Analysis of Chatterjea Type F-Contraction in F-Metric Space and Application

Authors : Awais Asif

Abstract : This article investigates fixed point theorems of Chatterjea type F-contraction in the setting of F-metric space. We relax the conditions of F-contraction and define modified F-contraction for two mappings. The study provides fixed point results for both single-valued and multivalued mappings. The results are further extended to common fixed point theorems for two mappings. Moreover, to discuss the applicability of our results, an application is provided, which shows the role of our results in finding the solution to functional equations in dynamic programming. Our results generalize and extend the existing results in the literature.