

## Abstract

The aim of this thesis is to approximate the fixed points of generalized  $\alpha$ -nonexpansive mappings using Picard Thakur-iterative scheme. We establish some weak and strong convergence results for generalized  $\alpha$ -nonexpansive mappings in uniformly convex Banach spaces. using the Picard-Thakur iterative scheme. Further, we have presented a numerical example which shows that Picard-Thakur iterative scheme converges faster than other well-known schemes for generalized  $\alpha$ -nonexpansive mappings. Finally, we presented the data dependence for almost contraction mappings. These results in this thesis are improvements, generalizations and extensions of several relevant results existing in the literature.