

**IN M_v^b - COMPLETE METRIC SPACE, COMMON FIXED POINT
THEOREMS FOR TWO AND FOUR SELF-MAPS UNDER
DIFFERENT CONTRACTION PRINCIPLES**

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(Received: Mar. 05, 2023 Accepted: Jul. 22, 2023 Published: Aug. 30, 2023)

Abstract: Two distinct theorems are presented in this manuscript. The first one establishes the existence of coincidence points and the g -weakness of M_v^b metric space. The Reich contraction principle produces a unique common fixed point for two maps, as illustrated in various examples. Second, same concept is used to identify common fixed point for four self maps. The Kannan and Banach contraction principles were applied in conjunction with extra requirements to get the fixed points as corollaries. This theorem's approach was used to solve several examples.

Keywords and Phrases: Fixed point, self maps, Complete M_v^b metric space, m_v^b -convergent, coincidence point.

2020 Mathematics Subject Classification: 47H10, 54H25.

1. Introduction and Preliminaries

Many academics have tried to generalize and enlarge metric spaces. Take a non-empty set M and distance function $d : M \times M \rightarrow \mathbb{R}^+$. Pick any x, y, z in M . The pair (M, d) is a metric space if it satisfies $d(x, y) = 0 \Leftrightarrow x = y$; $d(x, y) = d(y, x)$; $d(x, y) \leq d(x, z) + d(z, y)$. For example Mitrovic' and Radenovic' [7], Karahan and Isik [4], and Asim et al. [1] suggested the $b_v(s)$ - metric, p_v^b - metric, and M_v - metric spaces. The generalization of $b_v(s)$ -- metric, p_v^b - metric, and M_v - metric spaces is M_v^b - metric space, introduced by Joshi et al. [3] in 2021. M_v^b - metric