Approximating Common Fixed Points of Multi-Valued Generalized (α-β)-Nonexpansive Mappings in Banach Spaces

Sucheta Yadav* and Bhagwati Prasad Chamola

Department of Mathematics, Jaypee Institute of Information Technology, Noida,
Uttar Pradesh, India

*Corresponding author's e-mail: suchetaydv@gmail.com

ABSTRACT

The main intent of this paper is to study the concept of multivalued generalized $(\alpha - \beta)$-nonexpansive mappings of type 1, to establish some elementary properties and fixed point existence results of these mappings. Additionally, a multivalued version of the M-iteration scheme is proposed for approximating the common fixed points of three mappings in the setting of Banach spaces. Some strong and weak convergence results for these mappings are also obtained. Furthermore, we include a numerical example that demonstrate the convergence behavior of the suggested procedure and corroborate our primary findings. The results obtained generalise and expand some of the recent results obtained in the literature.

Keywords: fixed point, multi-valued generalized (α−β)-nonexpansive mappings, uniformly convex Banach space

How to Cite

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