

**CHEBYSHEV POLYNOMIALS AND BI-UNIVALENT FUNCTIONS
ASSOCIATING WITH q -DERIVATIVE OPERATOR**

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Abstract: In this paper, we introduce and investigate a new subclass of Bi-univalent functions defined in the open unit disk, associated with Chebyshev polynomials by applying q -derivative operator. Furthermore, We find estimates for the general Taylor-Maclaurin coefficients of the functions in this class and also we obtain an estimation for Fekete-Szegö problem for this class.

Keywords and Phrases: Analytic functions, Univalent and Bi-univalent functions, Fekete-Szegö inequality, Chebyshev polynomials and q -derivative operator.

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1. Introduction

We indicate by \mathcal{A} the collection of functions, which are analytic in the open unit disk \mathbb{D} given by

$$\mathbb{D} = \{z \in \mathbb{C} \text{ and } |z| < 1\}$$