$(\mathcal{C}, \Psi^*, G)$ Class of Contractions and Fixed Points in a Metric Space Endowed with a Graph

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Abstract: In this paper, we introduce the $(\mathcal{C}, \Psi^*, G)$ class of contraction mappings using C-class functions and some improved control functions for a pair of set valued mappings as well as a pair of single-valued mappings, and prove common fixed point theorems for such mappings in a metric space endowed with a graph. Our results unify and generalize many important fixed point results existing in literature. As an application of our main result, we have derived fixed point theorems for a pair of α-admissible set valued mappings in a metric space.