

# LATTICE OF SUBSTRUCTURES

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In this dissertation the study of substructure of a semigroup is carried out. In general the subsemigroups of a semigroup is a semilattice, however if we assume that the empty set is a subsemigroup then the subsemigroups of a semigroup forms a lattice. Several interesting results in this direction are obtained.

This dissertation has four chapters. The first chapter describes mainly the essential concepts essential to make this dissertation a self contained one. The second chapter gives the semilattice of subsemigroups of a semigroup. The third chapter gives examples of lattice of subsemigroups of a semigroup in which an assumption that the collection of subsemigroups contains the empty set as a subsemigroup. The final chapter gives the conclusions from this study.