Acknowledgements

Putting into words what I feel for the people, institutions and organizations without whose guidance, support and hospitality this thesis would have never been a reality, is one of the most toughest part to begin with. It would be unfair on my part if I try to get myself relieved of any due which I owe to them by uttering the word Thank you, which happens to be terribly insufficient for this cause. Also, it would be unjust on my part to express a sense of gratitude to any of them in any numerical order.

Anyway some point has to be chosen to begin with. To begin with, I express my gratitude to God Almighty without whose blessings and desire this thesis would have never been possible.

No language under this sun will ever be successful to verbalize sense of gratitude which a student owes to his\her teacher, myself not being an exception to it. Still I take this opportunity to express my sincere and deep sense of gratitude to my supervisor Dr. S. Krishnamoorthy, Professor and Head, Ramanujan Research Centre, Department of Mathematics, Government Arts College(Autonomous), Kumbakonam for his constant encouragement, invaluable guidance with unreserved cooperation, inspiring discussions, constructive suggestions and counseling advice throughout the period of my research work.

I owe a deep sense of gratitude to Dr. K. C. Srinivasan, Principal, Government Arts College(Autonomous), Kumbakonam for providing with the necessary facilities to carry out this research work.
I have great pleasure to record my heartfelt thanks to Prof. R. T. Pannerselvam, Former Joint Director, Directorate of Collegiate Education, Tamilnadu for his motivations to do this research. I am indebted to him a lot for making my life meaningful.

I am very much grateful to Brahmachari Abhayamrita Chaitanya, Pro chancellor, Dr. P. Venkat Rangan, Vice chancellor, Dr. M. P. Chandrashekaran, Dean Engineering, Amrita Vishwa Vidyapeetham University, Coimbatore for their valuable support and constant encouragement to carry out the research work.

I wish to express my sincere gratitude to all the faculty members of Ramanujan Research Centre, Department of Mathematics, Government Arts College(Autonomous), Kumbakonam for their immense help and fruitful discussions during the course of my research work. I extend my special gratitude to all the faculty members of Department of Mathematics, Amrita Vishwa Vidyapeetham University, Coimbatore for their constructive ideas and encouragement.

I wish to acknowledge an immeasurable debt to my friend Mr. R. Vijayakumar for his timely help and giving a great support during the period of my research work.

Last but not least, I record my heartfelt reverential gratitude to my parents and family members for being there in all walks of my life.

I might have failed to name many who sincerely supported and helped for the successful performance of this thesis, even with or without my knowledge; I acknowledge them for their generous attitude.

(R. ARULDOSS)