ACKNOWLEDGEMENT

I express my deep sense of gratitude and heartfelt thanks and respect to my guide Dr. P. Vickraman, Associate Professor, Department of Physics, Gandhigram Rural Institute, Gandhigram for suggesting the problem, giving invaluable guidance, his smooth approach, moral support and constant encouragement throughout my research work.

I very much indebted to Dr. J. Joseph prince, Head & Department of physics, Anna university, Trichy, for his valuable suggestions and able guidance throughout the doctoral work as a joint supervisor.

I wish to express my sincere thanks to Prof. G. Muraiidharan, Head, Department of physics, GRI for his moral support and constant encouragement.

I express my deep sense of gratitude to Dr. M. Jayachandran, Dupty Director & Head, ECMS division, CECRI, Karaikudi, for his valuable suggestions and providing experimental facilities. I extend my sincere thanks to scientists I. Radhakrishna, B. Subramanian, K.R. Murali, G. Rajagopal, M. Chandrasekar, ECMS & corrosion divisions CECRI, Karaikudi.

I express whole heartedly my indebtedness to Prof C. Sanjeeviraja, Head, Department of physics Alagappa university, for providing laboratory facilities to carry out XRD Studies.

I place on record my deep gratitude to the teaching and non-teaching staff members of Department of Physics, Gandhigram Rural Institute for their moral support and help during the course of my work.

I am highly thankful to research scholars who helped me directly or indirectly for successful completion of the Ph.D work.

I am very much indebted to my parents and the family members for their moral support and notably the untiring financial support to carry out the doctoral work. I always remember them ever and ever because without their support nothing would have been accomplished.

V.Senthilkumar