Some Results on New Generalization of Generalized Hypergeometric Function and τ-Gauss Hypergeometric Function

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ABSTRACT

Using the extended Mittag-Leffler function, we introduce new extension to the extended Pochhammer symbol and gamma function. Applying this extended Pochhammer symbol, we also give an extension of the generalized hypergeometric function as well as some of its specific instances. We also define extension of the τ -Gauss hypergeometric function. Also included are integral and derivative formulas for this extended τ-Gauss hypergeometric function using the Mellin transform and fractional calculus methods. A few other intriguing and well-known findings are also provided by the new extended τ -Gauss hypergeometric function.

Keywords: Gamma function; Pochhammer symbol; Mittag-Leffler function

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