

**FRACTIONAL CALCULUS OPERATORS ASSOCIATED WITH
THE PRODUCT OF (p, q) -EXTENDED BESSEL FUNCTION AND
GENERALIZED K-STRUVE FUNCTION**

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Abstract: Motivated by a recent work on Marichev-Saigo-Maeda fractional calculus operators associated with the generalized k-Struve function(Seema Kabra et al. [19] in Applied Mathematics and Nonlinear Sciences, 5(2),593-602), this paper establishes four theorem by using Marichev -Maeda-Saigo fractional integral and derivative operators involving the product of the (p, q) -Extended Bessel function and Generalized k-Struve function, supported by serveral auxillary lemmas. The results are expressed in terms of the ${}_{r+k}F_{s+k}$ and generalized k-Wright function ${}_r\psi_s^k$. Some new and known results are also obtained in special cases of main results.

Keywords and Phrases: MSM Fractional Calculus Operator, (p, q) -Extended Bessel function and Generalized k-Struve function, (p, q) -Extended generalized hypergeometric function and Generalized k-Wright function.

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1. Introduction

Fractional calculus is a branch of mathematics deals with various differential and integral operators. Fractional calculus operators are studied extensively due to their importance in applied problems of science and engineering. For our present