ACKNOWLEDGEMENT

It is my great privilege to express my deep sense of gratitude and profound thanks to my guide Dr. T. Paul Robert, Assistant Professor, Department of Industrial Engineering, Anna University Chennai, for his invaluable, thought provoking, extraordinary and patient guidance. He is constant source of knowledge and inspiration during my work. Because of his practical approach and helping attitude, it is a pleasure for me to work with him.

I am extremely thankful to the Doctoral committee members Dr. P. Shahabudeen, Professor and Head, Department of Industrial Engineering, Anna University Chennai, Dr. L.S. Ganesh, Professor, Department of Management Studies, Indian Institute of Technology Madras, Chennai for their valuable suggestions during the course of my work.

I thank Dr. K. Rajagopal, Principal, Government College of Engineering, Tirunelveli, Prof. S. Abdul Karim Sait, Professor and Head, Department of Mechanical Engineering, GCE, Tirunelveli for their incessant encouragement and support during the period.

I thank Dr. B. Nageswara Rao, Senior Scientist, Indian Space Research Organisation, Trivandrum and also I thank Dr. T. Christopher, Professor and Head, Department of Mechanical Engineering, Thanthai Periyar Government Institute of Technology, Vellore, Prof. S. Rajakumar, Assistant Professor, Department of Mechanical Engineering, GCE Tirunelveli for their constructive ideas for my thesis.

I am also deeply indebted to my parents, husband Mr. K. Jegan and all the relatives and friends for their moral support in carrying out the research.

D. JEBAKANI