ACKNOWLEDGEMENTS

I am greatly indebted to Dr.Kn.K.S.K.Chockalingam, Principal, National Engineering College, K.R.Nagar, Kovilpatti-628 503, for his highly invaluable and inspiring guidance, excellent advice, constant encouragement and involvement throughout the course of this work.

I am grateful to Dr.R.Palaninathan, Professor, Department of Applied Mechanics, Indian Institute of Technology Madras, Chennai, for his ideas, keen interest in the topic, comments and constructive criticism. The discussions I had with him immensely aided to enhance my appreciation of the subject. I will forever remember the highly fruitful and thought-provoking discussions I had with him. His involvement throughout the course paved way for the successful completion of this work.

I take this opportunity to thank our beloved Chairman, Thiru K.Ramasamy and Managing Trustee, Thiru K.R.Arunachalam, National Engineering College, for giving me permission to pursue my research work.
I wish to acknowledge the help extended in this regard by Dr.D.Ravindran, Professor and Head of Mechanical Engineering Department, National Engineering College and who was helpful in completing my research work.

I would like to thank all faculty members and students of our college, for their help and suggestions. My special thanks are due to Jackson Daniel, Iyah Raja, Shankar, Ramakrishnan, Ashok and other friends for their sincere help and delightful company.

I gratefully acknowledge the support and help given by my mother Smt. H.Lakshmi. With deep sense of gratitude, I would like to acknowledge the keen interest shown by my wife S.Karthekeswari for providing me all the moral support and encouragement. Last but not least, I appreciate my children Muthulakshmi and Hariraam Sunderji for their invaluable moral support.

Above all, the author is thankful to the Almighty for His marvelous grace.

H.Kanagasabapathy