ACKNOWLEDGEMENT

The author expresses her deep sense of gratitude to her research supervisor Dr. P. Perumal, Professor of Civil Engineering, Government College of Engineering, Salem for his invaluable guidance, moral support, advice and constant encouragement during all phases of this work.

The author records her heartfelt thanks to Dr. J. V. Ramasamy, Professor and Head, Dept. of Civil Engineering, P.S.G College of Technology, Coimbatore and Dr. P. Jayabalalan, Professor of Civil Engineering, NIT, Trichy for their continued advice and guidance.

The author thanks the management, Principal, staff and students of PET Engineering College, Vallioor for their moral support.

The author wishes to record her heartfelt thanks to Mr. A. Giri, Mr. A. Senthil Nathan and Mr. N. Hari Vishnu Prasad.

The author wishes to submit her thanks to her Parents, relatives, numerous friends for their moral support and kind co-operation.

A. GEETHA