## Acknowledgements

I would like to take this opportunity to convey my heartfelt gratitude to my supervisor, Prof. Karunesh Kumar Gupta for all his support, guidance and supervision during my research. He has given me enough freedom and proper guidance to sail through the turbulent times, especially during the COVID-19 pandemic.

I owe a debt of gratitude to my Doctoral Advisory Committee members Prof. B. K. Rout and Prof. P. K. Ajmera, for their valuable support and comments that have kept me on-track and shed light on some unseen aspects of my research. I owe my sincere gratitude to Prof. Anu Gupta, Prof. Navneet Gupta, Prof. V. K. Chaubey and Prof. H. D. Mathur, who as the heads of the department, provided me the requisite facility to carry out my doctoral research. I would like to show my gratitude to Prof. Abhijit Asati, former convener, and Prof. Praveen Kumar, convener, Doctoral Research Committee for all their support and useful suggestions.

I wish to express my humble gratitude to Prof. Souvik Bhattacharyya, Vice Chancellor, BITS Pilani, Prof. Sudhirkumar Barai, Director, BITS Pilani, Pilani Campus. I express my gratitude to Prof. M. B. Srinivas, Dean, Prof. Jitendra Panwar, Associate Dean, Academic Unit (Graduate Studies and Research), for their official support and encouragement. I extend my thanks to Academic Unit staff for their valuable support.

I acknowledge each and every individual to dispense their time and support. The moment spent at BITS-Pilani was inspiring and commendable. I am thankful to the entire Instrumentation Unit and staff for their affluent and unflinching support. I would like to express my appreciation to Dr. P. C. Panchariya, Director, Mr. Ashok Chauhan, Principal Scientist, Mr. Chirag Mistry, Senior Scientist and Mr. Anil Sharma, Technical Officer, CSIR-CEERI, Pilani for their kind support.

I would like to thank colleagues for their inspiration during my tenure at the wonderful campus. I would cherish happy moments spent with my friends at BITS Pilani, Pilani campus. Finally, I would also like to thank my mother and father in inspiring and

iv

imparting the faith that created the crave for knowledge. I can't mention enough about

the support from my entire family, my parents-in-law and my wife. It has been a roller

coaster ride for both of us, but my wife's love and support has made it possible for me to

sustain and excel in my research.

Jahagirdar Ankush Chandrakant



This document was created with the Win2PDF "print to PDF" printer available at <a href="http://www.win2pdf.com">http://www.win2pdf.com</a>

This version of Win2PDF 10 is for evaluation and non-commercial use only.

This page will not be added after purchasing Win2PDF.

http://www.win2pdf.com/purchase/