ACKNOWLEDGEMENT

The author wishes to express his indebtedness to his guide Dr. V. Selladurai, Assistant Professor in Mechanical engineering, who motivated the author to a very great extent to carry out this doctoral research. He held a number of useful discussions with the author and really helped him a lot to complete this thesis.

The author expresses his sincere gratitude to the Management, the Head of the Institution, Dr. R. Prabhakar, B.tech (IIT Madras), M.S., (OSU, USA), Ph.D., (Prudue University) and the Head of the Department of Mechanical Engineering, Dr. S. Dhandapani, M.E., Ph.D., Coimbatore Institute of Technology, Coimbatore for encouraging him and providing all the necessary facilities to carry out this research work.

The author is highly thankful to the faculty and staff of Mechanical Engineering Department for their continued support and encouragement.

R. Subramanian.