

ACKNOWLEDGEMENT

I offer my humble and sincere thanks to my research guide Dr. B. K. Chougule for his valuable guidance and keen interest in my research work.

I offer deep sense of gratitude to late Prof. S. A. Patil, former Head of Physics Department, Shivaji University, Kolhapur and my earlier guide, for his valuable guidance, stimulating discussions and constant encouragement throughout the present investigations.

I am grateful to Prof. M. K. Soudagar, Head, Department of Physics and Prof. S. H. Pawar, Acting Registrar, Shivaji University, Kolhapur for their assistance and words of appreciation.

I am thankful to Prof. R. N. Patil, Former Head of Physics Department, Shivaji University, Kolhapur for helpful discussions.

I offer my sincere thanks to Dr. C. H. Bhosale, Dr. P.S. Patil, Dr.C. D. Lokhande, Dr. S. D. Lotke, Prof. A. V. Rao and Dr. M. B. Dongare for extending their helping hand whenever I required.

I cannot forget the assistance and co-operation given to me by my research colleagues Mrs. K. K. Patankar (SRF) and Mr. V. L. Mathe (JRF). I offer my heartfelt thanks to them.

I am also thankful to Mr. R. B. Kale, Mr. M. B. Kothale, Mr. Y.D. Kolekar and Mr. V. M. Nikale for their timely help.

I take this opportunity to express my thanks to my friends Mr. S. B. Gaikwad and Mr. T. S. Thopate for their co-operation. I am also thankful to CFC staff for providing me the XRD facilities.

I would fail in my duties, if I don't thank Shri G. D. Khandeshe, Secretary, Ahmednagar Jilha Maratha Vidya Prasarak Samaj,

Ahmednagar for his valuable advice and encouragement.

I am grateful to Prin. Dr. N. M. Kadam for creating congenial atmosphere for completing my work. Prof. S. S. Jadhav, Vice-Principle, Head, Department of Physics, N. A. C. and Science College, Parner and member BOS Pune University who encouraged me for successful completion of the research work. I express my deepest gratitude towards him.

I am also thankful to my college colleagues Mrs. V. P. Dhawale, Mr. V. P. Deore, Mr. D. K. Sonawane, Mr. D. R. Thube, Mr. P. S. Mutkule, Mr. S. M. Kale, Mr. R. S. Diggikar, Dr. S. K. Aher, Dr. R. K. Aher, Mr. R. N. Deshmukh, Mr. S. L. Khapke, Dr. S. N. Pokale and Mr. S. R. Wagh for their cooperation

The co-operation and encouragement received from my brother Shri. B. L. Kadam is worthy of my appreciation. My acknowledgement will be incomplete if I don't express my appreciation to my wife Sou. Vaishali who provided me an encouraging atmosphere.

Finally, I thank UGC, New Delhi for the award of teacher fellowship without which the present work would not have been possible.

Lastly I thank all those who helped me directly and indirectly during this period.

Kolhapur

S. L. Kadam