ACKNOWLEDGEMENTS

I am greatly indebted to Dr. S. H. Chavan, Department of Physics, Shivaji University, Kolhapur, for encouragement and the valuable research guidance I received throughout this work. Discussions with him on the work concerned and on the problems of physics in general have always been enlightening.

I would like to make a special mention of my thankfulness to Dr. M. S. Setty, National Chemical Laboratory, Poona, for providing the silver paste and to Mr. R. B. Borade, N. C. L., Poona, for making available some literature concerning this work. I also thank my colleagues Mr. Suryavanshi S. G. and Mr. P. G. Kulkarni. I thank the non-teaffning staff of Physics Department for their help in one way or the other during my work.

Responsibility of photographic work goes to Mr. R. S. Patil, I thank him for the same. My thanks are also due to V. V. Patil, for neat typing of the dissertation.

Finally, I would like to thank the Head of the Physics
Department, Prof. Dr. R. N. Patil, and the University authorities
for making available the facilities for the work.

(U.N.Kulkarni)

Hulburn V.N.

Kolhapur.