

The examination timetabling problem at Universiti Malaysia Pahang: Comparison of a constructive heuristic with an existing software solution

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ABSTRACT

This paper presents a real-world, capacitated examination timetabling problem from Universiti Malaysia Pahang (UMP), Malaysia. The problem has constraints which have not been modelled before, these being the distance between examination rooms and splitting exams across several rooms. These constraints provide additional challenges in defining a suitable model and in developing a constructive heuristic. One of the contributions of this paper is to formally define this real-world problem. A further contribution is the constructive heuristic that is able to produce good quality solutions for the problem, which are superior to the solutions that are produced using the university's current software. Moreover, our method adheres to all hard constraints which the current systems fails to do.

KEYWORDS

Optimisation; Timetabling; Heuristic; Scheduling

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