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COMMON FIXED POINT THEOREMS FOR NON COMPATIBLE MAPPINGS IN G- METRIC SPACE

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Abstract: In this paper, we prove some common fixed point theorems for a pair of non- compatible faintly compatible self-mappings in G-metric spaces. Our results extend and unify some fixed points theorems in literature.

Keywords and Phrases: G-metric space, common fixed point, non-compatible mappings, faintly compatible mappings.

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1. Introduction

Fixed point theory is an important, productive, and powerful mathematical tool due to its application in areas such as variation and linear inequalities. The fixed point theorems in metric spaces are playing a significant role to construct methods in mathematics to solve problems in applied science, economics, physics and engineering. So over the past few decades, the metric fixed point theory has become an important field of research in both pure and applied science. Some of these works should be noted in [1, 3, 8-13]. In fact it has become one of the most essential tool in non-linear functional analysis, optimization, mathematical model, economy and medicine. The concept of G-metric spaces was introduced by Mustafa and Sims [17] in the year 2006 as a generalization of the metric spaces. In these type of spaces a non – negative real number is assigned to every triplet of element. In [22] the celebrated Banach contraction mapping principle was also established and a fixed point result has been proved. It ensures the existence and uniqueness of