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$M/M/c/k$ LOSS AND DELAY INTERDEPENDENT QUEUEING MODEL WITH CONTROLLABLE ARRIVAL RATES, NO PASSING AND FEEDBACK

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Abstract

In This paper $M/M/c/k$ Loss and Delay queueing model with Controllable arrival rates, c-Server with identical service rates, no passing and feedback is considered. For this model, the steady state solution and system characteristics are derived and the average waiting times for the two types of customers (Elective and Emergency) either with feedback or without feedback are obtained for varying arrival rates when the arrival and service processes are independent. The analytical results are numerically illustrated and the effect of the nodal parameters on the system characteristics are studied and relevant conclusion is presented.

Key Words : *Controllable arrival rates, Finite capacity, Elective and emergency customers, No passing, Multi server with parallel channels, Feedback.*

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