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A New Quasi Poisson-Sujatha Distribution with Properties and Applications

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ABSTRACT

In this paper a new two-parameter discrete distribution named "A new quasi Poisson-Sujatha distribution" has been proposed. The new quasi Poisson-Sujatha distribution has been derived by compounding Poisson distribution with new quasi Sujatha distribution. The moment based descriptive measures including the coefficients of variation, coefficient of skewness, coefficient of kurtosis, and index of dispersion have been discussed. Estimation of parameters has been discussed with both the method of moments and the method of maximum likelihood. Some examples of count data from various fields have been given to test the goodness of fit of the new quasi Poisson-Sujatha distribution over other two-parameter discrete distributions. The new quasi Poisson-Sujatha distribution shows much better fit as compared to other discrete distributions.

Keywords: Poisson-Sujatha distribution, New quasi Sujatha distribution, Compounding, Moments

How to Cite

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