ACKNOWLEDGEMENTS

Achievements in life often require long, tortuous effort and bitter experiences including some sacrifices. And this is only possible when the almighty GOD keeps his handful of blessings on the head of anybody. I would lie to submit everything beneath the feet of GOD. I feel privileged to express my sincere gratitude to all the people who walked along me throughout this journey and made it a lot easier for me.

First and foremost I express my heartfelt and sincerest gratitude to my supervisor, Prof (Dr) Anish Dua, who has supported me throughout my thesis with his patience, knowledge and valuable guidance whilst allowing me the room to work in my own way. It was under his tutelage that I developed a positive attitude to bring my thesis to fruition.

I am grateful to Prof (Dr.) Arvinder Kaur, Head, Department of Zoology, Guru Nanak Dev University, Amritsar for providing essential facilities during my research work. I also like to express my gratitude to the faculty members and non-teaching staff of the Department of Zoology, Guru Nanak Dev University for their encouragement and insightful comments.

My sincere and respectful thank and gratefulness to Dr Ashwani Kumar, Dr Chander Parkash, and Vikramjit Singh for accompanying me to field trips and guiding me to do sampling and catching fish. Many thanks to Rajbir, Prabha, Shweta, Harman, Kapil in the laboratory of aquatic biology for helping me and encouraging me with their precious friendship. Special mention to Prabha without whom the lab would be lonely. Special thanks to Arti for helping me in my statistical work and positive motivation.

My deepest gratitude goes to my family for their unflagging love & care and for their unconditional support throughout. You made me live the most unique, magical and carefree moments. I would especially like to thank Raman veerji and Loveleen bhabi for sending me the links from Australian libraries to download the research papers. Thanks for providing me moral support. A special thanks to my brother Sanchoo & bhabi Sukhna for their selfless love and care. I am really indebted to the support and affectionate love of my mother & mother in law. Thanks for being patient and telling me to believe in myself. A very special thanks to my father & father in law who i know had
watched over me through thick and thin. A special thanks to my family and extended family of cousins, uncles and in laws.

Finally, there are my children, who have given me much happiness, joy and keep me hopping. Each one is deeply loved in a unique way. My first born, Gurmant, has grown up watching me study and juggle with family and work. Puneetinder, the little one, who always try to do everything to make his presence felt, each has contributed immeasurably to family enjoyment in a special way. I hope I have been a good mother and that I have not lost too much during the tenure of my study.

This acknowledgement would be incomplete without mentioning my better half Gaganjit Singh. I would not have done my Ph.D if he had not told me to follow my heart. Thanks for standing by me through thick and thin. I attribute the level of my degree to his encouragement and effort and without him this thesis, too, would not have been completed or written. One simply could not wish for anything more. Thanks for standing by me.

Last but not the least, a million thanks to those innocent fishes who got sacrificed for successful culmination the present study.

Rupinder Kaur