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# GENERALIZATION OF MAJORIZATION THEOREM BY HERMITE'S POLYNOMIAL

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Abstract. In this paper, we give the generalizations of majorization inequalities by using Hermite interpolating polynomial. We discuss the results for particular cases namely, Lagrange interpolating polynomial, $(m, n-m)$ interpolating polynomial, two-point Taylor interpolating polynomial. We give bounds for the identities related to the generalizations of majorization inequalities by using Čebyšev functionals. We also give Grüss type inequalities and Ostrowski-type inequalities for these functionals. We present mean value theorems and $n$-exponential convexity which leads to exponential convexity and then log-convexity for these functionals. We give some families of functions which enable us to construct a large families of functions that are exponentially convex and also give Stolarsky type means.

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