ACKNOWLEDGEMENT

Any individual accomplishment to reach the end product requires the direct and indirect efforts of many people and this work is no different. This thesis would not exist in its fullness without the help of those scores of dedicated people who have contributed to it. A great many people of them have contributed to make this thesis possible. I owe deep gratitude to so many people for their help. My years at the Shivaji University were enriched by so many people. I am indebted to them all. It is a pleasant aspect that I have now the opportunity to express my gratitude to all of them.

I wish to express my deepest gratitude to my guide, Prof. Dr. Prakash D Raut. His optimism, enthusiastic attitude towards research and everyday life has been a great encouragement for me. I have been extremely fortunate to work under his able guidance and his constant support has helped me immensely throughout the tenure of my work. Over the years of my association with him, I have always experienced his calm, composed and friendly temperament. He is actively involved in the work of all his students and always has their best interest in mind. On the personal side he did not hesitate to invite his students to become an extended part of his family. The confidence, freedom and friendship I experienced from him and his family is simply outstanding.

My sincere thanks to Mrs. A. S. Jadhav, Assistant Professor, Dept of Environmental Science, for her institutional support throughout and most appreciated suggestions and valuable comments on my work and for extending timely help to me whenever required.

I would also like to thank the entire research group of Dept. of Environmental Science, Shivaji University, Kolhapur, whose patience and active support was instrumental in accomplishing this task.

I also express my gratitude to the Administrative and laboratory staff members of Dept. of Environmental Science, Shivaji University, Kolhapur, who were a great support throughout the research period.
I have been very fortunate to be associated and work with friends from Dept. of Biochemistry, Biotechnology, Microbiology, Chemistry, Botany and Zoology. All of whom have patiently shared and salved my frustrations across the years of producing my thesis.

My greatest thanks are reserved for those who helped me the most, my parents. I would like to thank Anna and Aai for the constant support, love and for the belief in me and my abilities. I thank them for standing by me throughout the years, without them this work was not possible. The support, encouragement and love of my brother Vilas, Kailash and Niwas and sister Deepa supported me throughout without any hesitation.

Vikas V. Jadhav