ACKNOWLEDGEMENT

First and foremost, I wish to record my deep sense of gratitude to Prof. Chandra Krishnamurthy, the Vice-Chancellor of Pondicherry University for having given me the opportunity and facilities to take up this work under the doctoral research programme.

I express my sincere thanks to the Almighty, for showering me with all the blessings and directing me to my beloved supervisor Dr. J.Subramani, Associate Professor, Formerly Head, Department of Statistics, Pondicherry University. I am extremely thankful to my guide for his scrupulous guidance, spectacular and fruitful suggestions, and exchange of significant ideas. Without his fabulous efforts, the thesis would not have been completed with my limited knowledge. It is worth remembering the days that I spent with my supervisor, in his room, where he meticulously went through every line of the research papers, corrected and re-corrected it many a time to bring it to the correct format despite several constraints. Besides helping me in research work, he moulded me to add perfection to each and every aspect of my life as a research scholar and made me to do any kind of works in a perfect manner and also in time. All the credit to complete this thesis goes to him. I am proud to be a student of not only an eminent professor but also a good human being with concern for fellow humans.

Besides my supervisor, it is my beloved family members whose efforts, patience and prayers enabled me to achieve this feat which could have been otherwise, next to impossible. A six letter word, ‘Thanks’ is just not enough for them.

I am very much grateful to the Doctoral Committee members, Prof. K.Porsezian, Professor and Formerly Head, Department of Physics and Prof. P.Dhanavanthan, Professor and Formerly Head, Department of Statistics for their valuable suggestions to shape the thesis.

It is my privilege to thank Prof. V.Indumathi, Dean, Ramanujan School of Mathematical Sciences, Dr. Padi. Tirupathi Rao, Associate Professor and Head, Department of Statistics, all faculty members and also the office staffs of the Department of Statistics, Pondicherry University, for their support and encouragement.

I express my sincere gratitude to my well-wishers, whose list is long and varied. Among them, special thanks are due to Prof. A.M.S.Ramasamy, Formerly Dean and Professor, Department of Mathematics and Dr. Rajeswari Seshadri, Associate Professor, Department of Mathematics for providing me up to date information on latest developments in the research arena.

My thanks are due to my beloved co-scholar Ms. G. Prabavathy for her support and help towards the completion of research work.

I take this opportunity to thank the Department of Science and Technology, New Delhi for funding my research through INSPIRE Fellowship, and my heartiest thanks to Department of Statistics and Pondicherry University administration for all the necessary facilities provided to carry out the research work.

At last but not least I wish to thank all who directly or indirectly helped and encouraged me for the completion of the research work.

G.KUMARAPANDIYAN
Dedicated to...

My beloved Parents