CHAPTER 7

CONCLUSIONS AND DISCUSSIONS

In the last chapter of this thesis, an elaborate conclusion and discussion is given on the basis of proved results on different spaces with different contractive conditions.
CHAPTER 7
CONCLUSIONS AND DISCUSSIONS

7.1 - CONCLUSIONS

In the first chapter of the thesis a basic introduction of each chapter is given. The notions, concepts, examples are also mentioned required for the fixed point theorems to be proved in different spaces. The details in the chapter justify the name of the chapter.

In the 2nd chapter, a fixed point theorem is proved on Dislocated metric space. The result is obtained for six self-mappings using the notion of occasionally weakly compatible mappings. It is also concluded that the result could be proved for four and three self-maps.

Also a fixed point result is proved by using the notion of weakly increasing maps for a pair of self-maps in Partial metric space.

In 3rd chapter, two fixed point theorems are presented on Fuzzy 2-metric space. The first fixed point theorem is proved for six self-mappings. To obtain this result a novel notion of sub-compatibility of type A is defined. A conclusion is drawn that the result could also be proved for four self-maps. The second fixed point theorem is for four self-mappings by making use of absorbing maps and reciprocal continuity.

The 4th chapter of the thesis has two objectives. On M-fuzzy metric space, the first objective is obtained for six weakly compatible mappings using implicit relation with the property E. The result also leads to the conclusion that the result could be successfully proved for four self-map. The second objective is for six self-mappings using compatible mappings of type P.

In the 5th chapter of the thesis, a conclusion is drawn on fixed point theorems in L-fuzzy metric space. The first conclusion is made by introducing biased mappings of type (R_M) in L- fuzzy metric space. To obtain this fixed point theorem, the property of C is used. The other conclusion is drawn for cyclic weak Ø-contraction mappings. For this a triangular condition and cyclic weak Ø-contraction mappings are defined in L-fuzzy metric space.
In the 6th chapter, conclusions are made on iterative procedures. In this a new iterative scheme named K-iterative scheme is defined. A comparison is made with earlier defined iterative schemes leading to the conclusion that K-iterative is faster than other iterative procedures. The conclusion is drawn mathematically showing that K-iterative scheme converges to same fixed point as others do. C-language programs and MATLAB is used to show that K-iterative converges faster than the other iterative procedures.

7.2 - DISCUSSIONS

All the fixed point results proved in different spaces can be further extended on other spaces. The results could be developed even on changing the number of maps and on changing the contractive conditions. The proved results will also help researchers to think on further ideas. The results find its applications in fuzzy topology, computational techniques and in many more fields.