ACKNOWLEDGEMENT

In the last five years journey of my research work, many known and unknown hands have come to help me in various ways. I would like to take this opportunity to acknowledge all of them.

First and foremost, I wish to express my deepest gratitude to the dynamic, eminent and young personality, my Ph.D. Guide, Dr. K. D. Patel for all his valuable instructions, significant support and immense guidance throughout the research work.

I am extremely pleased to express my sincere gratitude to my energetic and enthusiastic Co-Guide, Prof. S. G. Patel for his constant inspiration, remarkable advice, suggestions and endless support at all the stages during the tenure of work.

I would like to extend my gratitude to honorable Prof. A. R. Jani for providing me the necessary permissions to take up the Ph.D. Program as a part time student. I am thankful to him for his valuable advice, suggestions and guidance.

I wish to express my feelings of extremely heartfelt thanks to honorable Prof. P. D. Patel for his valuable suggestions, inspirations and support even after his retirement from this department.

I am indebted to Prof. K. N. Joshipura, Head, Department of Physics, Sardar Patel University for extending the essential infrastructural facilities and his motivation during the entire research work.

I wish to record my special thanks to Dr. G. K. Solanki for his active role in various experimental set up, during last five years. I can never forget his friendly help and kind support.

I owe my thanks to Prof. V. M. Pathak for his valuable suggestions as and when required at various stages of the present investigation.

I would like to offer warm appreciation to all the faculty members, Mr. S.N.Jha and Mr. Bhavin Brahmbhatt of this Department for their direct and indirect support and help during the whole work.
Avery special thanks to the Sardar Patel University authority for providing me the necessary permissions for this course. I am also thankful to USIC, Department of Chemistry and SICART for providing essential technical and characterization facilities in this tenure.

It is a great pleasure for me to express gratitude to Dr. C. J. Panchal, Applied Physics Department, M. S. University of Baroda for his guidance and adequate help rendered to me during this research work.

I can never forget my reliable colleagues Dr. Rajiv Vaidya, Dr. Kaushik Patel, Dr. Mehul Dave, Dr. Amit Patel, Mr. Manish Bhayani, Mr. Mayur Patel, Mr. Haresh Patel and Mr. Jignesh Rathod for their generous help and co-operation (in many ways).

I would like to remember my father whose good will and inspiration far exceeds what the words of appreciation can express.

Last, but not the least; I value the love and care of my family whose constant, untiring support and patience has motivated me to complete this work.

To everybody, who has helped me in this research work but if I am failed to mention their names, I am thankful from the bottom of my heart for their any kind of help.

Above all, it is the grace of the almighty God, who has constantly showered his blessings upon me, in the form of inherent determination for success in this work.

Jayesh R. Gandhi