ACKNOWLEDGEMENTS

I am very pleased to down my head in front of Maa Tarini without whose blessing I can’t persue my Ph.D. work. At first I would like to convey my sincere gratitude to Dr. Sujata Mishra, Head of the Department, Chemistry, Institute of Technical Education and Research, S‘O’A University Bhubaneswar, from the bottom of my heart for her outstanding supervision, constant moral support, help, inspiration, and continuous encouragement throughout my Ph.D work. I would like to thank research dean Prof. P. K. Nanda, Dean Research, S‘O’A University Prof. P. K. Sahoo, Dean, ITER, Prof. Mira Das for their constant help throughout my Ph.D. I would like to thank all the teaching, non teaching staffs of chemistry department, ITER for their constant inspiration throughout my Ph.D work. I am very much grateful to Prof. Sunita Chand, Dr. Sanghamitra Pradhan, ITER for useful discussions. It will be incomplete if I don’t write my friends name in my thesis. I am very thankful to my co-workers, Nandita Panda, B.C. Bhatta, Sagarika Acharya and Swagatika Satpathy for their constant help and support throughout my work. I would also thankful to the chairman, principal, vice-principal, and all the staff members of Kalinga Bharati Residential College for their constant support in the completion of my Ph.D work. I am thankful P.K. Mishra, Indian Rare Earth Ltd. OSCOM, Odisha for help and useful discussions. I am also thankful to my brothers and sisters for their moral support. At last I would very much thankful to my father-in-law, Dhanurdhar Nayak and mother-in-law, Anita Nayak for their moral support and physical support throughout my entire work. I am also thankful to my little son Sai Subidit Sahu who bears some difficulties and loneliness due to my complete involvement in the final state of thesis submission. I am very much thankful to my wife Bidyut Prava Nayak for her help and constant support.