

## Multi-Objective Multi-Mode Resource-Constrained Project Scheduling Problem by Preemptive Fuzzy Goal Programming

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**Abstract :** This research proposes a pre-emptive fuzzy goal programming model for multi-objective multi-mode resource constrained project scheduling problem. The objectives of the problem are minimization of the total time and the total cost of the project. Objective in a multi-mode resource-constrained project scheduling problem is often a minimization of make-span. However, both time and cost should be considered at the same time with different level of important priorities. Moreover, all elements of cost functions in a project are not included in the conventional cost objective function. Incomplete total project cost causes an error in finding the project scheduling time. In this research, pre-emptive fuzzy goal programming is presented to solve the multi-objective multi-mode resource constrained project scheduling problem. It can find the compromise solution of the problem. Moreover, it is also flexible in adjusting to find a variety of alternative solutions.

**Keywords :** multi-mode resource constrained project scheduling problem, fuzzy set, goal programming, pre-emptive fuzzy goal programming

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