P R E F A C E

In this work, we have discussed semigroups and its ideals and also their fuzzy analong.

The discussion consists of three chapters. In First Chapter concept of fuzzy sets is given. It is essentially a collection of all concepts and results which are used in the ensuing chapters.

In the Second Chapter, we have discussed semigroups and its ideals. This chapter is divided in four sections. In the first section preliminary definitions of semigroup and its different ideals are given with examples. Also some results about ideals are given. In second section semigroup with idempotent ideals are discussed. In third section definition of normal semigroup and its different properties are discussed. In fourth and last section of this chapter definitions of B-pure Bi-ideal and B*-pure semigroups are given and its properties are discussed.

In Third Chapter fuzzifications of structures discussed in second chapter are discussed. This chapter is also divided into four sections. In first section, different types of fuzzy ideals are given with examples and preliminary results about them are discussed.

In second section results characterizing these fuzzy ideals are discussed.

In the third section definitions of prime fuzzy ideals andsemiprimality of fuzzy ideals are given. Some theorems about prime and semiprime fuzzy ideals are discussed.

In fourth section of this chapter Green's relations are discussed in case of fuzzy ideals and results characterizing them are discussed.

Most of the results or theorems mentioned in this dissertation are available in the research papers. But the proofs given here are mostly our own. Also all the examples and counter examples are constructed by us.