I wish to express my profound sense of gratitude and indebtedness to my Supervising Guide Dr. R. Damodaran, Professor (Retd.), Department of Marine Biology, Microbiology and Biochemistry for his constant encouragement, invaluable advices and critical assessment throughout the tenure of my research work. His support during the preparation of the manuscript is highly commendable.

I am thankful to Dr. H.S. Ram Mohan, Dean and Director of School of Marine Sciences, CUSAT, for their wholehearted support during the tenure of my research.

I am greatly indebted to Dr. Chandramohanakumar, Registrar, CUSAT and Head, Department of Marine Biology, Microbiology and Biochemistry, for the encouragement and support I received throughout the tenure of my doctoral programme and for providing necessary facilities.

I gratefully acknowledge Dr. Sanjeevan, Director, CMLRE for lending me the samples for my research work. I am grateful to Dr. Rosamma Philip for the help to decide my topic of research and the valuable suggestions that given throughout my research work.

I am grateful to U.G.C for giving me the financial assistance to complete my research work.

I sincerely thank Dr. Babu Philip, Dr. A.V. Saramma, Dr. Aneykutty Joseph, Dr. S. Bijoy Nandan, Dr. A.A. Mohammed Hatha of the Department of Marine Biology, Microbiology and Biochemistry for their support and cooperation. Sincere thanks also extended to retired professors, Dr. C.K. Radhakrishnan, Dr. N.R. Menon, V.J. Kuttiyamma and Dr. Mohammed Salih.
I wish to keep on record my wholehearted and sincere gratitude to Dr. A.V. Raman, Andhra University, Dr. Ajmal Khan and Dr. Antony Fernando, Annamalai University, Dr. D.B. James, Scientist (Retd), CMFRJ, Dr. Vasily Radhashevsky, Russia and Dr. Minoru Imajima, Japan.

I am happy to record my sincere thanks to the members of the administrative and supportive staff, Department of Marine Biology, Microbiology and Biochemistry for their help and cooperation throughout the course of my research work.

I thank Mr. P.J. Manuel, librarian, and other staff, School of Marine Sciences Library for their commendable cooperation.

I am very much grateful to my seniors and friends, Dr. Joydas T.V, Dr. Sajan Sebastian, Dr. Feebarani John, Dr. Arun A.U, Dr. Selvan S, Dr. Nandini Menon, Dr. Soja Luis, Dr. Prabhakaran P, Dr. Gisha Sivan, Dr. Anupama Nair P R, Dr. Bindia Bhargavan and Dr. Priyalakshmi G.

The acknowledgement will not be complete without expressing my sincere thanks to my colleagues, Mr. Nousher Khan K, Abdul Jaleel K U, Anil Kumar P R, Jini Jacob, Dr. Sreedevi N. Kutty and Neil Scholastin Correya.

I am grateful to Abhilash K.R, Iqbal K.P, Anish V Pachu, Dr. T. Ganesh, Ravikumar, Eldose P Mani, Kashi, Smitha B R, Dr. Limnamol V P, and Abhilash K S.

Special thanks to Nisha R and Anu Philip, Dept. of Instrumentation, Pramitha V, IIT, Chennai and Shyamkumar, STIC for the invaluable help and support from time to time.

I am thankful to Suja, Animol, Roja Sebastian, Chitra Som R S, Remya Varadarajan, Jisha Jose, Dr. Simi Joseph P, Padmakumar K B, Bhuvaneshwari,

Sincere thanks to Pradeep, Vinod A.P, George Jolly and Binoop for their kind cooperation.

My heartful gratitude to my family members for their support during the tenure. Above all, I thank God Almighty for the blessing showered upon me during my research work.

Smitha V.K