STUDIES ON $g\eta$-CLOSED SETS IN TOPOLOGICAL SPACES AND TOPOLOGICAL ORDERED SPACES

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CHAPTER-9
CONCLUSION

Ideas that are now classified as topological spaces, were expressed as early as 1736. By the middle of the twentieth century, topology had become an important area of study within mathematics. It is used both for the mathematical discipline and for a family of sets with certain properties that are used to define a topological space, a basic object of topology.

General topology plays a vital role in many fields of applied sciences as well as in all branches of mathematics. It is used in data mining, computational topology for geometric design and molecular design, computer-aided design, computer-aided geometric design, digital topology, information systems, particle physics and quantum physics etc.

By researching generalizations of closed sets, some new separation axioms have been found and they turn out to be useful in the study of digital topology. Therefore, all topological functions defined will have many possibilities of applications in digital topology and computer graphics.

In the present research, the concept of η-open sets are studied and some of their basic properties are investigated. The concepts of $g\eta$-closed sets and the introduction of the $g\eta$-closed sets are highlighted. The relative properties between the two subsets of $g\eta$-closed sets are discussed and some interesting results have been proved. The implication of $g\eta$-closed sets with other closed sets have been briefly discussed.

The concept of continuity is introduced and investigated some of their properties. The continuity of closed sets and contra continuity, homeomorphism, separation axioms and bitopological spaces have also been defined stage by stage. Many interesting results are obtained when continuity and homeomorphism concepts are dealt using $g\eta$-closed sets.

The open maps and closed maps of generalization have also been investigated. The relationship of $g\eta$-homeomorphism with some other generalized closed sets have been discussed.

The analysis of $g\eta$-closed sets is extended to bitopological spaces also. Bitopology, the associated area of topology has been studied and its various dimensions have been analyzed. Innovative concepts have been introduced and discussed. The study of $g\eta$-closed sets is extended to bitopological spaces, and many results have been derived.