ABSTRACT

The present thesis entitled "Some studies in complex function theory" comes as a continuation of recent works in complex function theory by eminent analysts like, Afaf Abubaker, Al-Amiri, Ali, Al-Oboudi, Aouf, Attiya, Bulboaca, Catas, Frasin, Hayami, Imran Faisal, Maslina Darus, Miller, Mocanu, Mostafa, Nishiwaki, Noor, Rajalakshmi, Ravichandran, Ruschweyh, Sakaguchi, Sălăgean, Selvaraj, Shigeyoshi Owa, Srivastava, Toshio, Yamakawa and others. In this thesis, various studies on subclasses of analytic functions $f$ which are univalent in open unit disc $U = \{z : |z| < 1 \}$ are investigated. The subclasses $S_n(\beta, s, t)$, $S(\beta, s, t)$, $\tau(\beta, s, t)$, $\sigma_0(\beta, s, t)$, $\tau_0(\beta, s, t)$, $K^{\sigma,s,l}(\lambda, \delta, \alpha, \beta)$, $L^{\sigma,s,l}(q : A, B)$, $C^{\sigma,s,l}(q : A, B)$, $R_m(\beta, \gamma, \lambda, l; \mu)$, $S^0(\beta, \gamma, \lambda, l)$, $R_m^0(\beta, \gamma, \lambda, l; \mu)$, $H_m^0(\alpha, \beta, l)$, $T_m^0(\alpha, \beta, l)$, $T^\lambda(n, m, \alpha)$, $\psi(k, \rho, \delta, n)$, $UCV(k, \rho, \delta, n)$, $R_p(k, \rho, \delta, n)$ are defined by using Sălăgean operator, Sakaguchi functions, differential operator $D^{\sigma,s,l}_{\lambda,\delta}$ and multiplier transformation $I(m, \lambda, l)$. In these subclasses we study sufficient conditions, subordination results, coefficient inequalities, consequences of coefficient inequalities, coefficient estimates, inclusion relations, extreme points and results concerning quasi-Hadamard product. These results unify and generalize some of the earlier studies in the literature.