## ACKNOWLEDGEMENTS

I wish to express my deep gratitude and sincere thanks to Prof. R.N. Patil, my research guide, Head, Department of Physics, Shivaji University, Kolhapur for his valuable inspiring guidance, constant encouragement, deep interest throught out the progress of this investigation. My sincere thanks are again to him for making me available the laboratory facilities.

I am highly grateful to Dr. S.H. Pawar, Reader in Solid State, Physics of this University, for his constant, generous and valuable suggestions, fruitful discussions and full co-operation in every stage of this work.

I am very much thankful to Dr. G.D. Lokhande, Lecturer, Department of Physics, Shivaji University, Kolhapur for his valuable help.

I am immensely indebted to my colleagues Mr. P.S. Patil,
Mr. A.J. Pawar, Mr. C.H. Bhosale, Miss. R.D. Madhale, Mr. A.B.

Jawale, Mr. S.C. Pardeshi, Mr. J.V. Torane, Mr. S.K. Jamadar,
Mr. B.R. Patil, Mr. V.S. Dangat, Mr. V.B. Suryavanshi and Mr. A.B.

More for all kind of assistance, co-operation and helping hand
whenever I requested during various phases of my work.

The author wishes to acknowledge the help received from staff of the University Science and Instrumentation Centre (USIC). On this occasion, I am thankful to all my teachers as well as the administrative staff of the Physics Department and University for their co-operation.

Thanks are especially extended to the University Grant Commission, New Delhi, for awarding me a Teacher Fellowship under the Faculty Improvement Programme, Which enabled me to complete this work.

I consider it my solemn duty to thank Chairman and Secretary
Barsi Shikshan Prasarak Mandal, for granting me study leave. Also
I deem it my pleasant duty to offer thanks to Principal S.V.
Deshpande and my Colleagues, S.B. Zadbuke Mahavidyalaya, Barsi
for goodwill and inspiration during the course of my work.

I express deep sense of gratitude to my wife, Sou. Mangal who is source of encouragement. I would like to remember my loving parents and other family members whose goodwill and inspiration for exceeds what the words of appreciation can express.

Finally, I must mention the ever co-operation given by B. P. Patil with his expert, clean and neat typing.

Place : Kolhapur

Date : 30th Nov. 1988

(B. S. Dhole)

S.B. Zadbuke Mahavidyalaya

BARSI - 413 401.