Abstract

This paper demonstrates solving the flexible flow shop scheduling problem (FFSP) with considering limited waiting time constraint, sequence dependent setup times and different ready time to minimize maximum completion time (i.e. makespan). Since the problem studied is NP-hard, metaheuristic algorithms are proper to solve this class of problems. Hence, in this
paper, a novel imperialist competitive algorithm (ICA) is proposed to tackle of addressed problem. In order to achieve the reliable results in our proposed algorithm, a comprehensive tuning is performed using Taguchi method. to validate this proposed algorithm, the other popular algorithm namely simulated annealing is developed for this goal. Simulation results indicated that ICA is superior to SA.

Reference


Index Terms

Computer Science

Algorithms
Key words

ICA  Flexible flow shop  Limited waiting time

Sequence dependent setup times

Ready time