Acknowledgments

The writing of the thesis has been one of the most significant academic challenges. This dissertation would not have been possible without the guidance and the help of several individuals who in one or another way have contributed and extended their valuable help in the preparation and completion of this study. It is to them that I owe my deepest gratitude.

At the very onset, I am humbly indebted to my supervisor Dr. S.S. Verma for his invariable guidance and supervision. His interleave in me the sense of responsibility, sincerity & talent to work and have been instrumental shaping in many ways my professional and social life. He inspired me to work with strong determination and dedication under adverse situations. I have been blessed by his kind support, valuable inputs and suggestions when I needed the most.

I am privileged to get the invaluable inputs, constructive suggestions and kind cooperation from all the esteemed Faculty & Staff Members of Physics Department, SLIET Longowal in general and Prof. A. S. Dhaliwal, Head of the Department in particular during my Ph.D.

I will fall short of words to express my affluent feelings to my joint family members for their inspiration, infinite moral support, patience and faith in me to pursue higher studies. Especially, I recognize the contributions of my friends Jagmeet Singh Sekhon and Vijay Kumar who encouraged and helped me a lot to reach this stage in life. I also put on record my sincere thanks to Dr. Onkar Singh, Principal and Dr. Nirpjeet Singh, Registrar, Akal Degree College, Mastuana Sahib for their support, encouragement and blessings they have extended during this endeavour.
Last but by no means least; I would like to place on record my deep regards to my beloved parents for their endless love, care and blessings in all endeavors. Words would not be sufficed for all of the sacrifices that they have made for me.

Above all, I owe and dedicate everything to the Almighty GOD for the strength that keep us standing and for the hope that keep us believing.

To those who indirectly contributed in this research, your kindness means a lot to me.


Thanks to all of you!

(Jaspal Singh)