Abstract

The Fibonacci polynomials and Lucas polynomials are famous for possessing wonderful and amazing properties and identities. Generalization of Fibonacci polynomial has been done using various approaches. One usually found in the literature that the generalization is done by varying the initial conditions. In this paper, Generalized Fibonacci polynomials are defined by

\[ W_n(X) = XW_{n-1}(X) + W_{n-2}(X); \quad n \geq 2 \quad \text{with} \quad W_0(X) = 2b \quad \text{and} \quad W_1(X) = a + b, \]

where \( a \) and \( b \) are integers. Further, some basic identities are generated and
derived by generating function.

References


Index Terms

Computer Science

Applied Mathematics

Keywords

Fibonacci polynomial, Lucas polynomial, Generalized Fibonacci polynomial, Generating function