

# OPEN SHOP SCHEDULING PROBLEM WITH SETUP, PROCESSING AND REMOVAL TIMES SEPARATED

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## ABSTRACT

AN OPEN SHOP SCHEDULE HAS NO RESTRICTIONS ON THE PROCESSING ORDER OF THE JOBS. BECAUSE OPEN SHOP SCHEDULING PROBLEMS HAVE BEEN PROVED AS NP-HARD PROBLEMS TO SIMPLIFY THE STUDIES, THE MAJORITY OF SCHEDULING RESEARCH ASSUMES SETUP AND REMOVAL AS NEGLIGIBLE OR PART OF THE PROCESSING TIME. IN THIS RESEARCH, WE CONSTRUCT A MATHEMATICAL MODEL FOR OPEN SHOP SCHEDULING PROBLEM WITH SETUP, PROCESSING, AND REMOVAL TIMES SEPARATED. THE OBJECTIVE IS MINIMIZING TOTAL TARDINESS. HOWEVER, THE MATHEMATICAL MODEL CANNOT GET AN OPTIMAL SOLUTION FOR THE PROBLEM WITH LARGE SIZE. THUS, WE PROPOSE ONE HEURISTIC ALGORITHM THAT BASED ON THE SIMULATED ANNEALING ALGORITHM. THE EXAMPLE ILLUSTRATIONS SHOWS THAT THE HEURISTIC PERFORMS WELL BOTH IN SOLUTION QUALITY AND EFFICIENCY.

Keywords : OPEN SHOP,SEQUENCE-INDEPENDENT SETUP TIME,SEQUENCE-DEPENDENT REMOVAL TIME,SIMULATED ANNEALING ALGORITHM

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