TABLE OF CONTENTS

CHAPTER		PAGE
I.	Forms with real coefficients	
	1. Fundamental notions	1
	2. A canonical form for congruence	3
	3. The determination of the index of a form	7
	4. Representation of one form by another	11
	5. Automorphs and the number of representations	13
	6. Summary	15
II.	Forms with p-adic coefficients	
	7. The definition and properties of p-adic numbers	17
	8. Congruences and p-adic numbers	21
	9. Congruence of forms in $F(p)$	25
	10. The Hilbert symbol	26
	11. Hasse's symbol $c_p(f)$	31
	12. Some properties of $c_p(f)$ and $k_p(f)$	36
	13. Evaluation of the Hasse symbol	38
	14. Zero forms	40
	15. The solvability of $f = \nu$	41
	16. Congruence of forms	47
	17. Representation of one form by another	48
	18. Universal forms	52
III.	Forms with rational coefficients	
	19. Congruence	56
	20. Equivalence and reduced forms	56
	21. The fundamental theorem on zero forms	66
	22. The fundamental theorem on rational congruence	76
	23. Representation of one form by another	77
IV.	Forms with coefficients in $R(p)$	
	24. Equivalence	82
	25. Canonical forms	82
	26. Representation of numbers by forms	86
	27. Equivalence of forms in $R(p)$	88
	28. Representation of one form by another and existence of forms with given invariants	100
	29. Zero forms and universal forms	101
	30. Automorphs and representations	102
	31. Binary forms	103

CHAPTER PAGE

V. Genera and semi-equivalence
32. Definitions ... 105
33. Representation without essential denominator ... 106
34. Existence of forms with integral coefficients and having given invariants ... 118
VI. Representations by forms
35. Introduction ... 122
36. Siegel's representation function ... 123
37. Asymptotic results ... 124
38. A representation function ... 127
VII. Binary forms
39. Introduction ... 139
40. Automorphs ... 140
41. Representations by binary forms ... 149
42. Ideals in a quadratic field ... 153
43. A correspondence between ideal classes and classes of quadratic forms ... 159
44. Composition of ideal classes and classes of forms ... 164
45. Consequences of the composition of forms ... 167
46. Genera ... 168
47. Reduction of positive definite and zero binary forms ... 170
48. Reduction of indefinite, non-zero, binary forms ... 173
49. Class number ... 181
VIII. Ternary Quadratic Forms
50. Numbers represented by ternary genera ... 186
51. Numbers represented by forms ... 187
52. The number of representations by ternary genera ... 190
Bibliography ... 196
Problems ... 198
Theorem Index ... 209
Index ... 211