

SUMMARY AND CONCLUSION

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Soft set theory and Fuzzy soft set theory became a very good source of research for many mathematicians of recent years because of its wide range of applicability. The development in the fields of soft set theory and Fuzzy soft set theory and its applications had been taking place in a rapid pace.

This thesis is devoted to the study of

- 1) Soft Sets and Soft Topological Spaces
- 2) Fuzzy Soft Sets and Fuzzy Soft Topological Spaces
- 3) Fuzzy Soft Mappings
- 4) Fuzzy Soft Separation Axioms and Fuzzy Soft Compactness
- 5) Semiopen and Semiclosed Fuzzy Soft Sets in Fuzzy Soft Topological Spaces
- 6) Soft Regular Weakly Closed Sets in Soft Topological Spaces
- 7) Soft \hat{g} -Closed Sets in Soft Topological Spaces

In the first chapter preliminary definitions and notations regarding soft sets, soft open set, soft closed sets, soft closure, soft interior, soft mappings, soft compactness and soft connectedness are studied with some interesting properties. Where as in the second chapter, the definitions of Fuzzy Soft sets, Fuzzy Soft open sets, Fuzzy Soft closed sets, Fuzzy Soft closure and Fuzzy Soft interior are studied with interesting properties.

Fuzzy Soft mapping, Fuzzy Soft bijective mapping, Fuzzy Soft identity mapping and Fuzzy Soft continuous mapping are introduced and studied in Chapter III. An interesting characterization regarding Fuzzy Soft continuous mapping is also given.

In the fourth chapter, Fuzzy soft separation axioms and Fuzzy Soft Compactness are studied and some interesting results are obtained.

Semiopen and Semiclosed Fuzzy Soft Sets in Fuzzy Soft Topological spaces are introduced with interesting properties in Chapter V.

The author of this thesis introduced two new classes of Soft sets called Soft Regular Weakly closed sets and Soft \hat{g} -Closed sets in Soft topological spaces.

These two classes of Soft sets are studied with interesting properties in Chapters VI and VII respectively.

This new class of Soft sets widens the scope to do further research in the areas like Bitopological Spaces, Smooth Topological Spaces and Fuzzy Soft Topological Spaces.