ACKNOWLEDGEMENTS

First and foremost, I am grateful to God for his continual presence and giving me the strength for completing this Ph.D. thesis.

I would like to extend my sincere gratitude towards my supervisors, Dr. Vijander Singh and Dr. Yogesh Vijay Hote, whom I owe more than what I can mention, for their guidance and all the useful discussions throughout my Ph.D. work. Their deep insights, ability to motivate, willingness to solve my difficulties has encouraged me to make my thesis unique one and to complete the task within stipulated time. I also remain indebted for their understanding and support during the time when I was really down due to the personal family problems.

My sincere gratitude is reserved for Prof. J.R.P. Gupta, Head of Department of Instrumentation and Control Engineering, Faculty of Technology, University of Delhi, for his support and encouragement to complete my Ph.D. thesis within the stipulated time.

I am grateful to Director, NSIT and Prof. A. P. Mittal, Head of Department of Instrumentation and Control Engineering, NSIT for providing all facilities and encouragement for my Ph.D. work.

I am also thankful to Dean, Faculty of Technology, University of Delhi, for giving me opportunity to undertake Ph.D. work.

I am grateful to the reviewers of various international journals and also conferences, who have reviewed and improved my research work within the stipulated time.

I am also grateful to Mrs. Asha Rani, Associate professor, NSIT, New Delhi for her moral support and encouragement for my research work. Further, I extend my sincere thanks to all research scholars especially to Mr. Rochak Bajpai, Ms. Girisha Garg, Mr. Saurabh Bharadwaj, Vikas Kumar and Ms. Jyoti Yadav for spending their valuable time for constructive discussions.

I owe a debt of gratitude to Mrs. Swapnaja Hote, Mrudula and Mayank for their care and moral support all the time.

The words are not enough to express the feelings I have for my parents and in-laws for their constant unconditional emotionally and financially support. Special thanks to my brother-in-laws for their amazing support.
Finally, I would like to acknowledge most important persons in my life, my wife Rupali and three year old daughter Manasvi. They have been a constant source of inspiration and strength. The Ph.D. thesis would have probably never been completed without the moral support, understanding and continuous encouragement of my wife Rupali. I am thankful to my three year old daughter Manasvi who never disturbed me while studying.

My big “thank you” goes to those who helped me directly or indirectly to make this thesis a success.

VILAS HARIDAS GAIDHANE