ACKNOWLEDGEMENTS

First and foremost, all the praises and thanks to Allah, The Exalted and Glorified, for inspiring me towards knowledge and blessed me with required strength and enough passion to start and finally to complete this challenging task.

I have worked with a number of people whose contribution in assorted ways to the research and the making of thesis deserve special mention. It is a pleasure to convey my gratitude to them all in my humble acknowledgement.

I was extraordinary fortunate in having Dr. Rafiullah Khan as my supervisor. His sage advice, insightful criticism and patient encouragement aided the writing of this thesis in innumerable ways. Moreover his perpetual energy and enthusiasm in research has motivated me, in addition he was always accessible and willing to help. As a result research life became smooth and rewarding for me. In many ways I have learnt much from and because of him! His involvement with his originality has triggered and nourished my intellectual maturity that I will benefit from, for a long time to come. One simply could not wish for a better and friendlier supervisor. I am indebted to him more than he knows.

I gratefully acknowledge Prof. A.H. Khan for his crucial contribution, suggestions and willingness to share his bright thoughts, which were very fruitful for shaping up my research. He is really a constant oasis of ideas and passion in Statistics which exceptionally inspire and enrich my growth as a student and as a researcher also.

I am also thankful to Prof. Qazi Mazhar Ali, Chairman, Department of Statistics and Operations Research, Aligarh Muslim University, Aligarh, for his moral support and cooperation during the entire period of my Ph.D. programme.

I would like to thank Dr. Haseeb Athar for his critical comments and suggestions during the initial phases of this thesis work.
My sincere thanks are extended to Prof. A.A. Khan, Dr. S. Javed, Dr. Zaki Anwar, Dr. M. Faizan, Dr. Mohd. Jahangir Sabbir Khan, Dr. Mohd. Arshad, Dr. A.Y. Adhami and Dr. Irfan Ali.

Many thanks go to in particular to my seniors and colleagues Dr. Nayabuddin, Dr. Zubera Akhtar, Dr. Shamsher Khan, Dr. Tanwir Akhter, Mr. Md. Akram Khan, Mr. Mahfooz Alam, Mr. Ateebur Rehman, Mr. Arif Khan, Mr. Gulzarull Hasan, Mr. Murshid, Mr. Aijaz, Mr. Umaid, Mr. Intekhab, Mr. Amir, Mr. Shrikant, Mr. Faiz Yusufi, Mr. Nazrullah, Mr. Ahmadur Rehman, Mr. Usman, Mr. Firdous, Mr. Showkat, Mr. Azhad, Mr. Omer, Mr. Nasir, Mr. Aquib, Mr. Muneeb, Mr. Asim, Mr. Feroz, Mrs. Anamika Kulshrestha, Mrs. Sheema Sadia and Ms. Bavita have all extended their support in a very special way, and I gained a lot from them through their personal and scholarly interactions, their suggestions a various points of my research programme.

Thanks are also due for the staff of the Department, Computing lab and Seminar for their wonderful assistance and cooperation, especially to Mr. Jabbar Anwar, Mr. M. Jahangir, Mr. Rozer Mahmood, Mr. Zulfiqar Ali, Mr. Md. Arifuzzaman, Mr. Salman and Mr. Dinesh.

Words fail me to express my indebtedness and gratitude to my parents for their unequivocal support throughout, as always, for which my mere expression of thanks likewise does not suffice. Their unflagging love, energetic support and persistent confidence in me, has taken the load off my shoulder and clearing the path towards thesis completion.

I am enthusiastic in thanking my brothers and sisters and my family members for their involved encouragements and support in materializing this cumbersome task.

I am also thankful to the University Grant Commission, New Delhi for providing financial assistance in the form of scholarship.
Blessing and prayers for the founder of my Alma-mater, Sir Syed Ahmad Khan whose inspiration provided me with enough vehemence guiding all the channels to work in solidity and synchronization to complete the present venture.

Last but not the least, my deep sense of ovation to all the folks who deliberately or indeliberately and directly or indirectly helped in shaping this thesis and also to those who even wished it be a successful venture.

Finally, for any errors or inadequacies that may remain in this work, of course, the responsibility is entirely my own.

Dated: Mohammad Azam Khan