ACKNOWLEDGEMENT

In the accomplishment of this thesis successfully, many people have bestowed upon me their blessings and heart pledged support. Hereby, I take this opportunity to extend my heartfelt gratitude and appreciation to all the concerned people who have contributed to this venture. To start with, I am extremely thankful to The Almighty for his grace and uncountable blessings, who has given me the strength and wisdom for completing this work.

I feel great privilege in expressing my sincerest gratitude and admiration for my esteemed supervisors, Dr. Jagtar Singh and Dr. S. Reddy who have expertly guided me with their skillful ideas, constructive comments and valuable suggestions. They have always steered me in the right direction and supported me throughout my research work. Their words of appreciation at every stage of my work have always motivated me and made me an even more confident person. Without their continuous optimism, enthusiasm, encouragement and support, this work would not have been possible. It was a great honor to work under their supervision and therefore I wish to express my heartfelt gratitude for bringing out the best in me!

I would like to express my sincere gratitude towards Dr. Neena Capalash, Dr. Jagdeep Kaur, Dr. Kashmir Singh, Dr. D. D. Singh for their guidance, careful observations and needful suggestions during the tenure of my thesis.

I admire DR. Adesh Kang and Dr. Goldy, Civil Hospital, Mohali and the nursing and technical staff for their full support and cooperation during the sample collection period. I am also thankful to my labmates, colleagues, the lab attendants and the staff of the Department of Biotechnology, Panjab University, Chandigarh, for their support in every problem witnessed during the Ph.D. tenure and finding appropriate solutions everytime. I want to express my warm gratitude to Dr. Niti Birbian for standing like a pillar and supporting me at every step. Without her guidance and encouragement, this thesis would not have been possible. Aman Jamwal, thanks to you, you are a superhero dear. You helped me in my crisis period when nobody was there.

Lastly, and most importantly I would like to pay high regards and sincere sense of gratitude towards my friends, parents, spouse, brother, sister and loving niece Gurleen for being my strength, support and showering infinite love and affection and loving me unconditionally. This accomplishment is basically yours. THANK YOU.

Naindeep Kaur