Abstract

In this paper we consider a queueing model, wherein the customers are arriving as batches following compound Poisson process. With one of the customer behavior, Balking such that the batch upon arrival may refuses to enter in to the system due to some reasons. Also after completing a service the server may opt for a vacation with probability p, or remain stay back in the system to serve the next customer if any, with probability 1-p. In this model, the customer behavior balking is considered in both the busy time and server vacation time of the system. For this mode. We obtain the time dependent solution and the corresponding steady state solutions. Also, we derive the performance measures, the mean queue size and the average waiting time explicitly.

References

Time Dependent Solution of M^[X]/G/1 Queuing Model with Bernoulli Vacation and Balking


**Index Terms**

Computer Science  
Applied Mathematics

**Keywords**

Batch Arrival  
Single server  
Balking  
Bernoulli vacation  
Transient state solution
Steady state Analysis