

Explicit Iterative Scheme for Approximating a Common Solution of Generalized Mixed Equilibrium Problem and Fixed Point Problem for a Nonexpansive Semigroup in Hilbert Space

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Abstract : In this paper, we introduce and study an explicit iterative method based on hybrid extragradient method to approximate a common solution of generalized mixed equilibrium problem and fixed point problem for a nonexpansive semigroup in Hilbert space. Further, we prove that the sequence generated by the proposed iterative scheme converge strongly to the common solution of generalized mixed equilibrium problem and fixed point problem for a nonexpansive semigroup. This common solution is the unique solution of a variational inequality problem and is the optimality condition for a minimization problem. The results presented in this paper are the supplement, extension and generalization of the previously known results in this area.

Keywords : generalized mixed equilibrium problem, fixed-point problem, nonexpansive semigroup, variational inequality problem, iterative algorithms, hybrid extragradient method

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