ACKNOWLEDGEMENT

Having surmounted the plethora of difficulties while completing this work it is difficult for me to collect words while inscribing the ineffable bounty and colossus thanks to all those who helped me in this difficult voyage.

It has been a great privilege and honour to have worked under an esteemed teacher and guide Dr. Mrs. Smita M. Dharmadhikari, Associate Professor, Dept. of Microbiology, Govt. Institute of Science, Aurangabad. I express my thanks for her valuable guidance, constructive inspiration to alleviate all the difficulties to achieve this goal.

I am greatly thankful to my Co-guide, Dr. P. A. Wadegaonkar, Co-ordinator, Center for Bioinformatics, S. G. B. A. University, Amravati for his valuable suggestions and constant encouragement in every aspect of this study.

I take this opportunity to pay my humble thankfulness to Dr. R.R. Deshpande, Director, and Dr. Mrs. H.J. Wankhede, Ex- Director, Govt. Institute of Science, Aurangabad for providing all the necessary facilities and environment for carrying out this post graduate study. I am highly indebted to Dr. D. V. Mulay, Director, Mulay Diagnostic Services, Aurangabad for his extending cooperation and support through out my research.

I am thankful to Dr. (Mrs). S. A. Peshwe, Dr. A. J. Jadhav and Dr. J. J. Bhuktar Assistant Professor, Department of Microbiology, Govt Institute of science, Aurangabad for making available their valuable expertise. I must take this opportunity to thank Ms. Anjali Naik, Assistant Professor, Department of Biotechnology, Govt. Institute of Science, Aurangabad for timely help in my work. I herewith express my sincere thanks to all Heads of departments and Librarian, Govt. Institute of
Science, Aurangabad for their direct and indirect guidance during my research work.

I am also thankful to all my research colleagues Mrs. Rohini Pandhare, Mrs. Vandan Gothoskar, Mrs. Rupali Kulkarni, Mrs. Vaishali Samdur, Mrs. Vaishali Wahatule, Mrs. Shubhangi Kanadkhedkae, Mr. Rushikesh Deshpande, Mrs. Reshma Jaweria, Mr. Vihhagg Madane, Mr. Zahir Baig, Dr. Pramod Ghogre, Mr. Chetan Aahire and Mr. Vinod Jogdand for their help and understanding towards me during my research work.

I would like to thank all Microbiology and Biotechnology postgraduate students for their assistance. I owe a special thanks to all non-teaching and office staff for being so helpful in my research journey.

I express my inestimable thanks to Dr. S. G. Gupta, Director, Forensic Institute of Sciences, Aurangabad, Dr. A. S. Kharat, Head, Dept. of Biotechnology, Osmanabad Sub center, Dr. B.A.M.U., Aurangabad, Dr. G. K. Kulkarni, Asssi. Proff. Dept. of Zoology, Dr. B.A.M.U., Aurangabad, Dr. A. S. Damle, Head, Dept. of Microbiology, GMC, Aurangabad and Dr. A. M. Deshmukh, Head, Dept. of Microbiology, Osmanabad Sub center, Dr. B.A.M.U., Aurangabad who in spite of their busy schedule have always supported and encouraged me in my research work.

My sincere thanks and obligations are to Dr. Pravin Wakte, Dr. Sachin Bhusari, Mr. Ajit Patil from Department of Chemical Technology, Dr. B. A. M. U. Aurangabad for their valuable advice and providing all the requisite facilities for research work. It would be unworthy of me, if I miss a chance to express my gratitude to Mr. Santosh Mokle, Mr. Subur Khan and all the staff of Y. B. Chavan College of Pharmacy for their perpetuative encouragement and annexing the intricate problems of my research work.
I would like to extend my sincere thanks to the Dr. Yogesh Shauche, Senior Scientist, NCCS Pune for giving molecular identification of the clinical isolates which were studied in the study, Dr. A. S. Dhabe, Associate Professor Dept. of Botany, Dr. B. A. M. U. Aurangabad for authenticating the herbarium of the medicinal plant and Dr. A. M. Mungikar, Retired Professor, Dept. of Botany, Dr. B. A. M. U. Aurangabad for assistance in statistical analysis of my experimental data. I would like to thanks all the office staff from various departments in Dr. B. A. M. U., Aurangabad for their constant support.

I would extend my thanks to Mr. Harshal Kulkarni for making the medicinal plants available to me and Mr. Kaustubh for his constant assistance in data processing for this work.

My entire work would have been incomplete without the spiritual inspiration and blessings of my grandparents, Late Dr. Vinayak N. Mulay and Smt. Shakuntala V. Mulay. Needless to express deep depth of gratitude towards my parents in laws who have showed me a path throughout my life to achieve success. I owe a great debt of gratitude to my parents and other family members for their help in turning this dream came true. I heartily acknowledge my entire work to my husband Mr. Amit and my sweet daughter Avani for sacrificing all comforts and encouraging me throughout to succeed in my work.

In the last, but not the least, I thank all those who helped directly or indirectly including all the scientists to whom I have referred for completion of this study. My most sincere thanks are due to the Almighty God who made everything possible.

Miss Mulay Yogini P.
Research Student