ACKNOWLEDGMENT

With a deep sense of gratitude, I wish to express my sincere thanks to my supervisor Dr. P. Natarajan, Professor and Head, Department of Civil Engineering, Thanthai Periyar Government Institute of Technology, Vellore, for his immense help in Planning and executing the work in time.

I whole heartedly and devoutly submit my remembrance and gratitude to Mr. T.S. Krishnamoorthy, Director grade Scientist, SERC, Chennai, Dr. J.K. Dattatreya, Assistant Director, SERC and Dr. B.H. Bharatkumar, Assistant Director, SERC for their valuable suggestion and constant encouragement in completing this work in time.

I take this opportunity to thank Dr. A. Veeraragavan, Professor of Civil Engineering, Indian Institute of Technology Chennai, for his constant encouragement and help in different ways to the successful completion of this thesis. I would like to share this moment with my wife K. Manonmani and my son Master N.K. Vijhay ganesun who has suggested me to enter into this research and for their patience and cooperation to complete this work. I am thankful to the entire Scientist, Technical and non technical persons at concrete composites laboratory, SERC, Chennai, who has helped me during my experimental studies.

My sincere gratitude and regards to Mrs. R. Vanathai and Mrs. B. Shanmugapriya for their valuable help in compiling the data and printing the thesis work.

(B.N. KRISHNASWAMI)