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SYMMETRIC IDENTITIES FOR DEGENERATE *q*-POLY-GENOCCHI NUMBERS AND POLYNOMIALS

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Abstract: In the present article, we introduce a new class of degenerate q-poly-Genocchi polynomials and numbers including q-logarithm function. We derive some relations with this polynomials and the Stirling numbers of the second kind and investigate some symmetric identities using special functions that are involving these polynomials.

Keywords and Phrases: Degenerate *q*-poly-Genocchi polynomials, Stirling numbers, *q*-logarithm function, Symmetric identities.

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1. Introduction

Throughout this presentation, we use the following standard notions $\mathbb{N} = \{1, 2, \dots\}$, $\mathbb{N}_0 = \{0, 1, 2, \dots\} = \mathbb{N} \cup \{0\}$, $\mathbb{Z}^- = \{-1, -2, \dots\}$. Also as usual \mathbb{Z} denotes the set of integers, \mathbb{R} denotes the set of real numbers and \mathbb{C} denotes the set of complex numbers. For any $n \in \mathbb{N}$, the *q*-number can be defined as follows

$$[n]_q = \frac{1 - q^n}{1 - q}.$$