ACKNOWLEDGEMENT

I am unequivocally indebted to Dr. B.B. Mahapatra, Ph.D., F.I.C.; my Supervisor who has infused zeal and jest to undertake this project. This thesis owes its present form to his valuable guidance, warm suggestions, sound criticism crisp comments and constant encouragement throughout the period of my work. I have the enormous pleasure of working under him who has eventually guided me to complete the thesis work in an ungrudging note.

I am highly grateful to Dr. L.K. Das, Principal, G.M. College, Sambalpur and to Dr. G.P. Guru, Dr. M.K. Chakravarty; former Principals of this College, who have permitted me to carry out my research work in the Chemistry Department of this College.

I extend my sincere gratitude to Prof. (Dr.) R.C. Acharya, H.O.D., Chemistry and to Prof. (Dr.) P.B. Das, former H.O.D., for providing me the requisite laboratory facilities.

I would like to make a special mention of Prof. K.C. Satapathy, Prof. S. Guru, Department of Chemistry, Sambalpur University, Jyoti Vihar; Prof. H.K. Pujari, H.O.D. Chemistry, Kurukshetra University, Kurukshetra; Dr. M. Narasimha Charry, Reader in Physics, Osmania University; Hyderabad and Dr. S.K. Pujari, Dy. Director, Forensic Laboratory, Sambalpur for their timely help.

Thanks are due, to esteemed colleagues Dr. C.D. Rao, Dr. A.L. Dutta, Dr. D. Panda, Mr. B.K. Patel, Mr. S.C. Choudhury and friends Mr. C.B.J. Rao, Mr. B. Panda. It will be out of place if I do not make mention of Dr. M.K. Raval, Dr. M.K. Behera, Mr. H.K. Panda, Mr. D.P. Mishra, Mr. T. Jena who boasted my morale to encounter all hurdles.

I am thankful to various laboratories like Deptt. of Chemistry, Sambalpur University, Jyoti Vihar, R.S.I.C., Madras, R.E.C., Rourkela, R.R.L., Bhubaneswar, G.N.D.U., Amritsar for providing me various technical assistance while undertaking the work.

Thanks to Mr. M.N.C. Pillai for the splendid and skillful job in typing.

Finally I am indebted to my wife Manorama and daughter Yllayllee, who suffered nevertheless remained as the source of inspiration throughout my work.

Department of Chemistry,
G.M. College, Sambalpur.

( DILLIP KUMAR DAS )

October 1988.