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AN APPROACH FOR SOLVING FUZZY ASSIGNMENT PROBLEM USING OCTAGONAL FUZZY NUMBERS

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Abstract

In this paper, a general fuzzy assignment problem is discussed. There are several approaches by different authors to solve such a problem viz., [2,7,8,9]. We use octagonal fuzzy numbers introduced by the authors in an earlier paper [6], using which we develop a new model to solve the problem. By ranking the octagonal fuzzy numbers [6], it is possible to compare them and using this we convert the fuzzy valued assignment problem (cost or profit appearing as octagonal fuzzy numbers) to a crisp valued assignment problem, which then can be solved using the Hungarian Method. We have proved that the optimal value for a fuzzy assignment problem, when solved using octagonal fuzzy numbers give a better optimal value than when it is solved using trapezoidal fuzzy numbers as done by Sathi mukherji et al [8]. The above is illustrated with a numerical example which proves that fuzzy ranking method offers an effective way for handling the fuzzy assignment problem.

Key Words : *Octagonal Fuzzy numbers, Fuzzy assignment Problem.*