

Contents

Chapter I. Group and Field Theoretic Foundations	1
§1. Infinite Galois Theory	1
§2. Profinite Groups	4
§3. G -Modules	8
§4. The Herbrand Quotient	12
§5. Kummer Theory	14
Chapter II. General Class Field Theory	18
§1. Frobenius Elements and Prime Elements	18
§2. The Reciprocity Map	21
§3. The General Reciprocity Law	28
§4. Class Fields	30
§5. Infinite Extensions	32
Chapter III. Local Class Field Theory	37
§1. The Class Field Axiom	37
§2. The Local Reciprocity Law	41
§3. Local Class Fields	43
§4. The Norm Residue Symbol over \mathbb{Q}_p	46
§5. The Hilbert Symbol	50
§6. Formal Groups	55
§7. Fields of π^n -th Division Points	60
§8. Higher Ramification Groups	64
§9. The Weil Group	69
Chapter IV. Global Class Field Theory	72
§1. Algebraic Number Fields	72
§2. Ideles and Idele Classes	76
§3. Galois Extensions	81
§4. Kummer Extensions	86
§5. The Class Field Axiom	89
§6. The Global Reciprocity Law	90
§7. Global Class Fields	96
§8. The Ideal-Theoretic Formulation of Class Field Theory	102
§9. The Reciprocity Law of Power Residues	110

Chapter V. Zeta Functions and L -Series	113
§ 1. The Riemann Zeta Function	113
§ 2. The Dedekind Zeta Function	117
§ 3. The Dirichlet L -Series	120
§ 4. The Artin L -Series	121
§ 5. The Equality of Dirichlet L -Series and Artin L -Series	128
§ 6. Density Theorems	129
Literature	137
Index	139