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FIXED POINT THEOREMS WITH $\mathcal{P}$-C-CONTRACTION IN PARTIALLY ORDERED MODULAR METRICS SPACES

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Abstract: This study aims to broaden the understanding of $\mathcal{P}$-C contracts in the context of partially ordered modular metric spaces. In both monotonic and non-monotonic mappings in these spaces, fixed point results have been obtained using this idea. An illustration is provided to demonstrate our key findings. All findings are new and generalize the results of Chaipuniya et al. [12] and Amor et al. [8].

Keywords and Phrases: Fixed point, $\mathcal{P}$-C-contraction, Modular metric space, Partially ordered set.

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1. Introduction

Fixed point theorems are useful in the investigation of existence of solutions of differential equations, integral equations, partial differential equations, linear and non-linear simultaneous equations and difference equations. Fixed points are therefore of paramount importance in many areas of mathematical and physical sciences. Due to the wide applications of fixed point theory, this topic has become