Acknowledgement

I wish to express my deep sense of gratitude and indebtedness to my research guide Dr. N. D. Shinde, principal S. C. S. College, Omerga for his valuable inspiring guidance and constant encouragement during this work.

This cooperation as a research guide is undoubtedly valuable without his continued interest and stimulation; this work could not be possible.

I am very grateful to Dr. M. S. Shingare, Ex-B.C.U.D. Director, Dr. Babasaheb Ambedkar Marathwada University, Aurangabad for his kind cooperation guidance and help throughout my research work.

I find no words to express my heartfelt gratitude in the present investigation has been benefited from many valuable feedbacks creative guidance, indispensable suggestions and emboldened encouragement from Dr. K. M. Jadhav Professor and Ex-Head, Department of Physics, Dr. Babasaheb Ambedkar Marathwada University, Aurangabad. I express my genuine thanks to him. It was due to his unlimited patience, generous and painstaking help this work could be completed.

I am extremely thankful to the president Shri Vinayakraoji Patil, Vice-President Shri Marutiraoji Suryawanshi, General Secretary Shri Baswaraji Patil Saheb, Honourable Ex-minister of state (MLA Ausa), Secretary Ramkrishnapant Kharosekar, Bhauraoji Somwanshi College for extending kind cooperation constant encouragement and timely suggestions during this work without their support I could not have completed this work.

I am highly obliged to our young dynamic and cheerful principal Dr. Dilip P. Garud for his valuable guidance, kind cooperation and encouragement during my Ph.D. work.
I offer my sincere thanks to Dr. S. G. Kulkarni Vice-Principal, Dr. S. P. JadHAV, Dr. A. G. Jagtap and Dilip S. Mane for their encouragement during this research work.

I am thankful to the Dr. V. S. Ingale Head, & Dr. V. S. Suryavanshi, Department of Chemistry, S.C.S College, Omerga for their kind cooperation and extending necessary laboratory facilities.

I express my sincere thanks to Prof. G. K. Bichile Ex.Head, Dept. of Physics, Dr. R. A. Mane, Ex.Head, Dept. of Chemistry, Dr. Anjali Rajbhoj Madam Head, Dept. of Chemistry, Dr. Suresh Gaikwad, Dr. Bapu Singate, Dr. Bhaskar Sathe for their kind support during my research work.

I have great pleasure to acknowledge the help and encouragement received from Dr. A. D. Mohekhar, Dean & M. C. Member & Dr. D. R. Mane, Registrar, Dr. Babasaheb Ambedkar Marthawada University, Aurangabad. Dr. Shivajirao Thore, (B.O.S. Chairman in chemistry and science faculty) Deogiri College, Aurangabad.

I shall fail in my duties if I do not acknowledge to my colleagues, Dr.J.G. Mulla, Head, Dept. of Chemistry, Dr.S.K.Patel, Dr.S.M.Salunke, Dr.B.M.More, D.B.Suryawanshi, R.R.Jojan and Dr. T.M.Pawar, Dr. F.R.Pawar & Heads, Colleagues from other departments of my college, for their helping and constant support throughout the completion of this work.

I am also thankful to my research colleagues Dr.M.L.Mane, Dr.V.N.Dhage, Mr. N.B.Jadhav, Dr. R. S. Barkule, Dr. G. B. Jadhav, Dr. P. K. Gaikwad, Dr. G. H. Kale, Dr. R. R. Bhosale, Dr. J. M. Bhandari, Dr. N. N. Waghule, Dr. D. V. Kurmude, Dr. B. R. Gaikwad, Dr. D. R. Sapate, Dr. M. K. Babrekar, Dr. U. B. Dindore, Mr. Shankar D. Birajdar, Mr. Ashok V. Humbe, Mr. Pankaj P. Khirade, Mr. M. S. Patil, Mr. Datta Sable, Mrs. A. A. Nawpute, Mrs. P. B. Nalle and Mr. Ravi Alange.
I am extremely obliged to freedom fighter Late Marutirao T. Jadhav (Baba), Late Sushilabai M. Jadhav who had encouraged & motivated me for this work and I am also thankful to Sow. Sheelatai K. Jadhav, Shri. P. T. Jadhav for their constant encouragement.

I cannot forget the inspiration and encouragement obtained for my mother Late Sow. Shantabai B. Mote, My father Baburao Mote & sister Sow. Chandrakala S.Kokare, Shri Shivaji N. Kokare, my brother Dayanand B.Mote, Sow. Shalaka D. Mote.

I am also thankful to my wife Sow. Jyoti J. Mote, my son Deepak, Ranashantanu. son in law Shubham for their love and constant encouragement.

Lastly, I would like to thank everybody who important to the successful comprehension of thesis, as well as expressing my regret that I could not mention personally one by one.

Jairam B. Mote