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# COMMON FIXED POINT THEOREM IN COMPLETE METRIC SPACE WITH APPLICATION

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**Abstract:** In this paper, a common fixed point theorem is presented for generalized $\varphi$-weak contraction mappings. Also, we examine the existence and uniqueness of common fixed points for single-valued mappings satisfying the notion of weak compatibility in the setup of complete metric space. Our result generalizes and extends many results existing in literature. An example is given to show that our results are proper generalizations of the existing ones and provide an application to integral equation.

**Keywords and Phrases:** Common fixed point, Complete metric space, Weakly compatible maps.

**2020 Mathematics Subject Classification:** 54H25, 47H10.

## 1. Introduction

The study of existence and uniqueness of coincidence points and common fixed points of mappings satisfying certain contractive conditions has been an interesting field of mathematics from 1922, when Banach stated and proved his famous result (Banach contraction principle).