

### ACKNOWLEDGEMENTS

I take this opportunity of expressing my sincere thanks to Dr. M. M. Patel for his continued guidance, unfailing encouragement and keen interest throughout the course of this work. Thanks are also due to my colleagues, sarvashri K. Jacob Rajan and A. B. Darji for their help.

I am grateful to Prof. N. S. Pandya, Head of the Physics Department for his keen interest and for providing excellent facilities in the Physics Laboratory of the Faculty of Science. I am also grateful to the staff of the Central Workshop of the Faculty of Science, for their co-operation and help.

I wish to record my sincere thanks to Dr. J. R. Pandya for having gone through the manuscript and for making useful comments and criticisms.

Thanks are also due to the council of Scientific and Industrial Research, New Delhi, for the award of the Junior Research Fellowship and to state Industrial Research Committee, Gujarat State, for the award of the Research Assistanceship which enabled me to complete this work.