

SUMMARY AND CONCLUSION

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Fuzzy Soft Matrices and Fuzzy Soft Relations has become an important area of research in different disciplines such as Engineering, Medical Science, Social Science, Physics, Statistics, Graph Theory, Artificial Intelligence, Signal Processing, Multiagent Systems, Pattern Recognition, Computer Networks, Expert Systems, Decision Making, Automata Theory and so on.

There have been numerous investigations into the theory of Fuzzy Soft Matrices and Fuzzy Soft Relations.

In this thesis, Fuzzy Soft Matrices, Intuitionistic Fuzzy Soft Matrices, Fuzzy Soft Relations, Generalized Fuzzy Soft Relations, Intuitionistic Fuzzy Soft Relations and Generalized Intuitionistic Fuzzy Soft Relations are studied in detail.

Preliminary definitions and notations are given in chapter I.

In the second chapter some basic properties of Fuzzy soft matrices regarding Fuzzy soft union, intersection, complement of a Fuzzy soft set, De Morgan's law etc., are studied with interesting examples. Also different products of Fuzzy soft matrices are defined and their properties are analysed. Finally two decision making methods one by using fuzzy soft "*" product and the other by using Fuzzy soft matrix decision function are illustrated with applications.

Different types of Intuitionistic Fuzzy soft matrices are defined and their properties are studied in chapter III. Five different types of products of Intuitionistic Fuzzy soft matrices are defined with examples. Finally, application of Intuitionistic Fuzzy soft matrices in decision making problems is illustrated.

In the fourth chapter the concept of relations on Fuzzy soft sets introduced by Manash Jyoti Borah et al. (2012) are studied with their properties. Also the notions of symmetric, transitive, reflexive, irreflexive and equivalence Fuzzy soft relations are established.

In the first part of the fifth chapter Generalized Fuzzy soft sets and their properties are studied with examples. In the second part of this paper the Generalized Fuzzy soft relations are studied.

The concept of Intuitionistic Fuzzy Soft Relations is introduced and few of its algebraic properties are studied in chapter VI.

In the seventh chapter relations on Generalized Intuitionistic Fuzzy soft sets and few of their algebraic properties are studied. Finally, an application of Generalized Intuitionistic Fuzzy soft relation in decision making problems is illustrated.

In Chapter VIII an application of Intuitionistic Fuzzy soft matrices is presented. In this chapter the author made an attempt to develop a decision making model to analyse the impact of excessive television viewing by children.

Likewise research studies can be undertaken applying Fuzzy Soft Matrices and Fuzzy Soft Relations to find scientific and logical solutions to various social issues especially juvenile delinquencies.