

# ***Acknowledgment***

*To begin, I want to express my gratitude to **Dr. Bishwajit S. Chakrabarty** for motivating me and supervising me as a mentor. This research would not have been done without his ongoing encouragement, direction, support and conversation.*

*I want to express my gratitude to my parents **Mr. Pravinchandra Hirani** and **Mrs. Kanchanben Hirani** for their support and belief. For a continued motivation and trust, I want to thank my loving wife **Dr. Komal Hirani**, as she always stood beside me. I love my darling daughter **Jishaa** for showering so much love and make my life more happening. I want to express my gratitude to my dearest sister & brother in law **Mrs. Arpita Kanani** & **Dr. Amit Kanani** for their moral support in keeping me on track and complete my task.*

*Special thanks to the **Dr. C. G. Limbachiya**, Head of Department (Applied Physics) and **Dr. C. N. Murthy**, Dean, Faculty of Technology and Engineering, The M. S. University of Baroda for allowing me and support me for my research work. I express my gratitude to **Prof. Arun Pratap**, **Dr. K. V. R. Murthy**, **Dr. Navin Acharya**, **Dr. Ashwin Prajapati**, **Dr. Arun Anand**, **Dr. N. D. Chavda**, **Dr. D. R. Joshi**, **Dr. Y. H. Gandhi**, and **Dr. Jignesh Pandya** for their support and motivation.*

*Additional thanks to my friends Dr. Mayurdan Gadhvi, Dr. Bhavesh Kamaliya, Mr. Ritvik Balvally and Dr. Nimit Patel for the help, feedback, Love and Support.*

*At this stage, I cannot forget my colleagues and friends from the university Laxmi, Sohan, Ms. Kavita Kolte, Kevil, Piyush, Rahul, Avani, Reema, Nakul, Vismay, Swapnil, Sonal, Supriya, Priyanka, Margi, Mugdha, Axay, Deepak, Chetna, Harsh, Subhas for their company, cheerfulness and support that they have extended to me during my research work.*

*I want to express my heartfelt gratitude to all of the Applied Physics Department's non-teaching staff members for their tremendous assistance and cooperation during my study.*

*I like to thank the University Grants Commission (UGC) in New Delhi for funding the BSR RFSMS fellowship.*

*The greatest gift of life is friendship and I have received it a plenty. Many thanks to all my friends from Jamnagar, V.V.Nagar, Vadodara and Ahmedabad who believed in me, and stood with me through thick and thin.*

*Dhaval Hirani*