ACKNOWLEDGEMENTS

It gives me immense pleasure in putting on record the amount of gratitude and indebtedness, I owe to Prof. V. Subramanian, supervisor of the present work, for his immaculate guidance, constant encouragement, friendliness, personal care and responsibility throughout the study period. It has been a great pleasure working with him and it will be my cherished desire to have one more stint with him. I thank him with due deference. The Dean, SES is thanked for providing the necessary facilities. I thank all the administrative and technical staff of SES for making the passage easier by taking care of financial and laboratory aspects. I am thankful to the Statistical Directorate, Central Water Commission, New Delhi for providing the necessary data on Mahanadi. The otherwise gruelling field trip was made very interesting by the CWC gaging station staff members and Babu, Guru, Sima, Bijay and Srikanth. I thank Mohan, Debasish, Vijay, Jose, Chandan, Udayan, Choubey, Rama and Vaidya for being helpful throughout and for their cheerful company. In this regard, I would like to recall the friendship I enjoyed during my stay here with Jha, Biksham, Shailendra, Ramesh, Sapna, Indrani, Mano, Chand, Samir, Ramaraju, Saini, Bhardwaj, Bheema, Anbu, Venkat, Raj, Jayant, Rajashri, Prasanna, Shobha, Manju, Mahananda, Suprava, Anita, Bohidar, Zach, Manoj, Giri, Purnima, Aditi, Abhi, Sidharth, Pallavi and of course all my labmates. Sri V.V. Sastri has always been guiding and advising for academic achievement. A fellowship offer from Prof. R.J. Gibbs of the University of Delaware, USA at a very crucial stage of my career came as a tremendous encouragement in the final stages of the thesis. I have no words to express the feelings I have for my parents and family members for their encouragement and perseverance to carry out the research. Last but not the least, I thank profusely Mr. Gajanan Hegde and Saji for putting their best efforts, ability and time in getting the thesis into its present shape and Mr. H.K. Sharma for drawing the figures.

Once again, I thank one and all.

[G.J.CHAKRAPANI]