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RECURRENCE RELATIONS FOR MOMENT GENERATING FUNCTIONS OF THE GENERALIZED COMPOUND WEIBULL DISTRIBUTION

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Abstract

In this paper, we establish some Recurrence relations for moment generating functions based on the generalized order statistics from the three-parameter generalized compound Weibull distribution. The results presented here are extension of the recurrence relations for moments and moment generating functions, based on the ordinary order statistics, upper record statistics and the *k*th upper record statistics for some life time distributions in the literature such as the uniform model, Beta-Prime model, Lomax model, Burr XII model, Generalized Pareto model and the generalized Compound Rayleigh model, among others, arise as special cases from the generalized compound Weibull distribution. Also characterizations of these distributions based on the generalized order statistics are given.

Keywords and phrases: generalized order statistics, record values, single and product moments, beta-prime distribution, Lomax distribution, Burr distribution, generalized Pareto distribution, generalized compound Rayleigh distributions.