

: P R E F A C E :

The work in the present dissertation has been divided into three chapters. The first Chapter is introductory, which surveys the historical background and incorporates a few relevant basic concepts and the usual notations of Nevanlinna theory.

The second Chapter deals with the generalization of finding the bounds for  $\lim_{r \rightarrow \infty} \sup \frac{T(r, f^{(k)})}{\inf T(r, f)}$  and using it to compare the growth behaviour of meromorphic function  $f$  with its derivatives  $f^{(k)}$  ( $k \geq 1$ ) when the total deficiency is attained.

In the beginning of the third Chapter we compare the growth of a meromorphic function  $f(z)$  with the growth of a homogeneous differential polynomial  $p(z)$  of degree  $n$  in  $f$  under different hypothesis. We also estimate the total deficiency  $\delta(\alpha, f)$  for all finite  $\alpha$  in terms of deficiencies of  $p(z)$ . Towards the end of this chapter we find an upper bound for  $\delta(\infty, p)$ .

References to the literature are arranged alphabetically towards the end. In the text they have been referred to, by putting within square brackets.

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