ACKNOWLEDGEMENT

First and foremost the author is highly indebted to his respected supervisor Dr. S. Arumugam, Additional Director, (DOTe) (Retd.) and Principal, Nandha College of Technology, Erode for his advice, ideas, continuous support, guidance, persistent motivation, encouragement, valuable suggestions and regular reminders to carry out this piece of work.

The author is grateful to Dr. S. Annadurai, Additional Director (DOTe) (Retd.) and Principal, Sri Krishna College of Engineering and Technology, Coimbatore and Dr. N.Kumaravel, Professor of Eminence, ECE Department, College of Engineering, Anna University, Chennai for serving on his Ph.D. committee and for their incessant monitoring during the entire period of course work and research.

The author is obliged to the Management of Excel Engineering College, Komarapalyam, Dr Mahalingam College of Engineering and Technology, Pollachi and Sri Subramanya College of Engineering and Technology, Palani for providing necessary facilities to accomplish the work. The author is also grateful to Dr. N. Mahalingam, Chairman-Emiriteous of Dr Mahalingam College of Engineering and Technology and Dr. A. K. Natesan, Honorary Chairman of Excel Group Institutions for their invariable support and encouragement. The author is thankful to the Principal and the Head of the Department of Electronics and communication Engineering, Government College of Technology, Coimbatore for providing essential amenities to complete the work. The author is very much thankful to teaching and nonteaching staff of Excel Group institutions for the timely support and help.

RATHINAVEL S.