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Approximate Fixed Point Results for $(\alpha-\eta)-$Type and $(\beta-\psi)-$Type Fuzzy Contractive Mappings in $b-$Fuzzy Metric Spaces

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Abstract

This article contain the concepts of fuzzy $(\alpha-\eta)$ and fuzzy $(\beta-\psi)-$generalized proximal contractive mappings in the setup of $b-$fuzzy metric spaces. We proved the existence of coincidence and best proximity points of fuzzy $(\alpha-\eta)-$ and fuzzy $(\beta-\psi)-$generalized proximal contractions on $b-$fuzzy metric spaces. Some nontrivial examples are provided to elaborate the fact that the obtained results are potential generalizations of comparable existing results. Our results unify and complement various known results in the existing literature.

Keywords: $b-$fuzzy metric space; fuzzy $(\alpha-\eta)-$generalized proximal contraction; $(\beta-\psi)-$generalized proximal contraction; optimal coincidence point; $\alpha-$ admissible mapping; α_R- admissible mapping; $\beta-$ admissible mapping; β_R- admissible mapping.