## **Acknowledgements**

I express my thanks to **Almighty** for providing me inspiration, strength, energy and patience to start and accomplish my goal with the support of all concerned, a few of them I am trying to acknowledge.

I sincerely thank my guide **Prof. Satish K. Shah**, who has been the main source of inspiration, for guiding and motivating me every time I felt nervous due to my normal academic and administrative duties interfering with this work. His sincerity, dedication, creativity and a very good sense of humour inspired me to work tirelessly for the entire duration of this work. He continued to guide me even during those days when he was recovering from a tragic accident he had met with and I found him to be a person of immense inner strength. This ultimately created a situation for me where my strengths and efforts were converging in one direction towards achievement of the goal.

I thank **Prof. S.G. Shah**, Former Dean, **Prof. S. M. Joshi**, Dean and **Prof. A. I Trivedi**, Head of the Department, Electrical Engineering Department, Faculty of Technology & Engineering, M. S. University of Baroda for helping me in all the ways for my registration as a Ph. D. student.

I also thank **Prof. M. N. Patel**, Principal L.D. College of Engineering, Ahmedabad , **Prof. J. R. Patel**, Former Principal L.D. College of Engineering, **Prof. M. V. Garach**, Former Head of the Department and **Prof. J. V. Dave**, Head of the Department for providing all kinds of administrative ,academic and morale support from the beginning of this work.

I express my thanks to all my colleagues Arun, Mihir, Kishor and my students Ashish and Hitesh who helped me in this research work in all possible ways and I am sure, without their help, it would not have been possible to finish this work in a reasonable time gap of four years. Finally I express my thanks to my parents, wife Sandhya and sons Aditya and Chinmay for all the support, inspiration and love given to me despite all inconveniencies caused to them because of my engagement in this work.