

Abstract

The concept of Mathematical inequalities has great importance and influence in the advanced studies of Mathematics. It plays a peculiar part to pave the path of new dimensions in the modern studies of Mathematics. Not only in Mathematics but also in other particular areas encircled by science, Mathematical inequality has been utilized to strengthen ideas of research by the researchers in the past several years. The works of Newton and Euler in the fields of Mathematical Analysis gave many new approaches in the study of other applied sciences, engineering, physical sciences and electronics, etc. Their work in Mathematics left as an effective influence on Mathematical inequality much more. In the several past years, a large number of analysts proved that there is a large range of relations and bounds for the Quadrature rule in the relation of the second derivative. Even then the convex function has many applications but the Hermite Hadamard type inequality has its own important value in the evaluation of the convex functions. Their new research articles provide new inquiries including proofs, extensions, generalization, and even the new studies refined the theory of Hermite Hadamard type inequality.

The significance of the Hermite Hadamard type inequality is one of the major elements when we study the theory of convex functions. The Hermite Hadamard type inequality is thought to be an advancement and pioneer of the theory of convexity and it follows from Jensen's Inequality. Hermite Hadamard type inequality is considered the effective and basic mechanism for the solution of convex functions and many research studies have been constructed. In this research study, we define exponentially convex functions in co-ordinates and establish inequalities of Hermite Hadamard type for the exponentially convex functions through the generalized fractional integral operator on co-ordinates. Moreover, we will prove some results related to the symmetrized convex functions. This thesis is expected to benefit researchers and graduate students working in the fields of integral inequalities.