ACKNOWLEDGEMENT

The author wishes to express his sincere gratitude to **Dr. S. K. Damle**, his thesis advisor and guide who constantly encouraged him to bring out the best. The present shape of the thesis is entirely due to his keen interest involved in this topic. Author can never forget his meticulous guidance, incessant encouragement and watchful supervision throughout this work.

Author takes this opportunity to express his gratitude to **Dr. A.V.Shroff**, Professor and Head, Applied Mechanics Department, for providing all the help and facility to carry out these investigations.

The author is indebted to **Shri R.H. Shah**, Reader, Applied Mechanics Department for his personal involvement in offering his best encouraging words and all possible help at various stages of this study.

I acknowledge with thanks the trouble taken by **Prof. G. S. Parthasarthy**, Water Resources Engineering Institute, to go through the thesis.

Special thanks are due to Mr. Prakash R. Bhavsar, Lecturer, Computer Science Department, Mr. Arun S. Chirmade, Reader, Applied Mechanics Department for helping me in preliminary instrumentation and taking photographs of test specimens. Thanks are also due to Mr. Anil Gupte of M/s Noble Industries for preparing Demec discs and fabrication of dial guage stand for the experiments.

Author wishes to acknowledge **Prof. V.D. Pathak** and **Dr. Ram Mohan** of Applied Mathematics Department for their valuable suggestions in mathematical optimization in the analysis.

Author takes this oppertunity to express his sense of gratitude to his revered mother

Mrs. Laxmiben Pandya, brother Dharmadatta, his wife Kalpana Pandya and his son

Harshdatta for bearing out all inconveniences when he was fully occupied during this study.

All the staff members of the Structural Engineering Laboratory have helped the author whole heartally during the period of experimental work. Author expresses his sincere thanks to them.

Lastly, author can not forget the help rendered by M/s Sun Computer Consultancy as well as Mr. Vikram R. Bhavsar who painstakingly typed the manuscript of this thesis.

The success of the entire work is attributed to the grace of the LORD SHIV (NILKANTH MHADEVJI).

Indra / Tendy PANDYA INDRADATTA ISHWARLAL