

1067-90-889

Aliakbar Montazer Haghghi* (amhaghghi@pvamu.edu), PO Box 519, MS 2225, Suite 310D, Prairie View, TX 77446. *Poisson Arrival, Single-Processor, Exponential General Bulk Processing $[M/M(m, M)/1]$ and Splitting Queueing System: A Mathematical Model for a Personnel Hiring Process*. Preliminary report.

In this paper a hiring process with a limited number of vacant and possibly dual positions is mathematically modeled as a bulk-processing and splitting tandem queueing process. Electronically online applications that arrive according to a Poisson process will be stopped as soon as the number of needed positions is filled. The general bulk processing rule is used with minimum and maximum limits for a batch size. Processing of a batch and splitting are assumed exponential with different parameters. A system of four-dimensional difference equations is set up and is to solve to obtain the steady-state distribution of the number of applications in the system, as well as the mean total processing time. (Received September 16, 2010)