

# **A hybrid GA-SA algorithm for multi-objective sequencing problem in high-product mix shop-floor.**

## **ABSTRACT**

As globalization has increased in the past few years, many companies attempts to made appropriate strategic decision to meet with this challenge. The problem under study mainly focuses on minimizing overall make-span but additional objectives such as balancing the assembly line and minimizing the variation of completion time are also considered. Due to the complexity of problem solving procedure by mathematical techniques, this paper presents a new approach of hybrid GA-SA implementation in order to meet the problem objectives. A proposed hybrid GA-SA is executed to overcome the problem complexity and meet the problem objectives. In order to check the efficiency of hybrid search techniques, a comparison is done between the results obtained by hybrid GA-SA and simple GA and the results comparison validates the effectiveness of presented hybrid search techniques.

**Keyword:** Genetic Algorithm; Simulated Annealing; Hybrid GA-SA; Meta-heuristic algorithm.