ACKNOWLEDGEMENT

It is a great pleasure and proud privilege to express my deep sense of gratitude to my supervisor Prof. Manoranjan Maiti, Former Professor, Department of Applied Mathematics with Oceanology and Computer Programming, Vidyasagar University. He had been generous in helping me in all possible ways: in suggesting innovative ideas to the area of my research, in making constructive criticisms, giving wise and valuable suggestions for this research work and also in my life. Also, I wish to express my profound debt to my another supervisor Dr. Manas Kumar Maiti, Associate Professor and Head, Department of Mathematics, Mahishadal Raj College for his patience, detailed and constructive comments, continuous encouragement and guidance throughout my research work. Without his support and guidance, not only this research work, I could not have completed/achieved so many things in my life.

I wish to thank Prof. D.K. Maiti, Convenor, Ph.D. Committee and Head, Prof. M. Pal, Dr. S.K. Mondal, Dr. S.K. Roy, Dr. G. Ghorai, Dr. R.N. Giri and Dr. K. Barman, Department of Applied Mathematics with Oceanology and Computer Programming, Vidyasagar University for their support and continuous encouragement.

I would like to thank my friend Mr. P. Pramanik for his continuous support in various ways through this research work and also in my life. I also thank my colleges Mr. A.K. Bag, Mr. A.K. Pal, Mr. T. Pal, Mr. M.L. Ghosh, Mr. A. Mondal and Mrs. S. Maity of Gujarpur S.N. Vidyapith for their continuous support and inspiration through this research work and also in my life.

It is almost impossible to express my indebtedness to my parents Mr. U.S. Pakhira, Mrs. K. Pakhira; brother Mr. H. Pakhira; my in-laws Mr. T.K. Roy and Mrs. K. Roy for their continuous support and love, and knowing that they are always there for me in any situation, which makes my life a lot easier.

At length I ardently express my debt to my wife, Mrs. S. Roy Pakhira, who is the source of inspiration for both the research and my life. Without her unstinting efforts, this thesis could not have been given a due shape. I specially thank my son, Mr. A. Pakhira, for providing the much needed diversion from the work with his love and affection.

Place: Shyampur Date: 05.10, 2018 Nilesh Pakhira (Nilesh Pakhira)