

## ACKNOWLEDGEMENT

*I would like to express my profound gratitude to my supervisor Prof S. Jit for his excellent guidance, constant encouragement and motivation. His broad knowledge and enthusiasm for work will always be a source of inspiration for me. The completion of this research work is truly an outcome of his constant untiring support, valuable ideas and suggestions during my research work. The insightful discussions with him enlarged my thinking dimensions which will prove to be my great asset while venturing my future endeavors.*

*I am grateful to Prof. P. Chakrabarti for his kind support, motivation and fruitful discussions. He is always there, when I was entangled in any kind of problem and provided valuable suggestions. I would like to express my deep regards to Dr. Amritanshu Pandey for his encouraging words in troubled period.*

*I would like to express my special thanks to my seniors Dr. Sarvesh Dubey, Dr. P. K. Tiwari, Dr. Arun Dev Dhar Divedi, Dr. C Periasamy, Dr Shivalini Singh, Dr. Meenakshi Choudhary, Dr. Aniruddh Bahadur Yadav, Dr. Kumar Shubham, Dr. Purnima Hazra, Dr. Shashi Tiwari, Dr. Mirgander Kumar, Dr. Vinod Kumar, Dr. Divya Somvanshi and Dr. Sunny Sharma for their constant encouragement and their appreciated suggestions. I would also like to mention my deep regards for my dear colleagues Mr. Balraj Singh, Ms. Ekta Goel, Mr. Gopal Rawat, Mr. Hemant Kumar, Mr Sanjay Kumar, Mr. Yogesh Kumar, Mr. Chandan Kumar, Mr. P.K. Sahu, Mr. Lalit Chandra, Mr. Amit Kumar, Mr. Ashwini Mishra, Mr. Deepak Kumar, Mr. Kamlaksh Baral, Mr. Prince Kumar Singh, Mr. Smriti Ratan, Mr. Manpuran Mahto and Mr. Abhishek Kumar for their untimely support and valuable technical assistance. They also provided a friendly and cheerful environment needed for completing my work and those moments will be cherished throughout my life. My thanks and deep appreciations also go to all staff members of Department of electronics, especially to Mr. M.K. Saxena, Mr. S.C. Yadav, Mr. Shyam Narayan, Mr. Vinay Srivastava and Mr. Sanjeev Srivastava for their kind co-operation.*

*I would like to express my deep appreciation to my batch mates Mr. Ashutosh Mishra and Dr. Sarthak Singhal who helped me in every phase of the PhD duration.*

*My deepest appreciation towards my wife Mrs. Shalini Singh for her patience and continuous support which drives me through the toughest period of my life. She always being a source of strength for me and still remain an invaluable asset to me. I have a deep appreciation for my elder brothers Mr. Nilesh Kumar Singh and Mr. Dushyant Kumar Singh for providing enormous moral support to me.*

*Finally, I hearty express sincere thanks to my parents Shri Nirmal Kumar Singh and Shrimati Bimala Singh. I wish to express indebtedness to them, for their unconditional love, extreme patience and constant support over the years. They provide me the strength and confidence to attain this task.*

*Above all, I thank Lord Kashi Vishwanath for providing me strength and courage in completing the work.*

**Date:**

**(Kunal Singh)**