

Acknowledgement

It's my pleasure to acknowledge the help, support, encouragement and guidance that I have received from number of peoples in the course of completion of the thesis.

*I am extremely grateful to my research guide, **Prof. Pralay Maiti**, Professor, School of Materials Science and Technology, IIT (BHU), Varanasi for his valuable guidance, scholarly inputs and consistent encouragement I received throughout the research work. This work was possible only because of his scientific vision and unconditional support. I have spent almost five years in the School of Materials Science and Technology, IIT (BHU), Varanasi. During this period, I learned a lot of things along with research work which I hope will be helpful in my life. I would like to thank all the respected teachers of the school, **Prof. Dhananjay Pandey, Prof. Rajiv Prakash, Dr. Chandana Rath, Dr. Akhilesh Kr. Singh, Dr. Chandan Upadhyay, Dr. Bholanath Pal, Dr. Ashish Kumar Mishra, Dr. Shrawan Mishra, Dr. Sanjay Singh** for their valuable suggestions and encouragement during research work.*

*I am also grateful to my Research Program Evaluation Committee (RPEC) members **Prof. Nira Misra** from School of biomedical Engineering and **Prof. K. D. Mandal** from Department of Chemistry, IIT (BHU).*

*I am indeed obliged and grateful to **Dr. Rahul Shukla**, RRCAT, Indore for the measurements and the kind support during the work. I gratefully acknowledge **Dr. Dipak Rana**, Canada for TEM measurements.*

*Thanks to my co-workers **Dr. Chandan Kumar** and **Shivam Tiwari** for their constant support. I also thank to my labmates **Dr. Dinesh Kumar Patel, Dr. Sunil Kumar, Dr. Akhand Pratap Singh, Dr. Arun Kumar Mahanta, Dr. Sudipta Senapati, Dr. Arpan Biswas** and **Ms. Aparna Shukla**. My juniors **Ms. Dipti Saxena, Mr. Sunil Kumar, Mr.***

Om Prakash, Mr. Ravi Prakash, Mr. Pravesh Kumar Yadav for the cooperation and pleasant company.

I gratefully acknowledge Central Instrumental Facility Centre, IIT (BHU), Varanasi, for providing various instrumental facilities.

*I have no words to thank my Mother (**Manju Gaur**) for her unconditional love and unwavering support at every stage of my life. I owe a lot to my Husband (**Pradyumn Gaurav**) and Sister (**Garima Gaur**) for their endless love and support, who are always there for me.*

Last but not the least, I express my deep sense of gratitude to Almighty God without his divine grace and blessing, above all this task would have been virtually impossible.

Date:

Place: Varanasi

Anupama Gaur