

Universiti Teknologi MARA

**Garbage Truck Staff Duty Roster Using
Genetic Algorithm**

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ABSTRACT

Staff scheduling is the assignment of employees to time slots such that certain constraints are satisfied. In this research, is intended to address the specific problem of scheduling staffs on daily shifts for the duration of a month schedule. The solution attempts to assign shifts with certain constraints (determine the each staff will work equally less or equal to 28 working days) satisfied on acceptable degree. In this research, a Genetic Algorithm have been implemented for scheduling garbage truck staff duty roster at Environmental Health department. This technique is used because studies have shown reasonably good results when genetic algorithms are applied to the staff-scheduling problem. The solution that had being used is three-dimensional array chromosome structure to represent each schedule. The duty roster of the staff will be randomize in producing the best timetable using the Genetic Algorithm and the most fitness timetable that satisfied the constraints is the result. The constraint is defined as the minimum number of each staff being assigned in the work shift in the same day and time. Experimental result shows that my three-dimensional array staff-scheduling implementation based on the best problem solution of the minimum violated working time of each staff works for 28 days equally to avoid overpay.

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