## Acknowledgement

God has been really kind to me in providing strength and love to move forward in this endeavor which has been full of crests and he has given me courage that enables me to face all the challenges during my research works. It would not have been possible to write this thesis without the help and support of the people around me. I am indebted to all of them however over here I would like to mention few special people.

It gives me great pleasure to acknowledge my indebtedness and profound sense of gratitude to my supervisor, Dr. H. R. Kataria, Professor, Department of Mathematics, Faculty of Science, The Maharaja Sayajirao University of Baroda, Vadodara for not only portentous me the research problem but also for his eminent guidance, constant encouragement, constructive counselling, stimulating discussions, affectionate encouragement and keen inspiration throughout the course leading this investigation to a successful accomplishment. In spite of his extremely busy schedule due to his many roles especially Dean of the faculty, he helped me whenever I needed his guidance. I am grateful to him particularly for his kindness, hospitality and understanding and for all the help and advice received from him not only related to the work but also on various aspects during the course of my investigations.

My sincere thanks go to Professor Dr. R. G. Vyas, Head of Department, Department of Mathematics, Faculty of Science, The Maharaja Sayajirao University of Baroda, Professor Dr. B. I. Dave, Professor Dr. V. O. Thomas and entire faculty members and staff in Department of Mathematics for assistance in my Ph. D. study. I am highly indebted to them for being there. I cannot forget the cooperation and encouragement that I have always received from Shri Gopalbhai, Prayagbhai and other non-teaching staff of the department.

Very special thanks to my research fellows Dr. Akhil S. Mittal, Dr. Harshad R. Patel, Dr. Rahul Mehta, Dr. Prakash Patel and Ms. Kriti Dheerawat for helping

me throughout my research work and providing insights. My sincere gratitude to all my teachers who have taught me during my studies from schooling to Ph.D. Special thanks to Dr. D. J. Karia for his constant support.

I express my deepest sense of gratitude to my beloved father Mr. Manilal Suthar, my mother Mrs. Geetaben Suthar, and mother-in-law Ms. Hasumatiben Mistry for their moral support, innocent love, unfailing patience, affectionate encouragement, kind co-operation and valuable blessings. Always thanks to my father-in-law Late Mr. Mahendrakumar Mistry from bottom of my heart for his blessings. Words are not enough to express my affectionate amiable thanks to my brother Mr. Dhaval Suthar, my sister Mrs. Priyanka Suthar, my brother-in-law Mr. Chirag Mistry and their family members for their encouragement and unselfish commitment to support me; right from the registration till the successful completion of this journey.

Finally, Thanks to my better half, Hiren for being always there for strengthening my confidence, constantly motivating me in all the situations. Also my loving daughter, Hitanshi for being such a good kid for always cheering me up and her love provided me a great relief in the minor crisis of confidence. They both are the backbone of this successful journey.

I gratefully acknowledge DST-PURSE Scheme, funded by the Government of India through DST at Maharaja Sayajirao Baroda University for providing me with financial assistance (GCU-5/DST-PURSE/#20520/278).

I am thankful to library staff and administrative staff of The Maharaja Sayajirao University of Baroda, Vadodara. I am also indebted to all those researchers whose work (quoted in the bibliography) I have consulted. Lastly, my thanks go to all those people who have supported me directly or indirectly for my research work.

Mital Hiren Mistry