

TABLE OF CONTENTS

PREFACE.	i
BACKGROUND TERMS AND NOTATION.	vii
EXPLANATION OF PICTURES.	xii
CHAPTER 1.	
INTRODUCTION.	
1.1. Historical Background, etc.	1
1.2. Actions of groups on sets.	3
1.3. G-homomorphisms	6
1.4. Stabilizers	11
1.5. Transitive actions.	13
1.6. Primitive components.	17
1.7. Invariant relations	21
1.8. Ordered permutation groups.	24
1.9. $\mathcal{A}(\mathbb{R})$, the order-preserving permutations of \mathbb{R}	43
CHAPTER 2.	
CONVEX CONGRUENCES, o-BLOCKS AND ORBITS.	
2.1. Convex congruences of transitive ordered permutation groups.	56
2.2. Convex congruences and o-blocks for intransitive ordered permutation groups	57
2.3. Orbits of stabilizers and construction of o-blocks for transitive ordered permutation groups.	86
CHAPTER 3.	
o-PRIMITIVE ORDERED PERMUTATION GROUPS.	
3.1. General properties and definitions.	98
3.2. Totally ordered transitive o-primitive ℓ -permutation groups.	105
3.3. Periodic o-primitive ℓ -permutation groups	116
3.4. Pathologically o-2 transitive ℓ -permutation groups.	131
3.5. Intransitive o-primitive ordered permutation groups and classification of the points of $\bar{\Omega}$	141
3.6. ℓ -simple ℓ -permutation groups	152

CHAPTER 4.
THE WREATH PRODUCT OF ORDERED PERMUTATION GROUPS.

4.1. The wreath product of two ordered permutation groups	169
4.2. The general transitive wreath product.	177

CHAPTER 5.
POINTWISE SUPREMA AND CLOSED STABILIZERS.

5.1. Closed stabilizer subgroups.	196
5.2. Pointwise suprema.	200
5.3. Closed subgroups of ℓ -groups	213
5.4. Full subgroups of ℓ -groups	230

CHAPTER 6.
UNIQUENESS OF REPRESENTATION.

6.1. ℓ -permutation groups	239
6.2. Ordered permutation groups	251

CHAPTER 7.
THE ORDER-PRESERVING PERMUTATIONS OF A TOTALLY ORDERED SET.

7.1. Tagging.	261
7.2. Some group-theoretic considerations.	266
7.3. The ℓ -automorphisms of $\mathcal{A}(\Omega)$	272
7.4. α -sets	289
7.5. ℓ -characteristic subgroups of $\mathcal{A}(\Omega)$	294
7.6. The normal subgroups of $\mathcal{A}(\Omega)$	310

CHAPTER 8.
EMBEDDING THEOREMS FOR LATTICE-ORDERED GROUPS.

8.1. The amalgamation property.	327
8.2. Some embedding theorems (without G.C.H.)	329
8.3. Some embedding theorems (with G.C.H.).	335

CHAPTER 9.
 a , a^* AND f EXTENSIONS OF LATTICE-ORDERED GROUPS.

9.1. Existence.	355
9.2. Stabilizer extensions.	362
9.3. Uniqueness	377

CHAPTER 10.

VALUES IN ℓ -GROUPS AND NORMAL VALUED ℓ -GROUPS.

10.1. Values in ℓ -groups.	391
10.2. The variety \mathcal{N}	396

CHAPTER 11.

FREE ℓ -GROUPS, IDENTITIES AND THE WORD PROBLEM FOR ℓ -GROUPS.

11.1. Construction of free ℓ -groups	410
11.2. The word problem and identities in ℓ -groups	418

APPENDIX I.	428
---------------------	-----

APPENDIX II	433
-----------------------	-----

APPENDIX III.	436
-----------------------	-----

APPENDIX IV	438
-----------------------	-----

BIBLIOGRAPH (Annotated)	439
-----------------------------------	-----

INDEX OF DEFINITIONS.	476
-------------------------------	-----

INDEX OF SYMBOLS.	480
---------------------------	-----