Through this page I offer my salutation, to creator of this pious seat of learning Bharat Ratna Mahamana Pt. Madan Mohan Malviya Ji.

With deep sense of gratitude, I take this opportunity at first to thank my supervisor Prof. Syed Hadi Hasan Sir whose constant encouragement, supervision and support from the preliminary to the concluding level enabled me to complete my research work. He has expedite my research work in many ways all of which cannot be mention here. I am thankful to him for unstinted support, timely advice, constructive criticism and keen interest in guiding this study to fruition. My debt to Professor Hasan goes far beyond his supervision of my thesis. His wide knowledge on this topic and logical way of thinking have been of great value for me. I did not ask him much but he understood my need and gave me more than what I wanted. I am grateful to you Sir.... I seek your further guidance and support in my scientific career. I think I am in association with a person par excellence at the right time of my scientific career.

I am thankful to Prof. R. B. Rastogi, Professor and Head Department of chemistry Indian institute of technology (Banaras Hindu University), for providing necessary facilities and suggestions during my research work.

My deep sense of gratitude is due to all RPEC members Prof. A. K. Verma of department of chemical engineering and Technology, Prof. D. Tiwary, Dr. I Sinha of Department of Chemistry IIT (BHU) for their useful suggestion during my entire research work. I am also thankful to all teachers of the Department of Chemistry IIT(BHU) for their moral support, encouragement, and helpful suggestion during my research period.

I am also thanks to all supportive staff of the Department of Chemistry IIT(BHU), Varanasi for helping in academic and non-academic levels during my Ph.D work.

I offer sincere thanks to my seniors Dr. Yogendra Singh and Dr. Devendra Kumar Verma to help me generally all the times and particularly at the time of analysis. Without their encouragement and understanding it would have been impossible for me to finish this work

My lab mates are the driving force for the accomplishment of my endeavour. I am thankful to all my lab mates Devendra Kumar Singh, Vijay Kumar, Vikas Kumar Singh and my loving junior Daraksha Bano for their kind cooperation, moral support, constructive suggestions, and meticulous attention. They made my stay in lab pleasant and which helped me a lot in performing my experimental work peacefully and successfully. They are not only my lab mates but are also good friends who were very caring and cooperative throughout my Ph.D. Special Thanks are also due to my friends Alka devi Verma, Rajeev Gupta, Shiv Sundar Yadava for always supporting, encouraging and giving me a homely atmosphere.

I owe my loving thanks to my Husband Dr. Mahendra Kumar Pal and my son Varun Priye. They have lost a lot due to my research. Without their encouragement and understanding it would have been impossible for me to finish this work. Both have demonstrated rare and amazing patience throughout my lengthy working sessions over the last four years. Mahendra has always respected my work and gave a due appreciation to all my little achievements. I am extremely thankful to him for providing me an ample time to concentrate on my research work, his positive energy and 'never say die' spirit has always boosted my moral and filled me with optimism throughout. My son, who has inspired me with his love and affection, even as he bore the brunt of my moods and absences. My warm gratitude to my mother in-law, father in-law, and my all brother in laws, my loving sisters in law Mamta and Rekha for their patient, support and love which enable me to complete this work.

This thesis work is dedicated to the people who mean a lot to me, my parents for showing faith in me and giving me liberty to choose what I desired. I am today able to reach this stage only because of the endless support of my parents specially "papa" and "mummy". My parents are my pillars of strength who formed my vision, my way of living and are my inspirations. They gave breath to my life and skilled my tender steps to follow the path of righteousness. They never expected me to be a part of any of the family commitments which allowed me to spend my maximum time in the lab. Their patience, "never say die spirit" and appreciating my hard work made me reach the top with a difference. Words would fall short if I try to define their support, love, affection, concern and most importantly belief in my abilities. Thank you papa, mummy, once again for showing me the right direction and teaching me how to climb the stairs of success smoothly and it's because of you all, today I am able to reach the zenith. I thank God for blessing me with wonderful father and mother.

Mere words are not enough to thank my Didi (Dr. Swati Mohan) and Jija ji (Dr. Bhupendra Bahadur Srivastava) for being with me in all ups and down. They always

stand with me whenever and wherever I needed them. They also gave their valuable suggestion in my whole journey of research work to enhance the scientific prospective of my work. Their encouragement to do all thing of my research work in the best way and to fight for our rights is ever praised. I really learnt a lot from them. Viraj my nephew who is the sweetheart of my family ever let me to forgot all my worries, whenever I see his cute and innocent face. I am also thankful to my loving brothers Swetank and Pratik for love, laughs and brotherhood. Finally I salute you all for the selfless love, care, pain and sacrifice you did to shape my life. Although you hardly understood what I researched on, you were willing to support any decision I made. I would never be able to pay back the love and affection showered upon by my parents.

Last but not the least, I am thankful to all those, whose names are not here but have directly or indirectly contributed towards the completion of this work.