ACKNOWLEDGEMENT

It is with eternal gratitude, most humbly, respectfully and in all submissiveness, I offer my silent and sincere obeisance in the Lotus Feet of the Gracious Huzur Radhasoami Dayal for His unbounded grace and blessings during the entire course of this work. I also pray for His grace forever.

This thesis arose in part out of three years of research that has been done. By that time, I have worked with a number of people whose contribution in assorted ways to the research and the making of the thesis deserved special mention. It is a pleasure to convey my gratitude to them all in my humble acknowledgment.

In the first place I would like to convey my gratitude to my supervisor, Prof. Dhaneshwar Pandey, for his supervision, advice, and guidance from the very early stage of this research. I thank him for his crucial contribution, which made him a backbone of this research and so to this thesis. His ideas and passions in mathematics exceptionally inspire and enrich my growth as a student, and a researcher. I am indebted to him more than he knows.

Prof. V. G. Das, Director, Dayalbagh Educational Institute, has always been a source of inspiration for me. I express my deep sense of gratitude for him. I humbly thank Prof. Anil Bhatnagar, Dean, Faculty of Science, for providing necessary facilities and help. I submit my deep sense of gratitude to Prof. Arun K. Sinha, Head, Dept. of Mathematics, for his valuable suggestions, stimulating discussions and continuous support.

I am grateful to Dr. S. K. Gaur for his continuous support and guidance. My sincere thank to my teachers Prof. Ravindra Kumar, Prof. S. P. Singh, Dr. Gursaran, Dr. A. P. Tyagi, Dr. Shambhu Sharma, Prof. Gunjan Agarwal, Dr. Kamal Srivastava for their encouragements and supports.

iv
I gratefully acknowledge the active co-operation, invaluable support and above all companionship offered by my friends, particularly, Jagpreet Saluja, Sampada Shrivastava, Richa Bansal, Madhuri Jain, Suchi Agarwal and Neha Singh.

I wish to thank my grandmother, Mrs. Krishena Kumari Thapar, for always being the source of inspiration for me and teaching me good things that really matter in my life. My parents deserve special mention for their inseparable support and prayers. My Father, Mr. Vijay Kumar Thapar, in the first place is the person who put the fundamental my learning character, showing me the joy of intellectual pursuit ever since I was a child. My Mother, Mrs. Neelam Thapar, is the one who sincerely raised me with her caring and gentle love. Their blessings paved the way to success in my life. My hearty and fathomless affections go to my loving sisters Sugandha, Subhagya and Satvika for their relentless physical and moral support and encouragement.

I am thankful to CSIR for supporting the work under CSIR Grant No. (0125)/08/EMR-II. Finally, I would like to thank everybody who was important to the successful realization of this thesis, as well as expressing my apology that I could not mention personally one by one.

April, 2010

Antika Thapar