Chapter 10

CONCLUSION

During the course of research we studied univalent and multivalent functions in detail. The subclasses of these functions like starlike, convex, close to convex, spiral like, typical real functions defined on the unit disc \( E = \{ w: |w| < 1 \} \) and also on the punctured unit disc \( E^* = \{ w: 0 < |w| < 1 \} \). We obtained several properties like coefficient estimates, distortion bounds, radius of starlikeness, convexity and close to convex, extreme points, region of univalency, convex linear combination etc. We discussed different subclasses of univalent, multivalent and meromorphic functions that are holomorphic in nature. We have continued the investigation of several properties of holomorphic and univalent functions and study different subclasses of multivalently starlike, convex, close-to-convex, meromorphically starlike, convex, close-to-convex functions with positive and negative coefficients in the unit disc.

We have also studied properties like starlike with respect to symmetric points, conjugate points and symmetric conjugate points. Application of Ruscheweyh derivative to multivalent functions and the subclasses like starlike, convex, close to convex will also be dealt with. Application of fractional derivate operator, fractional integral operator, and differential operator to different subclasses of univalent, multivalent functions and meromorphic is also of interest to us. Hadamard products of different subclasses mentioned herein are also discussed.

We have applied functional analytic techniques to univalent functions, q-valent functions and meromorphic functions to obtain the expression for extreme points and support points. The study of differential subordinations and its applications to various subclasses is also mentioned. Application of fractional derivate and integral operator to different subclasses of univalent and multivalent and meromorphic functions is also included.