CHAPTER I
INTRODUCTION

N.Palaniappan and K.C.Rao [7] defined and investigated the notion of regular generalized closed ($rg-closed$) sets as a generalization of g-closed sets.

M.K.Singal and A.R.Singal [9] introduced the notion of mildly normal space which is a generalization of a normal space. T.Noiri [5] gave characterization of mildly normal space by using g-open and rg-open sets in a topological space.

S.Chantamontree [3] introduced the notion of g-normal and rg-normal spaces which are generalizations of a normal space, and gave characterization of g-normal and rg-normal space by using g-open and rg-open sets in a topological space.

T.Noiri, H.Maki and J.Umehare [6] defined and investigated the notion of preclosed and generalized preclosed ($gp-closed$) sets, and preclosed, generalized preclosed ($gp-closed$) and pre generalized preclosed ($pre\ gp-closed$) functions and introduced the notion of pre-normal space which is a generalization of a normal space and they also gave characterization of pre-normal space by using preopen set in a topological space.

The purpose of this research is to

(1) study preclosed and generalized preclosed ($gp-closed$) sets, and preclosed, generalized preclosed ($gp-closed$) and pre generalized preclosed ($pre\ gp-closed$) functions and pre-normal space.

(2) define a topological space which is generalization of a pre-normal space.

(3) give characterization of a topological space defined in (2).

(4) study and give some preservation theorems concerning topological space defined in (2).

(5) study and give relationships between pre-normal space and topological space defined in (2).

In chapter II, we give some definitions, notations and some known results that will be used in the later chapters.

In chapter III, we study about a pre-normal space and preservation theorems of pre-normal space.

In chapter IV, we define a topological space which is generalization of pre-normal space and give characterizations of this space. We also give some preservation theorems of pre-normal space and relationships between pre-normal space and this space.

The conclusion of this research is in chapter V.