SUMMARY AND CONCLUSION

SUMMARY AND CONCLUSION

Generalized open sets plays a very important role in general topology and they are now the research topics of many researchers worldwide. Indeed a significant topic in general topology and real analysis concerns the variously modified forms of continuity, separation axioms etc., by utilizing generalized open sets. Levine [33] introduced the concept of generalized closed sets in topological spaces. Since then many authors have contributed to the study of the various concepts using the notion of generalized b-closed sets. New and interesting applications have been found in the field of Economics, Biology and Robotics etc. Generalized closed sets remains as an active and fascinating field within mathematicians.

Here in this thesis we had reviewed the following articles in the first three chapters and the author had reviewed her contribution in fourth, fifth and sixth chapters.

1) On generalized b-closed sets [3]
2) On generalized closed sets and their relationships [2]
3) On πgb-closed sets in Topological spaces [49]
4) On πgb-closed sets and related topics [48]

In chapter I the article "generalized b-closed sets" due to Al-Omari and Noorani [5] had been reviewed. The various characterizations of generalized b-closed sets were studied. Further, various forms of continuity associated to generalized b-closed sets were discussed. Finally the idea of T_{gs}-spaces and $T_{1/2}$ spaces were investigated.

The relationships between generalized b-closed sets and other forms of closed sets due to Adea Khaliefa Hussien [2] had been analyzed in chapter II. Further the characterizations of extremely disconnected spaces, T_{gs}-spaces and sg-submaximal spaces had also been furnished.

Chapter III had been devoted to the study of πgb-closed sets and its various characterizations due to Sreeja, Janaki, Sinem caglar Akgun and Gulhan Aslim[48, 49].

The basic properties of πgb-closed sets were studied. Further the idea of πgb-continuous functions and πgb-irresolute functions were added. Moreover the concept of almost πgb-continuous functions and πgb-compact spaces were introduced. Finally the idea of quasi b-normal spaces had been characterized using b-normal spaces.

In chapterIV the author had defined a new class of closed sets called "π-generalized b*-closed sets (briefly πgb*-closed sets) in topological spaces" and investigated the relationship between the πgb*-closed sets and other forms of closed sets. And also provided counter examples whereever the implications donot hold. Moreover the author had studied the characterizations of πgb*-closed sets. The concept of πgb*-open sets and πgb*-$T_{1/2}$ spaces and its characterizations were investigated and published an article entitled ***"π- GENERALIZED b*-CLOSED SETS IN TOPOLOGICAL SPACES"*** in the ***INTERNATIONAL JOURNAL OF INNOVATIVE RESEARCH IN SCIENCE ENGINEERING AND TECHNOLOGY*** with the ISSN number 2319-8753 in Volume 3 under the Issue 5 on May 2014.

In chapter V the author had studied a new class of continuous functions called "π- generalized b*-continuous functions (briefly πgb*-continuous function) in topological spaces" and discussed the relationship between πgb*-continuous functions and other forms of continuous functions. Also the counter examples were given whereever the implications donot hold. The concept of πgb*-irresolute maps, πgb*-closed maps and its characterizations were studied. The idea of πgb*-space had been discussed. The chapter was concluded with the definition and the characterizations of almost πgb*-continuous functions and published an article entitled ***"π- GENERALIZED b*-CONTINUOUS FUNCTIONS IN TOPOLOGICAL SPACES"*** in the ***INTERNATIONAL JOURNAL OF INNOVATIVE RESEARCH IN SCIENCE ENGINEERING AND TECHNOLOGY*** with the ISSN number 2319-8753 in Volume 3 under the Issue 6 on June 2014.

In chapter VI the author had furnished her idea on the concepts of ***πgb*-compact spaces and πgb*-neighborhoods*** and generalized some of the results in general topology to the new definition.The concept of πgb*-compact space, its properties and some of the interesting characterizations were discussed. Further πgb*-Hausdorff spaces, πgb*-regular spaces and πgb*-normal spaces were defined and its properties were investigated. Finally the concept of πgb*-neighborhood at a point were studied and its properties were analyzed.

Further these concepts can be extended to fuzzy topological spaces and bitopological spaces.