Begin with “In the name of Allah” who is the lord, master, designer, director of my heart, soul and mind, the most beneficent and the most merciful.

Foremost I would like to thank the almighty Allah for his blessings in the accomplishment of this work. All my success in the task can come only from Him, in Him I trust and unto Him I turn.

The most awaited moment has come when I have the immense pleasure of paying the heartiest gratitude to my supervisor honorable Prof. M. S. Alam Head, Dept. of Chemistry, Faculty of Science Jamia Hamdard, New Delhi. It has been a great pleasure for me to work under his kind guidance. He is not only my guide but I have seen a character in him from which I got the inspiration in the critical times during my research work. His characteristic devotion towards the work and evergreen helping nature is a matter to be framed into my life. Without his intelligent guidance and unabated perseverance, it was an impossible task for me to accomplish this work.

I am obliged to have the opportunity to express my extended regards to my co-supervisor honorable Dr. Kalim Javed, Reader, Dept. of Chemistry, Faculty of Science, Jamia Hamdard, New Delhi, who himself stands with me as an inspiration. It is his brilliant guidance, which has always accelerated my research work and turned it towards the right way. His calm attitude and intellectual approach towards the work has always shown me the light at the end of a dark tunnel. He is the one who made it possible for me to glide smoothly on the rocky path of my research work. I shall be lucky if I could imbibe even a fraction of his honest nature and scientific intelligence.

I honestly pay my regards to Prof. P.S.Srivastava, Dean, Faculty of Science for extending me all facilities to accomplish my task.

I feel deeply obliged and indebted to Dr. Hina Hamid for her kind cooperation and moral support.

I pay my heartfelt thanks to Mr. Mohd. Samim for his valuable suggestions, moral boosting discussion and support out of the frame.
I am highly thankful to Dr. (Mrs.) Shaukat A. Shah, in-charge Central Animal House, and all the staff members of central animal house, Dr. (Mrs.) P. K. Pillai, Head, Dept. of Microbiology, Ms. Beena and Mr. Talat, Majediea Hospital for their valuable cooperation and help.

I would like to thank IIT, New Delhi, and CDRJ, Lucknow for recording NMR and Mass spectra respectively.

I express my thanks to staff members of Central Instrumentation Facility, Faculty of Science, Dr. S.D. Sharma and Mr. Irshad for their help in using instrumentation facility.

I would like to extend my thanks to NISCAIR, Delhi University library, Central library and Faculty of Science library, Jamia Hamdard, New Delhi for their cooperation.

I consider myself to be richly blessed as I mention the support of my colleagues, Dr. I.G. Rathish, Dr. Shamim, Dr. Abha, Mr. Irshad Ahmad Lone, Dr. Nea, Dr Hamid Nawaz and Dr. M. Aslam. It would be an oversight if I do not thank to my juniors Ms. Rafia Bashir, Ms. Shafira, Ms. Fauzia, Mr. Mehboob Alam and Mr. Ashraf. I also want to record my thanks and acknowledgement for indomitable encouragement and best wishes from my friends Mr. Sandeep, Dr. Zohra Fatima, Mr. Feroz, Mr. Waqar and Mr. Zainul Abid.

I feel deeply indebted to Mr. Sultan Ahmed, Mr. Muhiq and Mr. Ahsan for their help during biological studies. The help rendered by other non-teaching staff members of the Dept. of Chemistry is never to be forgotten. I express my thanks to Mrs. Baig, Mr. Abdul Rahman, Mr. Israel, Mr. Jamal and Mr. Ilyas for their consistent cooperation and help during my research.

I would not miss the opportunity to express my deep gratitude to my parents, my in-laws, my husband Dr. Faheem Ahmed, my brothers Mr. Mohd. Azam, Mr. Afzal Alam, Mr. Shafah Alam, Mr. Mohd. Saboor and all my family members for their unfaltering support, affection, patience and trust that they have put in me.

All my efforts have borne fruit with the grace and blessings of the Almighty Allah.

Sameena Bano
DEDICATED TO MY PARENTS