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On certain q-series identities

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Abstract: In this paper, an attempt has been made to establish certain q-series identities which are different from Rogers-Rananujan type identities.
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1. Introductions Notations and Definitions:

Throughout this note, we shall adopt following definitions and notations. The q-shifted factorial is defined by,

$$[a;q]_0 = 1, \quad [a;q]_n = (1-a)(1-aq)...(1-aq^{n-1}), \quad n = 1,2,3,...$$

and

$$[a;q]_\infty = \prod_{k=0}^{\infty}(1-aq^k).$$

For products of q-shifted factorials, we use the short notation,

$$[a_1, a_2, a_3, ..., a_r; q]_n = [a_1;q]_n[a_2;q]_n...[a_r;q]_n,$$

where n is an integer or infinity. Basic hypergeometric series is defined by,

$${}_r\Phi_s\left[\begin{array}{l} a_1, a_2, ..., a_r; q; z \\ b_1, b_2, ..., b_s; q^\lambda \end{array}\right] = \sum_{n=0}^{\infty}\frac{[a_1, a_2, ..., a_r; q]_n z^n q^{\lambda n(n-1)/2}}{[q, b_1, b_2, ..., b_s; q]_n},$$

which is convergent in the whole complex plane if $\lambda \neq 0$ and for $\lambda = 0$, it converges for max. $(|q|, |z|) < 1$, provided $r = s+1$.