

An Improved GA to Address Integrated Formulation of Project Scheduling and Material Ordering with Discount Options

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Abstract : Concurrent planning of the resource constraint project scheduling and material ordering problems have received significant attention within the last decades. Hence, the issue has been investigated here with the aim to minimize total project costs. Furthermore, the presented model considers different discount options in order to approach the real world conditions. The incorporated alternatives consist of all-unit and incremental discount strategies. On the other hand, a modified version of the genetic algorithm is applied in order to solve the model for larger sizes, in particular. Finally, the applicability and efficiency of the given model is tested by different numerical instances.

Keywords : genetic algorithm, material ordering, project management, project scheduling

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