Acknowledgements

I bow before the creator, most gracious and most merciful, almighty Allah at the completion of this PhD thesis. It is Allah, who gave me the strength and spiritual power to face all the difficulties and barriers so calmly. Pursuing PhD is a long journey where I started as an inexperienced person but gradually through the course of my research work I reached a stage where I can call myself a master. I had to face lots of high and low tides in this voyage. There were times when I found myself on top of the world and sometimes it was difficult to say that whether there will be any way to proceed further or not. So here through the medium of this acknowledgement I would like to express my sense of appreciation to all those people, who made me travel through this long journey sometimes by inspiring me, sometimes by supporting me and sometimes by consoling me. Here are few words for those special people.

I fervently thank Dr. Moinuddin, my supervisor for his humble and adept guidance. His great knowledge and experience in research field, acted as a torch to my research work. His invaluable advice and scientific discussions helped me to step forward gradually to the completion of this thesis. Only from him I have procured the skill of analysis and re-analysis and a penchant for perfection. Painstakingly, he guided me and scrutinised my work in an unmarred manner. His motivating counselling will always help me to move in the forward direction of science. He owns unbeatable energy and enthusiasm in research, which motivate all his colleagues and students. His broad knowledge, critical thinking and hard working are of most value for me. The research work under his supervision was extremely productive and rewarding. Many thanks also to his personal advice whenever I was in dilemma.

I express my gratitude towards Prof. Asif Ali, Chairman Department of Biochemistry, J.N.M.C. He helped by equipping me with all the necessary
indispensable and requisite facility in a very smooth manner. His all cooperation for laboratory development for its smooth running is highly appreciable. His sound knowledge in the field of biochemistry benefited me a lot.

I am indebted to my other teachers Dr. Khursheed Alam, Dr. Najmul Islam and other faculty members for their concern and constant motivation. Their continuous counselling, guidance, valuable suggestions and comments helped me in completing this arduous task.

I am highly thankful to Prof. Jamal M. Arif for his invaluable and timely suggestions. He always treated me like a younger brother and scolded me whenever I was wrong. He developed interest for doing this uphill task. Much would have left unapproachable without him.

My heartfelt thank goes to Dr. Kiran Dixit, being the senior most member of lab. She always guided me with her immense scientific knowledge. She is flooded with working experience and knows how to deal with juniors and her superiors as well. Apart from that, more than a senior she has been a friend to me. Her support and encouragement acted as a driving force. She took all pains to update my practical knowledge, both in her, insitu and insilico presence. Her wise counsel has honed my perception and application of science. The great encouragement, guidance and support from her made this thesis possible.

I entered the research arena as a stranger, unarmoured, to be beholden by the generosity of my lab seniors Dr. Nadeem, Dr. Prashant and Dr. Asad. They made me acquainted with the handling of instruments, and fine practical knowledge.

I am grateful to my colleague J.M. Ashraf and senior Irfan bhai, for being with me always whenever I needed them. Their thoughtfulness often seemed to be a shady tree. Ashraf has helped in every walk of life throughout my PhD tenure. I am also thankful to Dr. Imteyaz, Dr. Imran, Dr. Shahid, Shafiq Bhai, Wasil Bhai and Khursheed Ejaz for their friendly and helpful thoughts. Discussions with them either on scientific, political or sports was always unending.
I am highly thankful to help and co-operation extended by my juniors Uzma, Binish, Saman and Farzana. It had been a great support transforming a frightful me to a delightful me. They helped a lot and assisted me whenever I asked them. I am also thankful to my nascent juniors Parvez, Rous, Yasir and Dr. Sana for their help and cooperation extended to me.

I am extremely thankful to my scientific cum moral friends Faisal bhai, Shams Tabrez, Moshakid, Kaleem bhai, Azam bhai, Ejaz Ahmed, Babu Shahnawaz and Rabbaani, for their indispensable advice, thoughtful suggestions. Their constant moral support and encouragement during the most difficult moment of the study helped me a lot.

I would also like to thank my other friends Nisar Khan, Ekram, Moksin, Masroor, Suhail Sarwar, Suhail bhai, S.M.A. Shahid, Quddus bhai, Athar bhai, Azhar, Mohd. Ali Sir, Adil, Hassan and Zaheer who always helped me in difficult situations. While sharing tea-cups, endless discussions with them some times resulted in fruitful ideas.

I am at loss of words in expressing my feelings for some of my friends Nadeem Raja, Junaid, Shuja, Akram, Quazi, Nadeem chotu, Manish, Bilal, Sajid and Azhar. Thanks for the constant moral support during my most depressing days. The beautiful moments spend together will always be cherished in my heart and shall be treasured long in the memory.

I am indebted to my mother, who passed away last year and my father. They took care of me in every possible way when I was little and gave me a golden childhood. They encouraged me to study hard to become successful. They are the greatest parents in the world, and their big love overwhelms me. I fall short of words in expressing my indebtedness to the sacrifice of my father. My heartily gratitude goes to my brother who worked very hard days and years to regain the lost business and to support me right from my graduation till PhD.
I am also highly thankful for the support of my sisters, brother in laws, Niece, Nephews. Without the moral and emotional support provided by my family members this work would have been impossible. They deserve far more credit than I can give them.

My sincere thanks to Mr. Goldy, Rafiq Complex, AMU, Aligarh for having completed this work in a short span of time with fair degree of competence and professionalism. Lastly the assistance provided by the non teaching and technical staff of the Department of biochemistry is also appreciable.

"Don’t be worried about losing the battle if this helps u win the war"

Date: 24/09/2010

(Saheem Ahmad)