THE EXISTENCE OF BEST PROXIMITY POINTS FOR GENERALIZED CYCLIC QUASI-CONTRACTIONS IN METRIC SPACES WITH THE UC AND ULTRAMETRIC PROPERTIES

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Abstract. In this paper, in the setting of metric spaces we introduce the notions of generalized cyclic quasi-contractions and the ultrametric property as an applied geometric concept. Then we study the existence and uniqueness of best proximity points for such mappings by using this property and the UC property. Also, iterative algorithms are furnished to determine such best proximity points. As a result, we establish a fixed point result and a common fixed point theorem. The presented results extend and improve some recent results in the literature.
Key Words and Phrases: Best proximity point, generalized cyclic quasi-contractions, ultrametric property, UC property.
2020 Mathematics Subject Classification: 47H10, 54E05, 54H25.

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