Acknowledgements

To begin with, I would like to express my deep sense of gratitude towards my Ph.D. supervisor *Dr. Satyajit Sahu* for his constant help, patience, and perseverance with me. As his first disciple, I have learnt many technical and non-technical aspects of research work. I am grateful to him for his steady support throughout my research work.

I thank *Dr. Suresh Dahiya* with whom I have had long discussions about science, technology and other aspects of life which helped me widen my vision about life as we see it, and beyond that. I would also like to thank *Mr. Parveen Dagar* whose inquisitive mind and persistent curiosity made me think harder about the seemingly simple concepts. Discussions with both of them helped me understand the concepts in a better way.

I would also like to thank all my friends *Suresh, Parveen, Deepak, Sapana, Atul, Hiteshi, Vibha, Ishan, Vijendra, Adarsh, Nidhi, Vivek, Amit* and *Naresh* for making my stay at IIT Jodhpur a pleasant and lively experience.

I would like to thank my music guru *Pt. Satish Chandra Bohra*, and all my co-disciples at *Sangeet Kislaya Sansthan* for introducing me to the spiritual world of Hindustani classical music. I must admit that I have taken the refuge of classical music whenever I found it difficult to cope up with difficult circumstances.

My *family*, from the oldest to the youngest member, stayed with me through all my ups and downs during the Ph.D. I would like to thank them for their abundant patience and neverending love for me.

In the end, I would like to thank *Bhagwan Shri Krishna* for guiding me through the toughest of the times when my hope had almost died.

Giriraj Vyas PG201282003