ACKNOWLEDGEMENTS

It gives me a pleasant privilege to express my sincere gratitude to my supervisor, Prof. P.S Srivastava. His able guidance, valuable counselling, scientific advices and patient hearing always gave a boost of encouragement. The sense of responsibility and time management he has induced in me will always be a source of inspiration. Throughout my thesis-writing period, he provided encouragement, sound advices and fruitful ideas. To me, he is not only a great advisor and professor, but also a great guardian. I thank him for all his encouragement and patience, his care, understanding and respect for his students.

I offer my sincere gratitude to my co-supervisor, Professor M.Z. Abdin for his valuable suggestions and constructive advices to me during my tenure under his supervision. I sincerely extend thanks to Prof. S. K. Jain, Prof. M. P. Sharma, Dr. Sandip Das, Dr. Saleem Javed, Dr. Farhat Afrin, Dr. Waseem Siddiqui, Dr. Humaira Farooqi, Dr. Saima Wajid and all teachers of the Faculty of Science, Jamia Hamdard for their guidance and support.

Special thanks to Dr. Alka Narula for the help provided from the beginning till end of my experimental work. I should never forget the constant support and well wishes of Dr. Junaid Aslam, Dr. Mather Khan, Dr. Zahid Hameed Siddiqui and Dr. Parvez Alam. Whenever I need their help I found him always there.

I acknowledge the co-operation and pleasant company provided by my lab seniors Dr. Gowher Nabi, Dr. Shivaneet Kaul, Dr. Sumiya Jamshieed. I cherish the moments I had spent with my coworkers, Gunjan Kumari, Karuna Kushumanjali, Ritesh Kumar, Alka Singh, Kalpana, Showkat Hussain, Sumit Shahni, Kshipra and Aarti, for their marvellous company, and constant support in the lab. Their caring attitude, helping hands, understanding throughout my tenure, make my job much easier.

I am thankful to my hostel mates, Lateef, Mussarat, Salim, Ejaj, Riyazzudin, Mukhtar, Tahir, Waseem, Prabhakar and my Departmental fellows, Mauji Ram, Islamuddin, Athar and Naveen whose constant support brings a real joy after tired lab sessions.

One should never forget seniors whose constant support and well wishes are always needed. The time I spent with them was most precious. Their loving nature and constant inspiration was appealing. Words are small to express my feeling for these personalities specially Dr. Naushad Ahmad, Dr. Aamina, Dr. Madni, Dr. Pankaj
Gautam, Dr. Sikander, Dr. Abdur Rab, Dr. Naeem, Dr. Badruzzama Khan and Mr. Mushtaq Ahmad whenever I need their help I found them always there.

I am heartened to acknowledge my junior Fareed, Swati, Tariq, Mushtaq, and Haya for their help during research work. I am also highly thankful to Mrs. Zia Fatima, Mr. Shamim for their timely help in the form of literature and books throughout my study and research. I am highly thankful to Mr Cherian, Mrs. Noor Fatima, Mrs. Sheeba and Mrs. Sharika for their help during my study in the department of Biotechnology.

I acknowledge with thanks the help provided by lab attendants Mr. Satish, Mr. Diwan, Mr. Gautam, Mr. Tauqeeq and Mr. Shajid. I specially thanks to Mr Shyam Sundra and Mr. Naeefs for their assistance in field experiment at Herbal Garden of Jamia Hamdard.

Last but not least, I wish to express my loving regards to my family members whose understanding, affection and sacrifice encouraged me to realize their dreams. My brothers (Dr. Wahid Ali, Mr. Qamruzzama, Mr. Firdos, Mr. Badru Dooja and Mr. Faiz) and sisters (Mrs. Anjum Aara, Late Mrs. Nikahat and Ms. Nujhat) are the source of inspiration for me.

I can’t forget my grandparents (Janab Barkat Hussain and Mrs Zaibun Khatoon), who taught me immortal values and ethics. This work could not had been completed if I will not remember the support of my uncles (Dr. Mohibullah, Mr. Hamidullah, Mr. Shahreyar Ahmad, Mr. Md Arif and Mr. Firoz Ahmad), their presence at home keep my mind satisfied.

I feel short of vocabulary to express my heartful gratitude to my parents (Janab. Shamshad Ahmad and Mrs Ajrun Nisha) for bearing my absence for almost a decade. It was infact their true love, noble guidance and sincere efforts that shaped me to do something meaningful in life. I owe them a lot then a mere word “Thanks”.

Finally, I would like to thank Hamdard National Foundation (HNF) and National Medicinal Plants Board AYUSH, Ministry of Health and Family Welfare, Government of India for financial support to carry out research work.

Lastly, I thank Almighty, the Creator of universe, for His blessings and pray him to show me the right path.

Zahid Ali