	Cubs and stationary sets	34
5.	Games and trees	41
	Exercises	45
	Notes	50

III. SLENDER MODULES

1.	Introduction to slenderness	51
2.	Examples of slender modules and rings	58
3.	The Loś-Eda theorem	65
	Exercises	77
	Notes	80

IV. ALMOST FREE MODULES

1.	κ -free modules	82
2.	\aleph_1 -free abelian groups	91
3.	Compactness results	102
	Exercises	112
	Notes	116

V. PURE-INJECTIVE MODULES

1.	Structure theory	118
2.	Cotorsion groups	130
	Exercises	135
	Notes	137

VI. MORE SET THEORY

1.	Prediction principles	138
2.	Models of set theory	146
3.	L , the constructible universe	153
4.	MA and PFA	163
	Exercises	175
	Notes	178

VII. ALMOST FREE MODULES REVISITED (IV, VI)

1.	κ -free modules revisited	180
2.	κ -free abelian groups	187
3.	Transversals and λ -systems	198
3A.	Reshuffling λ -systems	209
4.	Hereditarily separable groups	226
	Exercises	238
	Notes	245

VIII. COUNTABLY-SEPARABLE GROUPS (VI, VII.1)

1.	Constructions and definitions	247
2.	\aleph_1 -separable groups under Martin's axiom	259
3.	\aleph_1 -separable groups under PFA	266
	Exercises	272
	Notes	274

IX. QUOTIENTS OF PRODUCTS OF THE INTEGERS
(III, IV, V)

1.	Perps and products	276
2.	Countable products of the integers	282

3.	Uncountable products of the integers	286
4.	Radicals and large cardinals	289
	Exercises	296
	Notes	299
X. ITERATED SUMS AND PRODUCTS (III)		
1.	The Reid class	300
2.	Types in the Reid class	304
	Exercises	311
	Notes	311
XI. TOPOLOGICAL METHODS (X, IV)		
1.	Inverse and direct limits	313
2.	Completions	321
3.	Density and dual bases	326
4.	Groups of continuous functions	330
	Exercises	340
	Notes	342
XII. THE STRUCTURE OF EXT (VII, VIII.1)		
1.	The vanishing of Ext	344
2.	The rank of Ext	355
3.	Uniformization and W-groups	367
	Exercises	383
	Notes	387
XIII. THE BLACK BOX AND ENDOMORPHISM RINGS (V, VI)		
1.	Black Box	389
2.	Proof of the Black Box	396
3.	Endomorphism rings of cotorsion-free groups	400
4.	Endomorphism rings of separable groups	407
	Exercises	415
	Notes	418

XIV. DUAL GROUPS (IX, XI, XIII)

1.	Invariants of dual groups	420
2.	Tree groups	425
3.	Criteria for being a dual group	430
4.	Some non-reflexive dual groups	435
5.	More dual groups	443
	Notes	452

OPEN PROBLEMS	453
---------------	-----

BIBLIOGRAPHY	456
--------------	-----

INDEX	477
-------	-----