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ANALYTICAL CHARACTERISTIC OF SPIRALLIKE FUNCTIONS DEFINED BY γ^{th} ORDER DIFFERINTEGRAL TYPE OPERATOR

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Abstract: In this paper we have obtained some necessary and sufficient conditions for the following classes:
1) $\mathbf{SVP}_{\psi}(\nu, \mathbf{p})$
A function $I(z)$ of the class $\mathcal{A}_p$ also contained in the subclass $SVP_{\psi}(\nu, p)$ if it satisfies the inequality

$$\left|\frac{I^{(p-1)}(z)}{(cos\psi + isin\psi)zI^{(p)}(z)} - \frac{1}{3\nu}\right| < \frac{2}{3\nu} \quad where \;\; \psi \in \mathbb{R} \;\; and \;\; 0 < \nu < 1.$$

2) $\mathbf{CVP}_{\psi}(\nu, \mathbf{p})$
A function $I(z) \in \mathcal{A}_p$ is said to be in the class $CVP_{\psi}(\nu, p)$ if it satisfies the inequality

$$\left|\frac{I^{(p)}(z)}{(cos\psi + isin\psi)zI^{(p+1)}(z)} - \frac{1}{3\nu}\right| < \frac{2}{3\nu} \quad where \;\; \psi \in \mathbb{R} and \;\; 0 < \nu < 1.$$

We have extended the previous results and derived some corollaries.

Keywords and Phrases: Differintegral operator, Pre-starlike functions, Spirallike functions, Starlike functions.

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