

ACKNOWLEDGEMENT

The investigator expresses his deep gratitude to Dr. N.C. Sinha, Professor and Head, Department of Civil Engineering, Jalpaiguri Government Engineering College for his co-operation and constant encouragement throughout the execution of this research project.

Kind help and co-operation of Prof. N. Majumdar, Professor and Head, Department of Electrical Engineering of Jalpaiguri Government Engineering College for allowing use of the Computer Laboratory of his department is gratefully appreciated.

Thanks are expressed to Dr. H. Bhounik, the Principal, Jalpaiguri Government Engineering College for providing necessary working facilities to carryout this research project at Jalpaiguri Government Engineering College.

The investigator is grateful to Prof. S.K. Sengupta for his constant co-operation, valuable suggestion and discussion and helpful criticism.

Love and gratitude is expressed to Prof. A. S. Chaudhuri, the supervisor of the research project for suggesting this research topic and for his constant association with the day to day working of the project and valuable guidance.

The investigator is highly obliged to Mr. D. P. Mukherjee and Mr. H. Das of Central Water and Power Commission

who extended their whole hearted assistance whenever needed.

Sincere thanks are extended to Dr. M. B. Beck of the International Institute of Applied Systems Analysis, Laxenburg. Vienna and Dr. Peter Young of the Australian National University, who were kind to send large number of reprints of their research papers on recursive estimation algorithms.

The investigator expresses his appreciation to Professor S.K. Bhattacharya for carefully reviewing the entire manuscript.

Thanks are expressed to Mr. Dulal Nandi who took great pain to type the manuscript and to Mr. Hari Dutta who very kindly drew the figures.

Last but not least, the investigator is grateful to his wife, Hasi, who patiently bore with him the moments of success and failure.