

*SUMMARY AND
CONCLUSION*

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This dissertation is an attempt to study Intuitionistic fuzzy n -normed linear space and intuitionistic fuzzy n -inner product space. The concepts studied on this aspect are contained in the following articles.

- i) Fuzzy topological spaces by Chang [8].
- ii) Intuitionistic Fuzzy sets by Atanassov [1].
- iii) An introduction to intuitionistic Fuzzy topological spaces by Dogan Coker [13].
- iv) Fuzzy n -Normed linear space by Narayanan and Vijayabalaji [38].
- v) Complete Fuzzy n -normed linear space by Vijiyabalaji and Thillaigovindan [42].
- vi) Intuitionistic fuzzy n -normed linear space by Vijiyabalaji, Thillaigovindan and Young Bae Jen [44].
- vii) Fuzzy n -inner product space by Vijiyabalaji and Thillaigovindan [43].

In chapter 1, fundamental definitions and results on fuzzy sets, fuzzy topological spaces, intuitionistic fuzzy sets, intuitionistic fuzzy topological spaces are discussed.

Chapter 2 is devoted to study the concepts of fuzzy n -normed linear space, completeness in fuzzy n -normed linear space and best approximation sets in α - n -normed space. Finally ascending family of quasi α - n -norms corresponding to fuzzy quasi n -norm are studied.

In chapter 3, intuitionistic fuzzy n -normed linear space and its completeness are studied. Generalized cartesian product of an intuitionistic fuzzy n -normed linear spaces and its properties are studied.

In chapter 4 we have generalized the concept of fuzzy n -inner product space due to Vijayabalaji and Thillaigovindan [43] to intuitionistic fuzzy sets.

For further study Closed graph theorem and Open mapping theorem can be extended to intuitionistic fuzzy n -inner product space.