South East Asian J. of Mathematics and Mathematical Sciences
Vol. 16, No. 3 (2020), pp. 61-82

ISSN (Online): 2582-0850

ISSN (Print): 0972-7752

CERTAIN CLASSES OF BI-UNIVALENT FUNCTIONS ASSOCIATED WITH $q-$ANALOGUE OF BESSEL FUNCTIONS

S. R. Swamy and P. K. Mamatha*

Department of Computer Science and Engineering,
R. V. College of Engineering, Bangalore - 560059 Karnataka, INDIA

E-mail : sondekola.swamy@gmail.com
ORCID Address : http://orcid.org/0000-0002-8088-4103

*Department of Mathematics,
R. V. College of Engineering, Bangalore - 560059, Karnataka, INDIA

E-mail : mamatharaviv@gmail.com
ORCID Address : http://orcid.org/0000-0002-7610-9585

(**Received:** *Jun. 20, 2020* **Accepted:** *Sep. 19, 2020* **Published:** *Dec. 30, 2020)*

Abstract: In this paper we consider various subclasses of bi-univalent functions defined by the Horadam polynomials associated with q-analogue of Bessel functions. Further, we obtain coefficient estimates and Fekete-Szegö inequalities for the defined classes.

Keywords and Phrases: Univalent functions, bi-univalent functions, bi-convex functions, bi-starlike functions, Fekete-Szegö inequality, $q-$derivative operator, Horadam polynomials, Bessel functions.

2010 Mathematics Subject Classification: Primary 11B39, 30C45, 33C45, Secondary 30C50, 33C05.

1. Introduction

Let $\mathcal{A}$ denote the class of functions of the form

$$f(z) = z + \sum_{n=2}^{\infty} a_n z^n \tag{1.1}$$