

ACKNOWLEDGEMENT

The higher we climb the mountain
the more beautiful looks the landscape behind.

With deep sense of gratitude, I thank Prof. V. Potbhare for introducing the objectives of this work to me and for his valuable and consistent guidance throughout the period of my research. His impeccable style of working will always be a source of inspiration to me. His thrust for intellectual quests, and for precision in knowledge has too, earned my undying admiration for him.

It would have been impossible for me to continue my research without the encouragement and help of my family members and Mr.M.S. Jani, for which I am extremely grateful to them.

I sincerely thank Prof. V.K.B. Kota for giving me useful data and computer programmes upon which I depended a lot.

I am extremely grateful to Prof.S.K. Shah, Prof.T.R. Joshi and Prof.J.R. Pandya for providing me the facilities to work in the Physics and Applied Physics Departments of the M.S. University of Baroda.

I thank the University Grants Commission, New Delhi for funding my research. I also thank the entire non-teaching staff of the Faculty of Science and the University Office for their help in dealing with all technical matters.

I am grateful to the staff members of Applied Mathematics and Computer Engineering Departments for allowing me to work in their computer sections.

The credit of the beautiful typing goes to Mr P.V. Rao.

Last but not the least, I am indebted to all my friends and colleagues of the Physics, Applied Physics and Applied Chemistry Departments for the help and cooperation which I received from them. All I can say is

Memories fade away with time, yet on the mind,
Still remain, persist, reflections few
Clutching to these shadows - precious moments of joy
That I have, my dear friends, shared with you.
For the selfless help, guidance and care,
From every inch of my heart "Thank you".