# TABLE OF CONTENTS

1. PRELIMINARIES  ........................................... 1-13
   1.1 Strong And Weak Forms of Closed And Open Sets  2
   1.2 Strong And Weak Forms Of Functions  8
   1.3 Contra Maps In Topological Spaces  10
   1.4 Generalised Homeomorphisms  11

2. GSA CLOSED SET IN TOPOLOGICAL SPACE  14 - 27
   2.1 Basic properties of gsa closed set  14
   2.2 Application on gsa closed set  19
   2.3 Characterisation of gsa open set  25

3. GSA CLOSED AND OPEN FUNCTION  28 - 42
   3.1 Properties of gsa closed map  28
   3.2 On Composition of gsa closed and gsa open maps  34
   3.3 M.gsa closed and M.gsa open map  37
   3.4 gsa open map  40

4. GSA CONTINUOUS FUNCTION  43-55
   4.1 Properties of gsa continuous function  43
   4.2 On Composition of gsa continuous functions  51
5. CONTRA GSA CONTINUOUS FUNCTION 56-76

5.1 Properties of contra gsA continuous function 56

5.2 On Composition of contra gsA continuous functions 68

5.3 Contra gsA closed graph 75

6. ON GSA IRRESOLUTE FUNCTION 77-91

6.1 Properties of gsA -irresolute function 77

6.2 On gsA compactness 83

6.3 On gsA connected Space 86

6.4 Strongly gsA closed Graph 86

6.5 On Composition of gsA irresolute functions 89

7. ON GSA HOMEOMORPHISM IN TOPOLOGICAL SPACES 92-106

7.1 Properties of gsA Homeomorphism 93

7.2 Properties of gsA *-Homeomorphism 101

8. ON SPECIAL GSA FUNCTIONS 107-115

8.1 Perfectly gsA continuous function 107

8.2 Strongly gsA continuous function 111

BIBLIOGRAPHY 116-122

PUBLICATIONS 123

ANNEXURE