South East Asian J. of Mathematics and Mathematical Sciences
Vol. 17, No. 3 (2021), pp. 63-72

ISSN (Online): 2582-0850

ISSN (Print): 0972-7752

HANKEL DETERMINANT OF GENERALISED CLASSES OF STARLIKE FUNCTIONS WITH RESPECT TO m-FOLD SYMMETRIC POINTS

R. Reena Roy and Thomas Rosy*

CIPET: Institute Of Plastics Technology,
Guindy, Chennai - 600032, Tamil Nadu, INDIA

E-mail : reenaraju26@gmail.com

*Department of Mathematics,
Madras Christian College, Tambaram,
Chennai - 600059, Tamil Nadu, INDIA

E-mail : thomas.rosy@gmail.com

(**Received:** *Jan. 09, 2021* **Accepted:** *Sep. 22, 2021* **Published:** *Dec. 30, 2021)*

Abstract: Denote $\mathcal{S}$ to be the class of functions which are analytic, normalized and univalent in the open unit disk $\mathbb{E} = \{z \in \mathbb{C} : |z| < 1\}$. The upper bound for the functional $|a_{m+1}a_{3m+1} - a_{2m+1}^2|$ with respect to m-fold symmetric points are determined.

Keywords and Phrases: Starlike functions, Convex functions, q^{th} Hankel determinant, m-fold symmetric points.

2020 Mathematics Subject Classification: 30C45, 30C50.

1. Introduction

Let $\mathcal{S}$ denote the class of functions

$$f(z) = z + \sum_{n=2}^{\infty} a_n z^n \tag{1}$$