South East Asian J. of Mathematics and Mathematical Sciences
Vol. 17, No. 1 (2021), pp. 409-424

ISSN (Online): 2582-0850

ISSN (Print): 0972-7752

MODIFIED GENERALIZED $\alpha-\psi-$GERAGHTY CONTRACTION TYPE MAPS IN METRIC SPACE AND RELATED FIXED POINTS

K. Anthony Singh, M. R. Singh*

Department of Mathematics,
D. M. College of Science, Imphal - 795001, INDIA

E-mail : anthonykumam@manipuruniv.ac.in

*Department of Mathematics,
Manipur University, Canchipur, Imphal - 795003, INDIA

E-mail : mranjitmu@rediffmail.com

(**Received:** *Jan. 09, 2020* **Accepted:** *Jan. 17, 2021* **Published:** *Apr. 30, 2021)*

Abstract: In this paper, we introduce the notion of modified generalized $\alpha-\psi-$Geraghty contraction type maps in the context of metric space and establish some fixed point theorems for such maps. Our results provide the fixed point results of K. Anthony Singh [8] and Popescu [16] as direct corollaries. Some examples are also given to illustrate the validity of our results.

Keywords and Phrases: Metric space, fixed point, $\alpha-$orbital admissible mapping with respect to η, triangular $\alpha-$orbital admissible mapping with respect to η , generalized $\alpha-$Geraghty contraction type map, extended generalized $\alpha-\psi-$Geraghty contraction type map, modified generalized $\alpha-\psi-$Geraghty contraction type map.

2020 Mathematics Subject Classification: 47H10, 54H25.

1. Introduction

The celebrated Banach contraction principle which forms the foundation of the metric fixed point theory, is one of the most widely used fixed point theorems in all analysis. Over the years, this result has been generalized in different directions