

## LIST OF CONTENTS

Chapter	Page
I INTRODUCTION.....	1
II PRELIMINARIES .....	7
Metric spaces and Banach spaces .....	7
Some nonlinear operators .....	17
Clarke's generalized derivative .....	29
CAT(0) spaces .....	32
III ON THE EXISTENCE THEOREMS OF GENERALIZED EQUILIBRIUM PROBLEMS .....	38
Existence theorems of the hemivariational inequality governed by a multi-valued map perturbed with a nonlinear term in Banach spaces.....	38
New generalized mixed equilibrium problem with respect to relaxed semi-monotone mappings in Banach Spaces.....	49
Existence and strong convergence theorems for generalized mixed equilibrium problems of a finite family of asymp- totically nonexpansive mappings in Banach spaces .....	71

## LIST OF CONTENTS (CONT.)

Chapter	Page
<b>IV GENERAL ITERATIVE METHODS IN BANACH SPACES</b> .....	90
The modified general iterative methods for nonexpansive semigroups in Banach spaces .....	90
The general iterative methods for asymptotically nonexpansive semigroups in Banach spaces .....	104
The modified general iterative methods for asymptotically nonexpansive semigroups in Banach spaces .....	119
<b>V CONVERGENCE THEOREMS IN CAT(0) SPACES</b> .....	136
$\Delta$ -convergence for generalized hybrid mappings in CAT(0) spaces .....	136
Viscosity approximation methods for nonexpansive mappings in CAT(0) spaces .....	148
Viscosity approximation methods for nonexpansive semigroups in CAT(0) spaces.....	159
<b>VI CONCLUSION</b> .....	171
<b>REFERENCES</b> .....	173
<b>BIOGRAPHY</b> .....	183

## LIST OF FIGURES

Figures	Page
1 Comparison triangle.....	33
2 CAT(0) inequality.....	34

