CONCLUSION

A sequential machine consists of two main structures, the transition structure and the output structure. This work deals only with the transition structure of fuzzy machines. The algebraic fuzzy automata theory is based on the concept of fuzzy sub group. Many products, Cartesian composition, subsystems of fuzzy finite machines are emerged from this. Using the definitions of T-fuzzy subgroups, fuzzy subgroups with thresholds and T-fuzzy subgroups with thresholds we have proved many results in the thesis. In future using these definitions we can find the results of products like cascade, wreath, cartesian composition, subsystems of fuzzy finite machines. All the results proved here can be extended using the concept of anti fuzzy subgroup also. Algebraic study of the machines is very important because it paves the way to look at various types of machines, their properties and the ways in which complex machines can be simulated by simpler machines joined together in some way. These concepts are used in learning systems, pattern recognition, database theory and switching network. Fuzzy subgroups with thresholds concept is used in data mining. In the hybrid control systems fuzzy automaton offers an effective approximation method to model continuous and discrete signals. An advantage of applying fuzzy automaton is simplicity in design and computation. Further research work can be done with these concepts in fuzzy transformation semigroups, admissible relations and also in coverings of products of fuzzy finite state machines.