

ACKNOWLEDGMENT

The satisfaction that accompanies the successful completion of any task would be incomplete without mentioning about the people who made it possible, whose constant guidance and encouragement crown all the efforts. The successful completion of a research work, is never the outcome of the effort of a single person, rather it bears the imprint of a number of people who directly or indirectly helped me in partial fulfillment of the work. I would be failing in my duty if I do not appreciate and thank them for their suggestions and generous help.

First and foremost, I bow down to the Almighty for providing this opportunity in my life. Then, I would like to acknowledge my gratitude to my respected supervisor, **Prof. Jiten Chandra Dutta**, Department of Electronics and Communication Engineering, Tezpur University, for his inspiring advice, supervision and guidance. I have been receiving a number of suggestions from him and all the suggestions received have been carefully considered and incorporated. As a supervisor, his enthusiastic attitude inspired me a lot. The various values that I tried to learn from him shall remain a source of inspiration for me forever.

I would also give my sincere thanks to Prof. Partha Pratim Sahu, HoD and Prof. Satyajib Bhattacharyya, Ex-HoD, Department of Electronics and Communication Engineering, Tezpur University for their encouragement, support and providing sufficient time to use the department laboratory for this research work. With their help, I got a very favorable environment in the department.

I would like to express my sense of gratitude to Dr. Santanu Sharma and Dr. Vijay Kumar Nath, Associate Professor, Department of Electronics and Communication Engineering, Tezpur University and members of Doctoral Committee for their constant support and guidance throughout the research work. I would like to thank the members of Doctoral Research Committee for their constant support throughout my work. I am also grateful to all the faculty members and staff members of this department for their moral supports in my research work.

I would like to thank my senior research scholars: Dr. Abdul Barik, Kuntala Boruah and Rashmi Deka for their valuable suggestion in this work. I am highly grateful to my

research colleagues: Hiranya Ranjan Thakur and Gaurav Keshwani for their help and support in my research work. I am also thankful to all the research scholars of this department and everyone who made my journey at Tezpur University a memorable one.

I would like to acknowledge the Ministry of Electronics and Information Technology, Government of India for financial assistance through the Visvesvaraya PhD Scheme. I am also grateful to Tezpur University for providing laboratory facilities to this work.

Finally, I express my deepest gratitude to my parents, sister, in-laws and all other family members and friends for their unconditional love and faith, co-operation and moral support during the entire period. In addition, I would like to give special thanks to my husband, Nitin Kumar Sharma and my friend, Prashant Prasad for their constant support and encouragement all throughout.

(Purnima Kumari Sharma)