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CERTAIN CLASS OF EULERIAN INTEGRALS WITH THE MULTIVARIABLE I-FUNCTION DEFINED BY NAMBISAN

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Dedicated to Prof. K. Srinivasa Rao on his 75^{th} ***Birth Anniversary***

Abstract: In this paper, first we evaluate a class of MacRobert's integral associated with the multivariable I-function defined by Nambisan et al [3], secondly we evaluate a class of MacRobert's with. the generalized incomplete hypergeometric function, a general class of polynomials and the multivariable I-function defined by Nambisan et al [3]. We will study several particular cases.

Keywords and Phrases: General class of polynomials, generalized incomplete hypergeometric function , multivariable I-function, Srivastava-Daoust function, multivariable H-function.

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1. Introduction and preliminaries

In this document, we derive an integral involving the generalized incomplete hypergeometric function, a class of multivariable polynomials and the multivariable I-function. For this multivariable I-function, we adopt the contracted notations.

The multivariable I-function defined by Nambisan et al [3] is an extension of the multivariable H-function defined by Srivastava et al [7].

The multivariable I-function is defined in term of multiple Mellin-Barnes type integral :

$$I(z_1,...,z_r)=I^{0,n:m_1,n_1;...;m_r,n_r}_{p,q:p_1,q_1;...;p_r,q_r}\left(\begin{array}{c|l} z_1 & (a_j;\alpha_j^{(1)},...,\alpha_j^{(r)};A_j)_{1;p}: \\ . & \\ . & \\ . & \\ z_r & (b_j;\beta_j^{(1)},...,\beta_j^{(r)};B_j)_{1,q}: \end{array}\right.$$