

Acknowledgement

Throughout this research I had the valuable guidance of Dr. A. P. Santhakumaran, Professor and Head, Department of Mathematics, St. Xavier's College (Autonomous), Palayamkottai. The fruitful discussions which I had with him, his inspiring guidance and constant encouragement enthused me to evolve new concepts and adopt new methods of approach to numerous problems in the formulation of this thesis. I am deeply grateful to him.

I bestow my sincere thanks to the Department of Science & Technology (DST), Govt. of India, for providing me financial assistance through Junior Research Fellow during the tenure of this research. I am extremely thankful to Professor S. Arumugam, Director, n -CARDMATH, Kalasalingam University, Krishnankoil, for his whole-hearted co-operation and encouragement in bringing out this thesis.

I am grateful to Ref. Fr. Dr. Alphonse Manickam, S. J., Principal and to all members of Department of Mathematics, St. Xavier's College (Autonomous), Palayamkottai for their kind co-operation. I am very grateful to Prof. J. R. V. Edward and Prof. V. Vilfred, whose academic expertise and their support inspired me to do Ph.D. in Mathematics.

I owe a great deal to Mrs. G. R. Sudharma Santhakumaran for her unfailing hospitality while at research discussions with my guide in his residence. I sincerely dedicate this thesis with love and affection to my parents, my sister and my uncle Mr. Mohanan for all their help.

Finally, I thank GOD, the Almighty for all the good things done to me.