ACKNOWLEDGMENTS

The work presented in this thesis has been made possible by the association of several individuals and I would like to take this opportunity to concede their contributions.

First and foremost reverent and hearty thanks to my research supervisor and mentor Dr. Pankaj Thakur, School of Chemistry, Shoolini University, Solan for his enlightened guidance in my Ph. D. journey that consists of challenges and interest and introducing me to the wonderful world of nanoscience and nanotechnology. I am also thankful to him for his constant support, valuable suggestions, encouragement, advices and everlasting enthusiasm he has shown in my research work. I appreciate what I have learned from him, not only the broad knowledge, sharp scientific instinct and creative ideas, but also the optimistic and confident personalities. It is my privilege to have been associated with a person like him. Thanks a lot Sir for everything.

I am thankful to Prof. P. K. Khosla, Vice-Chancellor, Shoolini University, Prof. S. Puri, Dean Academics, Shoolini University, Prof. D. Pathania, Dean Basic Sciences, Shoolini University for building platform available to carry out the research work.

I am extremely grateful to Dr. Dinesh Pathak, Faculty of Chemical Technology, University of Pardubice, Dr. Gurpreet Kaur, Department of Chemistry, SGGS College, Chandigarh for their insightful suggestions and advice.

It’s my fortune to gratefully acknowledge the support of some special individuals. Words fail me to express my appreciation to dearest friends Dolly Rana and Dr. Akash Katoch for their support and generous care. They were always beside me during the happy and hard moments to push me and motivate me. I can see the good shape of my thesis because of their help and suggestions in all my research work. I expand my thanks to all my friends and colleagues Dr. Kalpana Chauhan, Dr. Pardeep Singh, Dr. Pankaj Raizada, Dr. Amit, Dr. Gaurav, Parul Sharma, Rishu Katwal, Bhawna Sharma, Pooja Shandiliya, Pushpa Sharma, Rahul Sharma, Prem Rana and many more. I also take this opportunity to thank non-
teaching staff members (Anil and Balwant Sir) of this department for timely help.

My humble gratitude must also be reserved for my parents Sh. Chaman Jamwal and Smt. Sujata Jamwal who raised me with love and stood by me firmly all the time for loving me unconditionally. I owe my deepest regards to my brother Devesh Jamwal and sister Nitika Jamwal for their motivation and moral support during my whole academic period. Last but not the least, I have no suitable words to convey my thanks to all my teachers, who sculptured and enabled me to achieve what I wish.

Place: Solan, H.P.
Date:

(Deepika)