Contents

Pre	face to the Second Edition	Vi
Pre	i	
No	Notes to the Reader	
	APTER 1	
We	dderburn-Artin Theory]
§1.	Basic Terminology and Examples	:
	Exercises for §1	22
§2.	Semisimplicity	25
63	Exercises for §2	29
§3 .	Structure of Semisimple Rings	30
	Exercises for §3	4:
Сн	apter 2	
Jac	obson Radical Theory	48
§4.	The Jacobson Radical	50
	Exercises for §4	6.
§ 5.	Jacobson Radical Under Change of Rings	6
	Exercises for §5	7
§ 6.	Group Rings and the <i>J</i> -Semisimplicity Problem	78
	Exercises for §6	98
Сна	APTER 3	
Intr	roduction to Representation Theory	10
§7.	Modules over Finite-Dimensional Algebras	102
	Exercises for §7	110

xiv		Contents
§8.	Representations of Groups Exercises for §8	117 137
§9 .	Linear Groups	141
	Exercises for §9	152
	APTER 4	
Pru	me and Primitive Rings	153
§10.	The Prime Radical; Prime and Semiprime Rings Exercises for §10	154 168
§11.	Structure of Primitive Rings; the Density Theorem	171
612	Exercises for §11	188
§12.	Subdirect Products and Commutativity Theorems Exercises for §12	191
	2.6016.565 101 912	198
Сн	APTER 5	
Introduction to Division Rings		202
§13.	Division Rings	203
	Exercises for §13	214
§14.	Some Classical Constructions	216
815.	Exercises for §14 Tensor Products and Maximal Subfields	235
3	Exercises for §15	238 247
§16.	Polynomials over Division Rings	248
	Exercises for §16	258
Сна	apter 6	
Ordered Structures in Rings		261
§17.	Orderings and Preorderings in Rings	262
010	Exercises for §17	269
§18.	Ordered Division Rings	270
	Exercises for §18	276
Сна	PTER 7	
Local Rings, Semilocal Rings, and Idempotents		279
§19.	Local Rings	279
820	Exercises for §19	293
§20.	Semilocal Rings	296
	Appendix: Endomorphism Rings of Uniserial Modules Exercises for §20	302
§21.	The Theory of Idempotents	306 308
J	Exercises for §21	322
§22.	Central Idempotents and Block Decompositions	326
	Exercises for §22	333

Contents	xv

	APTER 8 Pect and Semiperfect Rings	335
§23.	Perfect and Semiperfect Rings	336
	Exercises for §23	346
§24.	Homological Characterizations of Perfect and Semiperfect Rings	347
	Exercises for §24	358
§25.	Principal Indecomposables and Basic Rings	359
	Exercises for §25	368
Refe	erences	370
Name Index		373
Sub	ject Index	377