## ACKNOWLEDGEMENT

I express my deep and sincere thanks to my research guide Dr. S.A. PATIL, Reader in Physics, Shivaji University, Kolhapur for his valuable guidance throughout the course of this work.

I am greatful to Prof. S.H. Pawar, Head Department of Physics, Shivaji University Kolhapur, for necessary encouragement. I am also very much thankful to Prof. K.L. Narayana and Prof. R.N. Patil, former Heads, Department of Physics, Shivaji University, Kolhapur, for encouragements and for making avialable experimental facilities in the Department.

I take this opportunity to express my thanks to Dr. S.H. Chavan, Dr. B.K. Chougule, Dr.M.B. Dongare, Dr. C.D. Lokhande, Dr.P.N. Kamble, Dr. Satish Lotake for their valuable co-operation and guidance.

I extend my thanks to my M.Phil. collegues Dr. V.C. Mahajan, Dr.M.G. Patil and Anil Ghatage for their valuable co-operation and encouragement. The support I enjoyed from Dr.B.L. Patil, Dr.B.V.Bhise, R.P. Mahajan, S.C. Choudhari; A.N.Patil, A.K.Mane is greatfully acknowledged.

I am greatful to the authorities of Rayat Shikshan Sanstha, Satara. and to the Princpals B.N. Shinde, D.G. Thamke and Principal D.D. Thorat, Balwant College, Vita; in deputing me to this course. I am indepted to UGC New Delhi for providing me the financial assistance and acknowledge greatfully the facilitied extended by Shivaji University authorities to carry out this work.

I must mention the support and encouragement extended by my collegues Shri. B.B. Lagare; T.C. Pawar, A.R. Patil and Miss U.B. Shinde. Words fail me while trying to express my sentiments towords my family members, mother, doughter Manisha, and a son Amit for their substained encouragement, blessing and affection.

Finally, I acknowledge the singularly important contribution of my life partner Sou. Asha through her unfailing encouragement and ensuring my mental and physical wellbeing.

## M.N. PATIL.