ACKNOWLEDGEMENT

Ph.D for me has been a long journey and it is impossible to feel the reality of this moment if Almighty Allah would not have blessed and helped me.

First and foremost, thanks are due to Dr. H. M. Sampath Kumar, who has been an inspirational soul right through. It has been an honour to be his student. He has both consciously and unconsciously taught me how to carry out an impeccable research work. I sincerely appreciate all his contribution in terms of time and ideas to make my Ph.D experience more productive and stimulating. I could not have asked for a better role model.

I would also like to extend my thanks and appreciation to Prof. M. Sarwar Alam. His contribution to my Ph.D can never be ignored. He always stood by me whenever required. I am highly grateful to him for bearing with me and having the confidence in me that I was worthy for this work. He has time and again given me encouraging and constructive feedback. I owe a big gratitude to him.

I do not have words to acknowledge the tremendous contribution of Dr. G. N. Qazi, former Director, IIIM and present Vice Chancellor, Jamia Hamdard, who as a leader has been a true role model and a very generous support. All this exercise would not have been possible without him.

I take this opportunity to thank Director IICT, Dr. J.S. Yadav for providing necessary resources to accomplish my research work.

Support of my college principals, Prof. Mushtaq Ahmed Wani and Prof. Irshad Ahmed Wani is worth mentioning here. They have been a constant source of support.

Thanks are also due to Prof. Khaliq-uz-Zaman, Head, Department of Chemistry, University of Kashmir, who has been an inspiration since early days of my research/higher education. I honestly pay my regards to Prof. Mushtaq A. Qurishi for his constant guidance.

I would also like to thank the scientists and staff of Analytical Section of IIIM Jammu particularly Dr. Basant Purnima Wakhloo, Dr. Ravi Kant Khajuria, Mr. Prashotam Kumar and Sanjay. I forward my sincere respect to Dr. S. Koul, Dr. Anamika Khajuria and Dr. Inshad A. Khan in IIIM Jammu. I also thank the whole scientific and non-scientific staff of IIIM for supporting my thesis directly or indirectly.
This piece of research work would not have been possible without the support and encouragement of IIIM Jammu lab mates and co-workers especially Dr. Naveed, Dr. Bilal, Mr. Sawant, Dr. Parvinder, Mr. Bhasker, Dr. Abid, Mr. Mahinder, Mr. Swarn, Ms. Sumira, Mr. Bhupinder, Mr. David, Mr. J. Srinivas, Mr. Satish, Ms. Nikhat, Mr. Shankar, Ms. Jabeena, Mr. Aravind, Mr. Mahipal, Mr. Ashwini, Mr. Verma, Mr. Saidlu, Mr. Irfan, Mr. S. Shankar, Dr. Amit Gupta, Ms. Tabsum Sidiq, Ms. Yasrib, Ms. Rabia, Dr. T. Niranjan, Mr. Tilak Raj, Mr. Praveen and all other friends at IIIM.

Special thanks to my labmate Dr. Syed Shafi. The assistance he has rendered can never be put into words and is being acknowledged with utmost sincerity.

Colleagues at Jamia Hamdard have been of immense help and constant support which came in form of Mr. Mehboob, Ms. Nazreen, Ms. Fouzia, Ms. Chetna, Mr. Saqlain, Mr. Yaqub, Mr. Imran, Mr. Mushtaq, Dr. Rafia, Ms. Shafia, Mr. Owais and Ms. Saima.

I invariably fall short of words to express my heartfelt gratitude and profound thanks to Mrs. Padmaja Sampath Kumar and baby Nikhila.

My greatest gratitude is as always reserved for my most beautiful possession-My parents. My parents have played the most significant role in the completion of this assignment. It is because of them that I stand here today. My sincere thanks to my sister Dr. Sumaira, my brother Mudasir, brother in law Dr. Mushtaq Ahmad and my nephew Ovais bin Mushtaq. They have constantly kept me motivated and have helped me to attain never say die attitude.

This acknowledgment would not be complete if I do not thank my family members my father in law, mother in law, sister in law Samina Didi and brother in law Masroor Bhaya.

My relatives especially my grandparents, my maternal uncles, aunts and cousins deserve a special mention for their support and encouragement given from time to time.

Special person worth mentioning at this moment is my husband Dr Mohsin Ahmad Bhat who has taken more pains to see through the end of my Ph.D thesis. I would remain deeply indebted to him for his support and inputs.

Financial support from University Grants Commission (UGC), New Delhi, in the form of fellowship is gratefully acknowledged.

Dated: Tabasum Ismail