
ACKNOWLEDGEMENTS

First and foremost, I would like to express my sincere thanks and gratitude towards my supervisor, Dr. Amit Tyagi for his continuous guidance, encouragement and strong support during the course of my research work. His perpetual quest for academic excellence and his sincere attitude toward academic truth greatly influenced me. I am forever grateful for his understanding nature and contributions, not only towards my research, but towards my professional growth as well.

I sincerely appreciate the efforts of my RPEC committee members, Dr. R. K. Gautam and Dr. Akhilesh Kumar Singh who provided useful suggestion and valuable advice regarding my research work. I express my deepest sense of gratitude to Prof. Sandeep Kumar for his selfless support and understanding nature which help me in my hard times during my research. I sincerely thank Prof. A. P. Harsha, Head of the Department of Mechanical Engineering for providing academic support in successfully accomplish my research in the Department. I have deep sense of gratitude to all the faculty members of the Department of Mechanical Engineering, IIT (BHU), for their cooperation and inspiration.

I am also thankful to Dhani Ram Shankar Singh who provided their technical support generously during the lab work. I express my gratefulness for Akash Mishra who helped me in completing official and academic work throughout my research.

A special thanks goes to my parents Smt. Vijay Luxmi Wali for helping me in every stage of life and Shri Kishan Nath Wali who is my strength, my brother Soundarya Sheel Wali for his selfless support and my wife Upasana Wali for her understanding and encouragement. Their support and kind encouragements provided the essential foundation to thrive and success.

I also wish to thank my friends and the persons whose names have not been mentioned on this piece of paper for extending their cooperation directly or indirectly.

Ashwarya Sheel Wali