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## A FINITE CAPACITY $M/E_k/1$ QUEUEING MODEL WITH TWO TYPES OF SERVICES HAVING A RESTRICTION ON THE SIZE OF THE SYSTEM

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## Abstract

In this paper, a finite capacity  $M/E_k/1$  queueing model having two types of services (single and lot) with a restriction on the size of arriving customers is considered. For this model, the transient state and steady state probabilities are derived. The expected queue length, the busy period distribution, the expected busy period and the variance of busy period are also obtained. The analytical results are numerically illustrated for different values of the parameters and levels.

Key Words : Finite capacity, Single and lot services, Transient state and steady state probabili-

ties, Queue length, Busy period.

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