Contents

| Preface to Volu | ume 1. | xi |
|---|--|------|
| Preface to Volu | ume 2. | xiii |
| General Introd | uction. | xv |
| Notations. | | xvii |
| Chapter 1. | | 1 |
| Part 1. The | e group Γ and its ζ -function. | 1 |
| | Discrete subgroup Γ. | 1 |
| | The ζ function of Γ . | 5 |
| §§ $9-13$. | Lemmas for the proof of Theorem 1. | 7 |
| §14. | The proof of Theorem 1 assuming Lemmas 2, 3. | 13 |
| §§15 – 19. | Proofs of Lemmas 2, 3. | 15 |
| §20. | Regular cycles on $\Gamma_{\mathbf{R}}^0 \setminus \mathfrak{H}$. | 24 |
| $\S\S21 - 23$. | Estimation of the roots of $\zeta_{\Gamma}(u)$. | 24 |
| §24 . | Concluding remarks on Chapter 1, Part 1. | 27 |
| Part 2. Deta | ailed study of elements of Γ with parabolic and elliptic real parts; | |
| th | ne general formula for $\zeta_{\Gamma}(u)$. | 28 |
| $\S\S25 - 28$. | Study of elements of Γ with parabolic real parts. | 29 |
| §§29 – 34. | Study of elements of Γ with elliptic real parts. | 37 |
| §§35 – 38. | The ζ function of Γ in the general case. | 53 |
| Chapter 2. | | 63 |
| Introduction to Part 1 and Part 2. | | 63 |
| Part 1. The G_p -fields over \mathbb{C} . | | 65 |
| §§ 1 – 4. | The $G_{\mathfrak{p}}$ -fields. | 65 |
| §§ $5-10$. | Analytic construction of $G_{\mathfrak{p}}$ -fields over \mathbb{C} . | 69 |
| $\S\S11 - 17$. | The full automorphism group of L over \mathbb{C} . | 77 |
| Part 2. Full G_p -subfields over algebraic number fields. | | 83 |
| §18. | Main results. | 83 |
| $\S\S19 - 20.$ | Reducing Theorem 5 to Theorem 4. | 83 |
| $\S\S21 - 26.$ | Preliminaries for the proof of Theorem 4. | 85 |
| $\S\S27 - 30.$ | More lemmas. | 90 |
| §31. | Proof of Theorem 4 (Conclusion). | 96 |
| $\S\S32 - 34$. | Variations of Theorems 4, 5. | 98 |
| $\S \S 35 - 36.$ | The fields k_0 and $F = \mathbf{Q}((\operatorname{tr} \gamma_{\mathbf{R}})^2 \gamma_{\mathbf{R}} \in \Gamma_{\mathbf{R}})$. | 103 |