

## ACKNOWLEDGEMENT

*I would like to thank to some of the individuals for their thoughtful suggestions and constant encouragement to complete this particular journey at this particular time.*

*First and foremost, I would like to express my deepest gratitude to my supervisor Prof. Sarbeswar Kalita for his meticulous guidance, support and assistance from the beginning of this work till its completion. He has constantly helped me with the technical and scientific concept and literature guidance. His broad vision has propelled me to do my work with utmost sincerity and dedication.*

*I would like to extend my sincere gratitude to Prof. D.C. Goswami and Prof. H. P. Sarma for indulging in me the zeal and avidity and their valuable suggestions to make this thesis a more incisive one.*

*I am highly indebted to the Department of Science and Technology, New Delhi for awarding me the 'INSPIRE Fellowship' to carry out my Research work.*

*My heartfelt thanks goes to Pallavi Sarma, Sutapa Chakravarty and Bidyut Bikash Sarma for their constant support and invoking thought provoking ideas and insightful comments that pulled me back to work with more vigour and enthusiasm every day.*

*I am thankful to the Pollution Control Board Assam for their generosity for providing me their laboratoty facilities to carry out my research work. I also express my gratitude to my fellow colleagues of Pollution Control Board Assam for extending all the possible help and encouragement throughout this journey.*

*I am indebted to my friend Siddharth for helping me out in the Remote Sensing analysis and teaching me the Geoinformatics techniques and giving his valuable time even from his busy schedule. I am also equally indebted to my friends and well wishers Saherah and Abeda for being so supportive and constantly encouraging and guiding me to accomplish the thesis.*

*I am extremely thankful to my fellow research scholars Minakshi, Chumi, Bahnika, Geetika and Nisha for their support and helping attitude throughout the journey. I am also thankful to the non teaching staff of the department for providing the support and help in the laboratory. I am really thankful to my filed assistant Malaya who had helped me during the field work.*

*I am always thankful to my husband Denish Pegu to stand by my side during my good as well as my difficult times and being my constant source of encouragement and confidence.*

*I am always indebted to my parents, brothers Bidyut and Dhiraj, sister in law Deepti and my nephew Vihaan for their love, affection, faith, constant support and patience. I owe my parents a debt of gratitude for their unconditional support who always understood my interest and whatever little or more I have achieved today is only because of my parents.*

*And above all my belief to Almighty always lifted up my downcast attitude during the adverse time of my life.*

*(Nitali Doley)*