ACKNOWLEDGEMENT

I express my special words of thanks and deep regards to my Research Guide, Dr. P. MANI, Professor, Dept. of Physics, HITS, Chennai, for his exemplary guidance, monitoring and constant encouragement throughout the course of this work.

I am very much indebted to Dr. (Mrs). Elizabeth Verghese, Pro-Chancellor, Mr. Ashok Verghese, Director, Dr. Aby Sam, Director, Dr. S. Ramachandran, Vice-Chancellor, Dr. PonRamalingam, Registrar of Hindustan University, for their constant support and motivation throughout my research work.

I am extremely thankful to A. Joseph Stanley, Director (Academic), Dr. Ilavazhagan, Director (Research), Dr. B.G. Roy Chowdhury, Dean (Research), Dr. N. Rajasekaran Nair, Dean (AS), Mrs. Annie Aureen Albert, HOD (Physics) for their constant encouragement during the course of my work.

I take this opportunity to express a deep sense of gratitude to Dr. R. Balakrishnan, Former Dean & Professor, Department of Physics, Madras Christian College, Tambaram.

I am deeply indebted to Mrs. J. Malarvizhi, Secretary, Research Office, HITS, Chennai for her encouragement to carry out the research work.

I am obliged to the Management and Principal of Velalar College of Engineering and Technology, Erode, for their co-operation during the period of my assignment.

I also take this opportunity to express a deep sense of gratitude to Dr. D. Sasikumar, HOD (Physics), VCET, and my department colleagues for
their cordial support, valuable information and guidance, which helped me in completing this task through various stages.

Words cannot express the feelings; I have for my parents, in-laws and my children for their constant unconditional support.

Finally, I would like to acknowledge the most important person in my life – my husband, J. Venkatesan. He has been a constant source of strength and inspiration in thicks and thins of life. It was his determination and constant encouragement that ultimately made it possible for me to see this thesis through to the end.

I thank the Almighty for letting me through all the difficulties and giving me the strength and patience to work through all these years.

DEEPA JANANAKUMAR