ACKNOWLEDGEMENT

I owe my profound and deep gratitude to my Guide Dr. C. S. Venkatesha, Professor, Department of Studies in Mechanical Engineering, University B.D.T. College of Engineering, Davangere, for having provided his exemplary guidance and motivation throughout the Research programme.

I express my deep gratitude to my Co-guide Dr. T. Jayaraju, Professor, Department of Mechanical Engineering, The National Institute of Engineering, Mysore India, for the initiation, guidance and motivation rendered in completing this Research work successfully.

My thanks to Principal, Dr. Abdul Budan, University B.D.T. College of Engineering, Davangere for providing support to carry out the Research work.

I express my special thanks to Dr. G. L. Shekar, Principal, The National Institute of Engineering, Mysore, for his constant motivation and The NIE Management for their support rendered throughout the tenure of my Research work.

My sincere gratitude to Dr. P. R. Sadananda Rao, Professor (Retd.), Department of Mechanical Engineering, The National Institute of Engineering, Mysore for his initiation, moral support and encouragement to carry out the Research work.

My special thanks to Mr. Neelakantha V Londe, Associate Professor, Department of Mechanical Engineering, Srinivas Institute of Technology, Mangalore, who shared my joys and woes.

I thank Dr. Y S. Varadarajan, Professor and Head, Dr. N. Rajendra, Professor (Retd.), K. M. Subbaiah and Md. Ismail my colleagues at the Department of Industrial and Production Engineering, The National Institute of Engineering, Mysore.
My thanks to Dr. B. Suresha, Professor, Department of Mechanical Engineering, The National Institute of Engineering, Mysore.

I thank all the staff members of Fiber glass moulding company, Bangalore for fabricating the polymer composites required for the Research work.

I thank all the staff members of Bangalore Integrated System Solutions (P) Ltd., Bangalore, and Brakes India ltd., Nanjangud, for providing laboratory facility to conduct the tests.

I thank all the staff members of Department of Metallurgical and Materials Engineering, National Institute of Technology-Karnataka, Surathkal, Mangalore for extending Scanning Electron Microscope Lab facility.

My special thanks to Dr. R. Srinidhi, Professor, Department of Mechanical Engineering, Sri Jayachamarajendra College of Engineering, Mysore for his suggestions in preparing progress reports.

Special thanks to Sri. M. R. Manjunath, Professor, Department of Electrical Engineering, The National institute of Engineering, Mysore for his constant encouragement.

Thanks to Mr. Rajesh Babu, Department of Computer Science and Engineering, The National Institute of Engineering, Mysore.

I sincerely thank all my friends and well wishers who directly or indirectly helped me to achieve this goal.

( M. S. SHAM PRASAD )