ACKNOWLEDGEMENT

I find the great pleasure in expressing deep sense of gratitude towards all those who have made it possible for me to complete study on this thesis with success. Their fruitful guidance, encouragement, support and supervision had given me a positive attitude for initiation and completion of this work successfully.

I am very much thankful to Prof. Y.S. Sisodia, Pro Vice Chancellor, Jagannath University, Jaipur for his constant support and motivation.

I would like to articulate my sincere gratitude to Dr. Vivek Sharma, Ph.D. coordinator, Jagannath University, Jaipur for providing me right environment along with motivating students with his authentic thoughts of success and providing all the required facilities for this thesis as a part of Ph.D. course.

I also express my deep and sincere gratitude to Dr. Ashok Agarwal, Associate Professor, University of Rajasthan, Jaipur, for his scholarly guidance, encouragement and affectionate pressure helped me in completing my study on this thesis topic. His inspiration and encouragement, suggestion and very constructive criticism have contributed immensely to the evolution of ideas on the subjects. I thank for the liberty of picking my thesis topic, and for believing in me throughout this journey.

Words of thanks are only a token of my true appreciation for all they have done to make this thesis possible at the earliest. Without their encouragement and support this thesis would have not been complete.

I am extremely grateful to my parents, in-laws and other relatives, for providing me their constant support, encouragement and co-operation during my research work and it is due to their blessings and good wishes that I could make this humble attempt.

Finally, my family has been inspirational in their understanding, patience and encouragement during the many long days and nights that were devoted to this
thesis. I am thankful to my wife Smt. Vijay Goyal for her encouragement and for providing moral support to me. I am also grateful to Aman and Ishita, my son and daughter as they miss my company many times when I was busy in this work.
To all those people named and unnamed and to those others who have encouraged me for my Ph.D. work; my very sincere thanks!

**Vishnu Kumar**

Ph.D. Scholar
Department of Computer Science & Engineering
Faculty of Engineering
Jagannath University, Jaipur