J. of Ramanujan Society of Math. and Math. Sc. **ISSN : 2319-1023**
Vol.5, No.1 (2016), pp. 83-90

BILATERAL GENERATING RELATION ASSOCIATED WITH MULTIPLE GAUSSIAN HYPERGEOMETRIC FUNCTIONS OF SRIVASTAVA AND EXTON

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Dedicated to Prof. M.A. Pathan on his 75^{th} ***birth anniversary***

Abstract: In this paper, we obtain an interesting finite combinations of Srivastava's general triple hypergeometric function $F^{(3)}$ as a bilateral generating function for Gauss's ordinary hypergeometric function of one variable ${}_2F_1$ and Exton's double hypergeometric polynomial X, by series rearrangement technique.

Keywords and Phrases: Pochhammer symbols; Bilateral generating relation; Multiple Gaussian hypergeometric functions; Series iteration technique.

2010 Mathematics Subject Classification: 33C05, 33C20, 33C65, 33C70.

1. Introduction

In 1967, Srivastava[17,p.428] defined the general triple hypergeometric function $F^{(3)}$ in the following form:

$$F^{(3)}\left[\begin{array}{l}(a_A) :: (b_B);\ (d_D);\ (e_E) : (g_G);\ (h_H);\ (\ell_L);\\ \\ (m_M) :: (n_N);\ (p_P);\ (q_Q) : (r_R);\ (s_S);\ (t_T);\end{array}\quad x,\ y,\ z\right]$$