Analysis of FM/M(a,b)/1/MWV/Br Queueing Model

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Abstract

In this paper we propose the general bulk service queueing model for FM/M(a,b)/1/MWV/Br. The batches are served according to FCFS discipline. In which arrival rate, vacation parameter, service rate for busy period, and for vacation period are all considered as trapezoidal fuzzy numbers. The basic idea is to convert all these fuzzy numbers into crisp values by applying Robust ranking Technique. Robust Ranking technique is used to find the expected mean queue length(Lq), Pv, and Pbusy. Further analytical results of Lq, Pv and Pbusy are numerically illustrated under crisp environment for the different values of the parameters.

References


Index Terms

Computer Science       Information Sciences

Keywords

Multiple Working Vacation, break down, Mean queue length, Robust Ranking Technique, Fuzzy number.