The sentence penned by Laplace, a great mathematician and scientist of India, means that the field of knowledge is like a vast ocean. Human nature of pondering over impossible tasks, necessities and desire to peep into the future, pave the way for inventions and discoveries. Thus, “Necessity is the mother of invention” is very well said.

I express my whole hearted thanks to my honourable Guide Prof. (Dr.) R. B. Kelkar Sir, who has all the time kept his fingers on my nerves and extended his valuable suggestions and guidance for enabling me to successfully construct and complete my thesis bearing the title “Multi-phase Transmission System, Performance Analysis and Design.”

It is my good fortune that I have been able to complete this thesis with the valuable suggestions, encouragement and magic touch obtained from Prof. (Dr.) S. N. Tivvari Sir, the learned faculty member of Electrical Engg. Department, M.N.N.I.T., Allahabad, who has been a pioneer in the field of Multi-phase Transmission in the world.

I wish to record deep sense of gratitude to Shri R. D. Mehta Sir, Chief Engg. GETCO for putting a seal of approval, granting permission to explore and avail of facilities at Load Dispatch Centre, Gotri, Vadodara. I would also like to express my sincere thanks to the Technical Staff of L.D.C., Gotri, for their whole-hearted support extended to me.

I take this opportunity to express my sincere thanks to Prof. A. I. Trivedi Sir, Prof. & former Head of Electrical Engg. Deptt., Prof. S. A. Kanitkar Madam, Prof. & Head of Electrical Engg. Deptt., and Prof. S. G. Gupte Sir for their valued guidance and support. I am highly thankful to Prof. S. M. Joshi Sir the former Dean and Prof. B. S. Parekh Sir the present Dean of Faculty of Technology and Engg., M.S.University, Baroda, for providing me the required facilities and extending co-operation to conduct this research.
I also express my sincere thanks and indebtedness to my father Prof. S. K. Pandya, (Retd. Professor of English) for editing this thesis with strict grammatical discipline and giving finishing touches wherever necessary for making the expression more lucid from the viewpoint of language.

I am also very much grateful to Shri H. K. Thaker (L.C.E.), Shri K. J. Joshi (Computer Operator), and Shri K.V. Dave (L.E.E.), of Government Polytechnic, Rajkot, for their able assistance in the aesthetical preparation of this thesis.

I have no words to express my indebtedness to all my family members especially my mother Smt. Ranjanben, my elder brother Shri Sanjay Pandya and Parulbhabhi for their loving care and attention during the whole span of my study. Lastly, I must put on record the loving care and untiring efforts of my beloved wife Shital, my son Master Omkar and my daughter Rajeshwari for enduring self-imposed isolation and compromising with inconvenience, whatsoever, to make me feel more comfortable during the whole course of this work.

I acknowledge my gratitude to all my friends and colleagues who have directly or indirectly helped in making it possible for this thesis to see the light of day.

ASHIT S. PANDYA