ACKNOWLEDGEMENT

It is with deep sense of gratitude and indebtedness that I place on record my acknowledgements to my supervisor Dr. E. Natarajan, Assistant Professor, Institute for Energy Studies, Department of Mechanical Engineering, Anna University for his inspiring guidance, constant encouragement, help and scholarly advice in carrying out the present research work. I express my heartfelt thanks to Thiru. T.R. Patchamuthu, Chancellor, SRM University, Chennai, for his continuous support and encouragement in this research work.

I am grateful to my Doctoral committee members, Dr. D. Prithviraj, Professor and Research coordinator, SRM University, Kattangulathur, Dr. S. Renganarayanan, Director, Institute for Energy Studies, Anna University, Chennai, and Dr. D. Mohanlal, Professor in-charge Refrigeration and Air-conditioning Division, Anna University, Chennai, for providing the necessary support, review and guidance.

I heartfully thank Dr. G. Thanigaiaarasu, Professor and Head, Department of Mechanical Engineering, Anna University, Thiru. P. Sathyanarayana, Vice-Chancellor, Dr. T.P. Ganesan, Pro-Vice Chancellor (E&T), Prof. R. Venkatramani, Dean (E&T) and Dr. S. Krishnan, Dean, School of Mechanical Engineering, SRM University, Kattangulathur, for their kind support and timely help.

I sincerely thank the India Meterological Department, and staff of Tamilnadu Pollution Control Board for having made available the required data.

L.R.GANAPATHY SUBRAMANIAN