



*Summary  
and Conclusion*

## SUMMARY AND CONCLUSION

Today it is obvious that fuzzy topology and many related theories have and will have a fundamental play in applied Sciences.

Eversince the introduction of fuzzy sets by Zadeh, L.A [40], several authors have worked on this concept and the theory of fuzzy sets has developed in many directions.

The concepts studied in this dissertation are contained in the following articles:

- (i) "Gradation of Openness: fuzzy topology" by K.C.Chattopadhyay, R.N.Hazra and S.K.Samanta [9].
- (ii) "Fuzzy topology: fuzzy closure operator, fuzzy compactness and fuzzy connectedness" by K.C.Chattopadhyay, S.K.Samanta [10].
- (iii) "Intuitionistic fuzzy sets" by Krassimir T. Atanassov [5].
- (iv) "An introduction to intuitionistic fuzzy topological spaces" by Dogan Coker [12].
- (v) "On intuitionistic gradation of openness" by T.K.Mondal, S.K.Samanta [28].
- (vi) "Some properties of  $(r, s)$ - $T_0$  and  $(r, s)$ - $T_1$  spaces" by S.E.Abbas and Biljana krsteska [2].

In chapter 1, we have discussed fundamental definitions and results on fuzzy sets, fuzzy topological spaces, gradation of openness and fuzzy closure operator.

In chapter 2, section 1 is dedicated to the study of various operations on intuitionistic fuzzy sets and their interrelationship. Section 2 deals with the study of intuitionistic fuzzy topological spaces. In section 3, we have studied the concepts of intuitionistic gradation of openness.

In chapter 3, section 1 is devoted to the study of fundamental definitions and results on  $(r, s)$ - $T_0$  and  $(r, s)$ - $T_1$  spaces. Properties of product intuitionistic fuzzy topological spaces are analysed in Section 2. In Section 3, Some properties of  $(r, s)$ - $T_0$  and  $(r, s)$ - $T_1$  spaces are discussed.

Many topological concepts relating to separation axioms on fuzzy topological spaces and on intuitionistic fuzzy topological spaces can be studied with respect to  $(r, s)$ - $T_0$  and  $(r, s)$ - $T_1$  spaces.