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Salam Md. Mahbubush Khan* (khan@math.fsu.edu), Alabama A&M University, 4900 Meridian Street, Normal, AL 35762. *Approximation of the Generalized Poisson Distribution.*

The generalized Poisson distribution is a three parameter distribution. This distribution is becoming increasingly useful in many branches of science specially related to single-server steady state queueing processes. Generalized distributions are becoming increasingly evident and useful in many branches of science but the functional forms of these generalized distributions are often complicated. Therefore, there arises a need to have some simplified or approximated form of this generalized distribution and also to know their relations with other distributions. Here we approximate the generalized Poisson distribution by using different techniques and suggested the best approximation. We also derive the standard normal approximation of generalized Poisson distribution. The results are intended to fill a conspicuous gap in the mathematical and statistical literature concerning the empirical quality of the approximations, and they are useful for designing efficient and accurate computing algorithms for such probabilities. (Received August 26, 2012)