ITERATIVE ALGORITHM FOR GENERALIZED VARIATIONAL INEQUALITY PROBLEM AND APPLICATIONS

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Abstract: The purpose of this study is to look at a generalized variational inequality problem. We start a iterative method [18] and evaluate its convergence. We estimate the common solution of a generalized variational inequality problem and the fixed points of a nonexpansive mapping using iterative method [18]. A numerical example is provided to demonstrate our existence result. Furthermore, we show that the considered iterative technique converges quicker than the earlier iterative scheme. We also use our suggested iterative approach to estimate the solution to a convex minimization problem and a split feasibility problem.

Keywords and Phrases: Variational inequalities problem, Iterative methods, nonexpansive mappings, Convex minimization and split feasibility problem.

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1. Introduction

G. Stampacchia, an Italian mathematician, defined variational inequalities at the end of the 1960's and the beginning of the 1970's [26]. In recent years, the concepts and methods of variational inequalities have been employed in a wide range