COMMON FIXED POINT THEOREMS FOR TWO SELF-MAPPINGS OF A b-METRIC SPACE UNDER AN IMPLICIT RELATION

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Received 19:05:2010 : Accepted 03:06:2011

Abstract


Keywords: Common fixed point, Self mappings, Metric space, b-metric space, Property (E.A), Implicit relation, Weakly compatible mappings.

2000 AMS Classification: 54H25, 47H10.

1. Introduction

Let S and T be two self mappings of a metric space (X, d). In [9], Jungck defined S and T to be compatible if \( \lim_{n \to \infty} d(STx_n, TSx_n) = 0 \), whenever \( \{x_n\} \) is a sequence in X such that

\[
\lim_{n \to \infty} Sx_n = \lim_{n \to \infty} T x_n = t,
\]

for some \( t \in X \).

The concept of compatibility was used by many authors to prove existence theorems in common fixed point theory. The study of common fixed points of noncompatible mappings is also important. Work in this way has been initiated by Pant [13, 15, 16].

Aamri and Moutawakil [1] have generalized the concept of noncompatible mapping. See also, for example, [7, 11, 21] for related results.

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