Optimal Solution Strategy for University Course Timetabling Problem

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Abstract

This paper describes formulations of the University Course Timetabling Problem as used at Mkwawa University College of Education. University Course Timetabling is the Problem of scheduling resources such as lectures, courses and rooms to a number of timeslots over a planning horizon, normally a week, while satisfying a number of problem-specific constraints. In this study, we have developed three models and tested using real data from the stated University. It has been possible to get optimal solution for real problem instances through reformulations of models which involve a mixture of binary and time-indexed variables.

Keywords: Timetabling Problem; Combinatorial Optimization; NP-hard problem; reformulations; scheduling.