

An Algorithm to Find Fractional Edge Domination Number and Upper Fractional Edge Domination Number of an Intuitionistic Fuzzy Graph

Authors : Karunambigai Mevani Govindasamy, Sathishkumar Ayyappan

Abstract : In this paper, we formulate the algorithm to find out the dominating function parameters of Intuitionistic Fuzzy Graphs(IFG). The methodology we adopted here is converting any physical problem into an IFG, and that has been transformed into Intuitionistic Fuzzy Matrix. Using Linear Program Solver software (LiPS), we found the defined parameters for the given IFG. We obtained these parameters for a path and cycle IFG. This study can be extended to other varieties of IFG. In particular, we obtain the definition of edge dominating function, minimal edge dominating function, fractional edge domination number (γ_{if}^*) and upper fractional edge domination number (Γ_{if}^*) of an intuitionistic fuzzy graph. Also, we formulated an algorithm which is appropriate to work on LiPS to find fractional edge domination number and upper fractional edge domination number of an IFG.

Keywords : fractional edge domination number, intuitionistic fuzzy cycle, intuitionistic fuzzy graph, intuitionistic fuzzy path

Conference Title : ICFMG 2020 : International Conference on Fuzzy Mathematics and Geometry

Conference Location : Bali, Indonesia

Conference Dates : January 13-14, 2020