ACKNOWLEDGEMENT

The author is deeply indebted to her guide Dr. G. Uma, Assistant Professor, DEEE, Anna University, Chennai for her guidance, constant encouragement and invaluable support during the research work. The author expresses her sincere thanks to Dr. B. Umamaheswari, HOD, DEEE, Anna University, Chennai for her support.

The author expresses her gratitude to Dr. M. Chidambaran, Director, NIT, Tirchy for his invaluable guidance and constant encouragement, execution and completion of the research work. The author expresses her sincere thanks to Dr. P. Kanagasabapathy, Dean, MIT, Chennai for his suggestions and comments. The author is deeply indebted to Dr. T.R. Rangaswamy, Dean, BSA Crescent Engineering College, Vandalur, Chennai for his continuous, invaluable guidance and constant encouragement during the entire research work.

The author is deeply thankful to Dr. V.M. Periasamy, Principal, BSA Crescent Engineering College for sponsoring her to undertake the research work. The author is thankful to all her colleagues for their help at various stages of the research work. The author finally acknowledges the support from her husband Mr. A. Sridharan and her son S. Akash who have helped and sacrificed some of the best years of their life in hours of neglect so that she could successfully complete this work. The author whole heartedly dedicates this thesis to her father Mr. K.N. Swaminathan who has molded her to the present status and for constant motivation.

(N.S.BHUVA NESWARI)