Acknowledgement

Ph.D., the longest academic journey……………., passing through several halts in between, has finally arrived to its final destination. Approaching to the final landmark, when I look behind and rewind the experience of these five years, a mixed essence of thoughts appeared in my mind. Some experiences are really those, whose memories make me delight and are unforgettable still there are some, I never want to remember. But overall, the expedition remained joyful and taught me a lot. The credit goes to the care, support and encouragement of numerous people including my well-wishers, my friends, colleagues and various institutions to keep the work on the right track. At the end of my thesis, it is a pleasant task to express my humble gratitude to all those who contributed in many ways to the success of this study and made it an unforgettable experience for me. Here are those……

While starting, I am confused to pay my first and foremost gratitude; to my Guru ji or to the Almighty, Who blessed me to meet such a nice & inspirational personality as mentor. I must go with the saying of the famous poet KABIR

“Guru Gobind dou Khade, Kake lagu paye
Balihari Guru apne, jin Gobind dio milaye”

Following these, my first and prime duty becomes to pay my deepest gratitude and heartiest honour to my worthy and respected supervisor, Dr. Shyam Kumar, Professor, Department of Physics and Dean Research & Development, Kurukshetra University, Kurukshetra for his kind supervision, enthusiastic encouragement and invaluable guidance. Sir, I deem it as my privilege to work under your noble direction. Your logical understanding, wide knowledge, commitment, perpetual energy and enthusiasm in research will remain always a source of inspiration and motivation for me in my whole life. I could not have imagined having a better advisor and mentor for my Ph.D. study. I ever remain grateful to you, Sir.

Secondly, from the depth of my heart, I express my deep sincere gratitude to the Almighty for the Blessings, He had bestowed upon me to complete this work.

My heartiest thanks is also due for Prof. S. C. Mishra, Chairman, Department of Physics, Kurukshetra University, Kurukshetra for providing the required infrastructure and essential research facilities in the department.

There is a person, whom I want to acknowledge specially. I can never forget the encouragement and motivation fed by Prof. P. J. George, Director-Principal, KITM, Kurukshetra. His invaluable suggestions and inimitable guidance made me able to reach this stage. Sir, you are the person, from whom I learnt a lot. Your able direction, experience and
knowledge helped me remarkably to nurture myself personally as well as professionally. I am humbly grateful to you, Sir.

I am extremely obliged to Dr. Amit Roy, Director, Inter University Accelerator Center, New Delhi, for allowing me to use the facilities available at the centre. I am also grateful to Dr. Sandeep Chopra, IUAC for his suggestions and helps while staying at IUAC. Thanks are also due for Dr. Yogesh and Parmod at IUAC.

I am highly indebted to Dr. Amit Roy, Director, Inter University Accelerator Center, New Delhi, for the facilities available at the centre. I am also grateful to Dr. Sandeep Chopra, IUAC for his suggestions and helps while staying at IUAC. Thanks are also due for Dr. Yogesh and Parmod at IUAC.

I extend my gratitude to Prof. Ajay Gupta, Director, UGC-DAE-CSR, Indore for providing me the access for Raman facilities at the centre. A special thanks is due for Dr. Vasant Sathe and Mr. Manoj Kumar for their help and valuable suggestions during the measurements.

My deepest appreciation goes to all the non-teaching staff members of the department for their irreplaceable help at every step of the work.

I want to express my special thanks to the family members of Guru ji, especially Mrs. Poonam Gupta w/o Prof. Shyam Kumar for her kind care during the visits at their home. There would have hardly any occasion, when I returned from your home without atleast a cup of tea. I am extremely indebted to you, Mam for your kind hospitality.

I am also appreciative to Sh. Sudarshan Aggarwal, Managing-Director, KITM and Sh. Neeraj Aggarwal, Executive-Director, KITM for their inimitable support during the time. Sir, you understood my situation and granted me a year leave from hostel; this is really unforgettable.

I would like to extend my sincere thanks to Dr. R.K. Pundir, Asstt. Prof. in Bio-technology, ACEAR, Mithapur and Dr. Priyanka Jangra, Asstt. Prof. in Electronics Engg., UIET, KUK for their care, support and guidance at each and every step during the tenure. Your tellings will be very helpful for me throughout the life. Sir, you are the person, who let me know the value of time and patience in life. Thanks to both of you.

I take this occasion to express my sincere thanks to my friend cum colleagues at KITM for providing me a supportive and caring environment at the institute. A special thanks to Mrs. Shakuntla Singla for her sister-like care during the time. Mrs. Poonam Malik and Ms. Veena Singla find a special place in my acknowledgements due to the support and care, I got. It was just because of you that I had never needed to bother any lecture or lab during the period. Thanks to you. The acknowledgements of KITM will never be completed without mentioning the names of Er. Vishal Sharma and Mr. Yashpal. This became possible just because of you, guys, that I had passed my ever best time at KITM hostel. The movie-shows and late night NIT dhaba, how can I forget?
Now, it’s the time to acknowledge those persons who really don’t like to be mentioned their names in such sections. But, without these people, my acknowledgement will never be completed. I deem myself to be fortunate one and thanks to God for blessing me with such a nice group of seniors and mates. The helps made at early stage of the work by Dr. Tanu Sharma and Dr. Suman Mahendia benefitted me a lot in understanding and carrying out the problem. I would like to thank Dr. Pratibha, Dr. Vijay, Parveen, Rishpal, Renu, Dr. Neetu and Kalpana for being with me over the period. Their support and co-operation strengthen me to accomplish the work. How can I forget those waits made by you, guys, every evening for a cup of tea? This is heartily appreciable. My heartfelt thanks also goes to all the research scholars in the department, especially my M.Sc. classmates Hitender, Manjeet, Sukhvinder, Suman Beniwal and Geeta, for maintaining a cooperative environment in the department.

While residing away from home, there was a family, who never let me feel alone. Gratitude, thanks, acknowledgement are very minor words to express my feelings for Sh. Anil Taya and family. Their consistent support, care and encouragement motivated me a lot to reach the destination. Also, special thanks are due for Sh. Narain Singh, Supervisor, KITM Boys’ Hostel for looking after me during the tenure.

Now, I am speechless! My words are not able enough to express myself. I have no words to express all the wisdom, love and support provided me by my beloved Papa and Mummy, for that I am bow-headed indebted. Their unconditional love and support have inspired me to move forward in life. They supported my each and every decision. I deem myself the most fortunate person of the world for having them as parents and Vikas as my elder brother. Bhai, without you I am nothing. Your support and direction at every step of life is highly appreciable and this is only you because of whom I am here. The major credit goes to you. I am highly grateful to my Bhabhi also. Her love, support and care remained irreplaceable. A special thanks to you, Bhabhi. Now turn is for our little champ, Lakshu. His cherishable smile and mischievous activities never let me feel tired or depressed during the time. Thank you, Beta. A sweet kiss of love for you.

A special person of my life is still unacknowledged. I salute to the patience, she showed during the time. I am talking about my fiancée, Sucheta. A special appreciation to you, dear, for understanding me. Lastly, thanks to all my students for never letting me free to be bored or depressed during the time. Inspite of all these, I am highly indebted to all those people, who are directly or indirectly contributed in the work.

Oct., 2012

(Anil Tomar)