



Degenerate Sheffer F -Polynomials and Their Properties

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Abstract

The Sheffer F -polynomial sequence $\{s_n(x)\}_{n \geq 0}$ is defined by $s_0(x) = \text{const} \neq 0$ and

$$Q(\partial_F) s_n(x) = F_n s_{n-1}(x), \quad (n \geq 0),$$

where $Q(\partial_F)$ is delta F -operator in [1].

In this study, we introduce the degenerate Sheffer F -polynomials by means of a combination of F -calculus and degenerate sequences. Furthermore, utilizing the F -umbral calculus and the F -derivative, we derive various properties of these polynomials and establish their relations with certain specific fibonomial-based degenerate polynomials.

Keywords: Degenerate polynomials, Sheffer sequences, Fibonomial calculus.

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