ACKNOWLEDGEMENTS

I have great pleasure in expressing my deep sense of indebtedness and heartfelt gratitude to Dr.C.D.Lokhande, Lecturer, Department of Physics, Shivaji University, Kolhapur, for his expert and valuable guidance and continuous encouragement given to me during the course of work.

I am highly grateful to **Prof.K.L.Narayana**, **Head** of the Department of Physics, Shivaji University, Kolhapur for making me available the laboratory facilities. I am also grateful to **Prof. R.N.Patil Former Head**, Department of Physics, Shivaji University, Kolhapur. I am indebted to **Dr.C.H.Bhosale, Dr.M.D.Uplane and Dr.P.S. Patil** for fruitful discussions and valuable suggestions during every phase of my work.

I sincerely appreciate the help rendered by Mr.S.A.Jodgudri, Mr.U.K.Mohite, Mr.K.M.Gadæve, Mr.N.S.Yesugade, Mr.S.S.Kale, Mr.K.R. Jadhav, Mr.V.V.Killedar, Mr.L.D.Kadæm, Mr.R.S.Patil, Mr.S.J.Lade and Mr.V.P. Pawar.

I am thankful to all my teachers as well as administrative and workshop staff of the Physics Department and USIC staff for their co-operation.

I am deeply indebted to **Dr.V.N.Pawar, Sarchitnis, N.D.M.V.P. Samaj, Nashik;** for granting me study leave. I am also grateful to the University Grants Commission, New Delhi for the award of Teacher Fellowship Under VIIIth Five Year Plan.

I desire to record my thanks towards my family members for creating an environment which helped me to complete this task in time.

The expert and neat typing of the thesis by Mr.Mohite R.V. and Mrs.Menaxi Chandrakant More for Xeroxing is much appreciated.

Place : Kolhapur Date : (U.S.JADHAV)