

ACKNOWLEDGEMENT

I express my whole hearted gratitude to my research supervisor **Dr R.P. Kumudini Devi**, Professor, Department of Electrical and Electronics Engineering, College of Engineering, Anna University, Chennai, for her valuable suggestions, guidance, encouragements and generous help for the successful completion of the work.

I extend my sincere thanks to Doctoral committee members **Dr M.Abdullah Khan**, Professor, B.S.Abdur Rehman Crescent University, and **Dr C.Christopher Asir Rajan**, Professor, Pondicherry Engineering College for their invaluable suggestions.

I thank **Dr G.Uma**, Head of the Department, Department of Electrical & Electronics Engineering, College of Engineering, Anna University, for the support rendered for the completion of my thesis. I also thank **Dr S.Thiruvengadam** for his help in thesis correction.

I express my sincere thanks to **Ms. Sharon Ravichandran**, **Mr V.P.Boopathi** and **Mr R.Muzamil Ahamed** full time research scholars for the help rendered for my research work.

I express my thanks to **Dr KR.Santha**, Head of Electrical & Electronics Engineering Department and Management of **Sri Venkateswara college of Engineering, Sriperumbudur** for providing lab facilities and moral support for the research work.

I extend my thanks to my parents **S.Gurusamy - G.Saraswathy** and my wife **S.Savithri** without their support this thesis would not have come to this shape.

BHARATHI DASAN S G