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**Salam Md. Mahbubush Khan\*** (salam.khan@aamu.edu), Department of Mathematics, Alabama A&M University, Huntsville, AL 35810. *Approximations of Generalized Negative Binomial Distribution.*

The generalized negative binomial distribution is a three parameter distribution. This distribution is becoming increasingly useful in many branches of science specially related to customer service and 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 negative binomial distribution by using different techniques and suggested the best approximation. 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 September 08, 2014)