

Contents

Introduction	11
1. Relative Extension Functors	
1.1. Basic Notations	15
1.2. Relative Extension Functors	24
2. Extensions and Localisations in Grothendieck Categories	
2.1. Extensions in Grothendieck Categories	35
2.2. Localisations in Grothendieck Categories.	39
3. Ideals	
3.1. Definition and Fundamental Properties of Ideals	45
3.2. Invertible Ideals and Quotients.	63
3.3. Exact Ideals	69
4. Monoidal Transformations of Grothendieck Categories	
4.1. The Category of F -Filtered Objects	75
4.2. Abelianisation of Additive Categories with Direct and Inverse Images	79
4.3. Supplements to the Category of F -Filtered Objects	91
4.4. The Category $\text{Montra}(F, C)$	100
5. Geometric Categories	
5.0. Summary	133
5.1. Definition and basic properties of geometric categories	134
5.2. Morphisms of Geometric Categories	141
5.3. How to Glue Together Geometric Categories	149
6. Relative Extension Functors and Localisations of Geometric Categories	
6.1. Geometric Categories of Finite Type	165
6.2. Relative Extension Functors in Geometric Categories of Finite Type	166
6.3. Localisations in Geometric Categories of Finite Type	176
7. The Embedding Theorem	
7.0. Summary	186
7.1. Geometric Realisations of Geometric Categories.	187
7.2. Proof of the Embedding Theorem.	191
References	211
Denotations	213
Index	215