Acknowledgement

I dedicate this work to the Lord Almighty, the supreme soul who has provided both physical and mental help to complete this project successfully.

It is my honour and privilege to express my guide Dr. A. Michael, Associate Professor and Head, Department of Microbiology, PSG College of Arts and Science, Coimbatore, for this intellectual guidance, constant encouragement, motivation and support throughout my project work and study. I also thank Dr. J. Malliga, PG assistant in French, PSGR Krishnammal School for her support and guidance.

My heartful thanks to, Mr. R. Mahenthiran Ph.D Scholar, Mrs. Karthika Ph.D Scholar, Ms. Sentila Rajan SRF and other Scholars, Department of Microbiology, for their guidance, valuable help and ideas at times.

I would be indebted if I fail to thank my beloved parents Dr. U. Karuppanan, Former Professor of Zoology, Government Arts College, Coimbatore. I would like to thank my mother, Mrs. A. Thavajothi Reginabai and my wife, Mrs. S. Akila, Physiotherapist and my sister Dr. K. Uma Sarojini, my brother, Dr. K Udhaykumar, and my sister in law, Mrs. D. Jayasudha for their unconditional support, to carry out my work in their laboratory, which helped me complete this thesis.

Ravikumar.K