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APPROXIMATION OF FIXED POINTS FOR CLASS OF GENERALIZED NONEXPANSIVE MAPPING VIA NEW ITERATION PROCESS

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Abstract: In this paper, we establish strong and Δ-converges theorem for the class of generalized nonexpansive mapping via new iteration process (SRJ-iteration) in CAT(0) space. Our result generalizes and extends the results of Varatechakongka et al. [31] and Ullah et al. [30].

Keywords and Phrases: CAT(0) space, condition $(B_{\gamma,\mu})$, strong and Δ- convergence theorems.

2020 Mathematics Subject Classification: 47H10, 54H25, 54E50.

1. Introduction

The concept of fixed points theory and its application has proven to be a vital tool in the study of nonlinear functional analysis, as well as a very useful tool in establishing existence and uniqueness theorems for nonlinear ordinary, partial and random differential and integral equations in various abstract spaces. We recall the following: Let E be a nonempty subset of a Banach space X and $\Im\colon E \to E$ a self-mapping. A point $x \in X$ is said to be a fixed point of $\Im$ if $\Im x = x$.