ACKNOWLEDGEMENT

"I have put my work in the hands of God and he has turned my sunsets into dawns. Thank you God."

The author expresses his deep gratitude to his research guide Dr. V.P. Arunachalam, Professor, and Head, Department of Mechanical Engineering, Government College of Technology, for his continuous support, valuable guidance and constant encouragement throughout this research work. His thanks are due to Dr. V. Palanisamy, Principal, Government College of Technology, for his support.

The author expresses his heart-felt thanks to Dr. R. Vasantha Kumar, the Chairman & Managing Trustee, Karpagam Educational Institutions, Shri K. Murugaiah, the Administrative Officer & Dr. V. Gunaraj, the Principal, Karpagam Educational Institutions, for their continuous encouragement to complete the research work.

The author is thankful to Dr. R. Subramanian, PSG College of Technology for his help.

The author expresses his eternal indebtedness to his Parents. The author wishes to record his profound gratitude to his wife Mrs. C. Mary Anita for her encouragement.