

## Acknowledgements

*Writing an acknowledgement in a secluded office, in a chilly winter twilight is no mean a task than any serious scientific research. In fact from the time of taking up this profession, that is regarded noble, held in awe and respected at large in our society – that has been successful in creating a romantic illusion in the young minds, though gets shattered at times, till now –with the passage of each single moment of minor revelations, I have become conscious of the fact that this thesis owes its existence more to others - people who through their works, lectures, discussions, teaching and encouragement have influenced the young mind to undertake this onerous task. I acknowledge them all collectively, here at the beginning.*

*To be specific, I should probably start by thanking Profs. J.C. Parikh and P. K. Kaw for the interest and the sincerity that they have shown towards the completion of this work. In spite of their otherwise busy schedule, the way they have given time for this work was not only encouraging but also exemplary. Other than their tireless endeavour to do meaningful science, a quality that has often found to be remarkable in them ( particularly with Prof. Parikh ), is their enormous patience, understanding nature and sensitivity towards other individuals. In fact, in the process of completing this thesis, the amount of freedom and the advantage of their tolerance that one has taken from them, stood a chance of being abused at times and misunderstood always, by any one else in their positions. My sincere thanks and gratitude to you for granting me so much of freedom and independence.*

*An other person to whom one is no less indebted is Prof M.S. Shah of M.S. University, Baroda, for taking care and showing concern for the students of PRL in general and, and to me in particular*

*Scientific curiosity, they say is like a lamp, that kindles one from the other. Had I not met and discussed with Prof. C.S. Warke of T. I. F. R. it would have taken me a couple of more years to realise the truth behind this statement. It gives me enormous pleasure to recollect, the clarity with which he would dispell the ill-conceived confusion that has crept in one's understanding. It is worth admitting it here, that the result of chapter three was a result of his encouragement. I take the opportunity to express my sense of deep regards to him.*

*In an institute with multidisciplinary activities like PRL, one can always have a feeling of being left alone unless people around take care to make the person feel*

at ease. It gives me pride and pleasure to recollect my association with our group members namely, Profs. A.C. Das, D. P. Dewangan, S.Iyer. A. S. Joshipura. S.B. Khadkikar, A.R. Prasanna, M. Nowakosky, R.M. Godbole. N. N. Rao, S. Rindani, U. Sarkar, V. Satyan. V. B. Sheorey and of course B. R. Sitaram and also people from othe groups such as , Profs. Satya Prakash, B. H. Subbaraya. R. Rao . J. N. Desai. B. L. K. Somayajulu, S. Krishnaswami, J. N. Goswami(for infusing some amount of scientific enthusiasm), S.K. Bhattacharya, Harish Chandra, S. P. Gupta, B.G.A. Rao, M.R. Deshpande , Drs. G. Subramanian, Shyam Lal, A. Jayaraman, H. S. S. Sinha, D. K. Chakraborty , P. Chakraborty, K. P. Subramanian. D. Banerjee, N. M. Ashok, T. Chandrasekhar along with Mr. S.V. Kasture, that will linger in my mind for the years to come.

After availing the excellent services of most of the other divisions of PRL one becomes honour bound to acknowledge them ( with due credit to Dimeshbhai). Though any omission in one's part does not really tell upon their efficiency and utility. I find the Library and the Computer center to be among them and find it most appropriate place to congratulate Mr. P. S. Shah, Mrs. R. R. Bharucha, Mrs. U. Ghiya and their colleagues for running these essential services most effectievely.

It was rightly pointed out by one of the editors of QFTI( the PRL students magazine), that the building that is known to be PRL hostel is basically an asylum of crack pots. I am afraid that does not complete the story, these days the crack pots have been successful in spotting cracks and also making them join the crack circle. I, instead of thanking these inducted cracks, would however acknowledge all the aboriginal, current and ex-cracks of the hostel such as, Guru. Krishnan and Supriyo along with them Jerri. Subrat, ShwetKetu, Poulouse, Himadri, Sushant, Debashish and Srinu (cracked in the heart), Gopal(eager to get a cracked heart), Yadav( hard nut to crack), Varun(the very editor), Sandeep, 'his granny's grandchild Nandu', Praveen. Pallam Raju, Prahlad, Viju, Manoj, Somesh, Gautam, Watson. Debabrata, Arul. Amrita, Hiranmaya and Indumathi who has been successful in creating a harmonious and congenial atmosphere in the hostel and PDF quarters. I also appreciate the help rendered by my crack friends, Ramani, Manohar Lal, Ramachandran, Shiva, Santhanam, Tarun, Manish, Patra, Yags Hand-Sam and Proff. Chakro. I am sorry for omission of other names but this consious decision has been taken, so that one does not crack any more heart. Thank you all my friends in the Hostel and PDF Quarters for your warm and affectionate company.

*If one thanks his friends for making an otherwise gloomy period a little bright.*

*one also ought to thank the person for creating a homely atmosphere, in a place thousands of miles away from home. Yes, I am talking about Prof.(Mrs.) Indira J. Parikh. I thank her for her motherly care, concern, affection and last but not the least, the scoldings that she has showered ( it is the latter that has been showered quite generously) on me, be it the moments of sickness, sorrow or satisfaction.*

*I express my deep regards for the discussions I had with my colleagues in I.P.R like Vishnu, Sudeep and Jitesh.*

*Perhaps it would have been a nice place and time to stop acknowledging people without their knowledge and consent but in doing so without acknowledging the secretarial assistance rendered by Mr. V. T. Viswanathan, Mr. T. P. Murlidharan and Mr. V. Sahadevan would have made this document incomplete. So, I stop here, admitting their contribution too.*