SUMMARY AND CONCLUSION

In 1965, after the concept of fuzzy sets introduced by Zadeh [43], several studies were conducted on the generalization of the notion of fuzzy sets. In 1975, Zadeh [44] introduced the concept of an interval valued fuzzy sets which is an extension of the concept of fuzzy set. In 1986, the idea of "intuitionistic fuzzy set" was first introduced by Atanassov [2], as a generalization of the notion of fuzzy set. In 2012, based on the (interval-valued) fuzzy sets, Jun et al. [20] introduced the notion of (internal, external) cubic sets, and investigated several properties.

In 1966, Y.Imai and K.Iseki [14, 17] introduced two classes of abstract algebras : BCK-algebras and BCI-algebras. It is known that the class of BCK-algebras is a proper subclass of the class of BCI-algebras. In 2010, B.L.Meng [28] introduced the notion of CI-algebras and studied its elementary properties as a generalization of BE-algebras. In 2011, the concept of fuzzification of ideals in CI-algebra have introduced by Samy M.Mostafa [37].

In this thesis, we have made an attempt to study the fuzzification of ideals and filters in CI-algebras.

In chapter one, the preliminary definitions and results of CI-algebras are presented due to B.L.Meng [4, 3], Bozena Piekart et al. [11] and K.H.Kim [24].

In chapter two, the fuzzification of ideals in CI-algebras and their several properties are discussed due to Samy M.Mostafa et al. [37]. Also the relationship between fuzzy filters and $(\in, \in \vee qk)$-fuzzy filters are investigated due to Ameneh Nambar et al. [1].

In chapter three, few results of antifuzzy ideals of CI-algebras under transitive and self distributive, few results of antifuzzy ideals of CI-algebras with lower level cuts are discussed due to T.Priya et al. [31]. Also fuzzification

of ideals in CI-algebras under homomorphism and some of its properties are discussed due to T.Priya et al. [38].

In chapter four, intuitionistic (T, S)-fuzzy subalgebras in CI-algebras and their fundamental properties are discussed. Also the relationship between intuitionistic (T, S)-fuzzy subalgebras and intuitionistic (T, S)-fuzzy (closed) filters of CI-algebras are investigated due to A.Borumand Saeid et al. [8].

In chapter five, several related properties of cubic subalgebras and cubic filters in CI-algebras are investigated. Also, conditions for a cubic set to be a cubic filter are provided due to Sun Shin Ahn et al. [40].

We hope that a deep study of these concepts will lead to many interesting open problems in various algebras yielding very good scope for further research.