Acknowledgements

My deepest gratitude and thanks goes to Almighty God. He has indeed been the inspiration of my research work, without his blessings I would have lost my interest and enthusiasm to continue doing my best. It was him who has helped me to be patient and give my best in everything.

First of all, I would like to express my deepest and sincere gratitude to my supervisor Prof. (Dr.) Y.S. Shishodia, Pro-Vice Chancellor, Jagan Nath University, Jaipur, for his immeasurable wisdom, guidance, patience, valuable suggestions and supervision. His truly scientist bent of mind has made him a constant oasis of ideas in physics, which always inspired and enriched my growth as a researcher. His discussions have always been a wonderful source of inspiration and I consider myself extremely fortunate for having had an opportunity to work with him and I thank him for all that he has done for me throughout the course of this work.

I take the proud privilege of expressing my sincere regards to Mrs. Rekha Shishodia, wife of Prof. (Dr.) Y.S. Shishodia, for her blessings, unswerving care and affectionate encouragement in pursuing my academic endeavor.

I express my heartiest thanks to Shri Deepak Gupta, Vice-Chairman, Jagan Nath Gupta Memorial Educational Society and Prof. (Dr.) V.K. Agarwal, Vice-Chancellor, Jagan Nath University, Jaipur for their help and encouragement.
I take this opportunity to express my sincere thanks to Dr. Devendra Kumar, Jagan Nath Gupta Institute of Engineering and Technology, Jaipur, for his warm support and valuable suggestions during the period of research work. I am thankful to my brothers Er. Kuldeep Singh, University of Michigan, USA and Er. Ranbir Singh for their kind help and encouragement. I am also thankful to my colleagues, Mr. Nihal Singh, Mr. Amit Goswami, Mr. Gyanesh Soni and other colleagues for their help and kind co-operation during the entire period of my research work. My special thanks to Mrs. Manju Bala for unstinted co-operation throughout the entire period of my research work.

Acknowledgements will never be complete without my expressing heartfelt gratitude and indebtness to my parents Shri Rohtash Singh and Smt. Om Bai for their unflagging love, care and support throughout my life. This thesis would have been simply impossible without their blessings. Their blessings, assistance, co-operation, encouragement, forbearance and cordial assurance were the main driving forces to bring this research to its completion. I am much indebted to my brother-in-law Mr. Vijendra Singh and sister-in-law Mrs. Sudesh Kanwar for their continued support and encouragement to complete my work.

No amount of words can express my gratitude to my husband Dr. Jagdev Singh and daughter Anvi Rathore, who supported me relentlessly and adjusted with my busy schedule throughout my research work. They are the origin of my happiness. I am also thankful to my parents-in-law Shri Anand Singh and
Smt. Kelam Kanwar for their warm affection, exquisite blessing, indifference to pleasure and tender-heartedness to achieve my cherished goal.

Finally, I am also grateful to all those persons, who could not be listed here, for directly or indirectly contributing in providing me a stimulating environment for accomplishing my task.

Sushila