

## HARDY SPACES OF CERTAIN CLASSES OF ANALYTIC FUNCTIONS

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**Abstract:** In this paper we consider various subclasses of normalized, analytic functions defined in the open unit disk  $\Delta = \{z \in \mathbb{C} : |z| < 1\}$  in the complex plane  $\mathbb{C}$  and study the Hardy space of the functions in these subclasses. This study provides an analysis of the growth of these functions near the boundary of the open unit disk and the Taylor's coefficients of them. The study is carried out using the methods of integral means and subordination of analytic functions. Determination of explicit indices of the Hardy space and order of the growth rate of the Taylor coefficient of these functions are important results here. The novelty of the work here is an attempt to extend the study of the above mentioned features for functions in standard subclasses of analytic univalent functions which were not considered by researchers in the past.

**Keywords and Phrases:** Analytic function, Univalent function, Hardy space, Subordination.

**2020 Mathematics Subject Classification:** 30C45, 30C80, 30H05, 30H10.

### 1. Introduction

The study on function spaces of analytic functions is of recent interest to researchers working in the field of Geometric Function Theory. There are quite a few different kinds of function spaces of analytic functions whose extremal problems, coefficient inequalities, integral formulae and other geometric properties have been