

Acknowledgement

First and foremost, I would like to express my sincere gratitude to my supervisor **Dr. S. K. Upadhyay**, Associate Professor, Department of Mathematical Sciences, Indian Institute of Technology (Banaras Hindu University), who offered his immense knowledge, continuous support and encouragement throughout my Ph.D. duration. This work would not have been possible without his systematic guidance, patience and great efforts. Under his guidance, I successfully overcome many difficulties and learned a lot.

I am extremely indebted to **Late Prof. R. S. Pathak**, DST-CIMS, Banaras Hindu University, for his important and valuable suggestions.

I am grateful to **Prof. L. P. Singh**, Head, Department of Mathematical Sciences, Indian Institute of Technology (Banaras Hindu University) for providing necessary facilities to accomplish my research work.

I express my sincere regards to all honorable faculty members of my department **Prof. K. N. Rai**, **Late Prof. O. P. Singh**, **Prof. T. Som**, **Prof. S. K. Pandey**, **Dr. S. Das**, **Dr. S. Mukhopadhyay**, **Dr. A. J. Gupta**, **Dr. Rajeev**, **Dr. Vineet Singh**, **Dr. R. K. Pandey**, **Dr. Anuradha Benerjee** and **Dr. V. S. Pandey** for their blessing and encouragement.

I acknowledge my deepest sense of gratitude to my RPEC members **Prof. Rekha Srivastava** and **Prof. A. K. Tripathi** for their inspiring suggestions and comments during my research progress report presentations.

I am also thankful to all the non-teaching staff members of the department for their help.

My special thanks to my seniors **Dr. Alok Tripathi** and **Dr. Anuj Kumar** for their selfless help and support whenever I needed. I also extend my thanks to **Mr. Jitendra K. Dubey**, **Mr. Manmohan Singh Chauhan**, **Mr. Prateep Upadhyay** and **Ms. Komal Khatiwani**. I take this opportunity to thank my friends **Deepika**, **Swati**, **Seema**, **Suvarna** and **Shiva** for giving me a nice company during my wonderful days of Ph.D. in BHU campus.

I gratefully acknowledge the **Ministry of Human Resource Development, Government of India** for providing financial assistance in the form of Senior Research Fellowship which buttressed me to perform my work comfortably.

I express my sincere and heartiest gratitude to my respected grandfather **Shri Jai Mangal Singh** for his extreme love, patience and support. I am extremely grateful to my mother **Smt. Mira Singh** and father **Shri Anil Kumar Singh** for their love, prayers, caring and sacrifices for educating and preparing me for my future. A special mention of thanks to my elder brothers **Mr. Vishesh Singh** and **Mr. Vishal Pratap Singh** for their motivation and encouragement.

Above all, I offer my humble gratitude to **Lord Kashi Vishwanath** for his showers of blessings throughout my research work to complete it successfully.

Date:

Place: Varanasi

(Reshma Singh)