

CONTENTS

	Page
PREFACE.....	v
INTRODUCTION.....	1
I. GENERAL RAMIFICATION THEORY.....	4
1. Elementary lemmas from ideal theory.....	5
2. Primary decomposition in non-noetherian rings.....	9
3. Integral dependence.....	11
4. Linear algebra.....	21
5. Discriminant of an algebra.....	25
6. The discriminant ideal.....	31
7. Galois theory of local rings.....	35
II. VALUATION THEORY.....	41
8. Ordered abelian groups.....	41
9. Valuations.....	47
10. Specialization and composition of valuations	55
11. Ramification theory of valuations.....	59
12. Valuations of algebraic function fields.....	61
III. NOETHERIAN LOCAL RINGS.....	66
13. The dimension of a noetherian local ring....	66
14. Quadratic transforms.....	72
IV. TWO-DIMENSIONAL LOCAL DOMAINS.....	75
15. Limits of quadratic sequences.....	75
16. Uniformization in a two-dimensional regular local domain.....	79
17. Uniformization for a two-dimensional algebraic function field.....	85
V. VARIETIES AND TRANSFORMATIONS.....	89
18. Projective varieties.....	90
19. Resolution of singularities of algebraic surfaces.....	94
BIBLIOGRAPHY.....	95