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ON CERTAIN IDENTITIES INVOLVING BASIC (q) HYPERGEOMETRIC SERIES

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Abstract: In this paper we establish certain identities by making use of Bailey's ${}_2\Psi_2$ transformation formula. Special cases of these identities have also been discussed.

Keywords and Phrases: Transformation formula, identity, basic bilateral hypergeometric series, summation formula.

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1. Introduction, Notations and Definitions

Throughout the present paper, we adopt the following notations and definitions. For a and q complex numbers with $|q| < 1$ the q-shifted factorial is defined as,

$$(a;q)_n = \frac{(a;q)_\infty}{(aq^n;q)_\infty} = (1-a)(1-aq)...(1-aq^{n-1}),$$

$$(a;q)_0 = 1$$