Acknowledgements

For getting a dream come true, one need to convert it to an ambition and give enough effort towards proper direction to accomplish the goal. The research requires desire, guidance, inspiration, patience, perseverance, financial & mental support and good wishes. The task is not simple, but the journey can be made easy by guidance, support constant stimulation of dear one. Words are limited to express my gratitude to people who have helped and supported me. This is done as an accustomed gesture of acknowledgement. I am heartily gratified to:

Honorable Sir Sayajirao Gaekwad, the founder of The Maharaja Sayajirao University of Baroda, for establishing such a wonderful and multidisciplinary education foundation.

Pharmacy Department, The Maharaja Sayajirao University of Baroda, which nurtured me from high school pass out to graduate, graduate to post graduate and post graduate to PhD research fellow.

My mentor and esteemed guide, Dr. Ambikanandan Misra, Professor in Pharmaceutics, Pharmacy Department, The Maharaja Sayajirao University of Baroda for his privileged guidance, freedom to explore, encouragement, judicious moves, requisite facilities, careful consideration, unstated industrial, mental, social, and emotional support needed throughout course of this work. No words can compare his concern for students, his kind support for getting the financial assistance during course. It is a privileged to work under his guidance and I feel of getting improved intellectual and innovative abilities.

Dr. M.R.Yadav, Head and Professor, Pharmacy Department, The Maharaja Sayajirao University of Baroda for providing me the necessary facilities for the research work and for selecting me for Temporary Lectureship for some time which indirectly help me managing my finance.

Dr. (Mrs.) Rajani Giridhar, Professor in Pharmaceutical Chemistry, Dr. (Mrs.) K.K. Sawant, Professor in Pharmaceutics, Dr. (Mrs.) S.J. Rajput, Professor in Pharmaceutical Quality Assurance and Dr. RC Mashru, Reader of Pharmaceutical Quality Assurance, Pharmacy Department, The Maharaja Sayajirao University of Baroda for their valuable support during the research work.

The non-teaching staff of Pharmacy Department, for their kind cooperation during the work

I am thankful to TheraQuest Bioscience Inc. for gift sample of Butorphanol Tartrate, Cadila Healthcare Ltd for gift sample of Lornoxicam, Colorcon Asia Pvt. Ltd, Goa, India forproviding gift sample of Methocel and Polyox.AsahiKASEI for providing free gift sample of MCC, Signet Chemical Corporation Pvt.Ltd for providing initial free gift sample of cellulose Acetate 398-10 and Kollidon.

Dr.Vandana Rao, Metallurgical engineering department of M.S University, Baroda for helping analyze samples for SEM.

Dr. Yogesh Raichandani to whom I shared my day to day experiences for providing motivation, help and encouragement for the work and thesis compilation.

Dr. Jigar Lalani, my friend and colleague, from support to manuscript preparation.

Dr. S Ganesh, DGM, Sun Pharma Advanced Research Company Ltd. for his motivating gesture especially thesis compilation and helping to cross psychological barriers for thinking of solution.

I am thankful to Dr. Divyen, Dr. Hamsaraj, Mr Kushal and Mr Ronak for inspiration.

I express my thanks for the support of my family especially may father for his blessings and for dreaming me achieving this. My affectionate gratitude to my respectable mother, didi, jijaji, wife, for their unconditional love, constant inspiration and tacit patience for being the backbone for achievement of this hercules task. I thank them for many a times bearing with me. Special thanks to my pretty daughter and nieces for their childish gestures which made me feel free of lots of worries. I am also thankful to my in-laws for believing me for my abilities.

Last but not the least, I thank almighty God for empowering me with courage, perseverance and strength to take up and accomplish the task.

Finally, my sincere apologies to all whose name could not be included in this section. No names have been intentionally missed out. My heartfelt thanks to one and all

Bhavik Shah