## **ACKNOW LEDGEMENT**

It gives me a pleasure to express my sincere gratitude to Dr. V.S. Kulkarni, Lecturer in Physical Chemistry, Shivaji University, Kolhapur for his keen interest and meticulous and inspring guidance during the course of this investigation.

Thanks are due to the Vice-Chancellor, the Registrar and the Heads of the Chemistry and Physics Department, Shivaji University, Kolhapur for their kind encouragement and provision of all kinds of facilities for completing the research work.

My thanks are also due to Prof.(Dr) D.S. Ambardekar, Dr.M.D.Bhand, Dr.S.N.Deshmukh and my teachers in the department of Chemistry for their help during the progress of this work.

I would like to express my heartiest thanks to our Principal, Dr. B.P. Sabale and the Chairman, Hon. Jayavantrao Bhosale, Shetakari Shikshan Prasarak Mandal, Rethare (BK) for their constant encouragement.

I gratefully acknowledge the help rendered by my colleagues Shri Mohite, Shri Hongekar, Miss Gharge and my friends Dr. M.B. Hogale and Dr. Vithal Kulkarni (National Chemical Laboratory, Poona).

My thanks are due to Shri M.V.Date, Shri P.S.Sawant (Chemistry Department) and Shri B.L.Patil (Physics Department) for their help during work whenever I requested for.

No words are adquate to express my heartiest gratitudes to my grand father Shri Hindurao Bhandare and my wife Mrs. Vijaya Patil for their active encouragement and help.

Bfah (Shivajirao R. Patil )