ACKNOWLEDGEMENT

It is a difficult task to acknowledge all the people who influenced my life during the last four years and contributed in different ways, to this thesis. I would like to add some personal words.

I take the privilege to express my profound gratitude and sincere indebtedness to my supervisor Dr. Upasana Sharma, Assistant Professor, Punjabi University, Patiala for her valuable guidance, speculative monitoring and constant encouragement throughout the progress course of the present research work. Her energy and clear way of thinking were the driving force for me at all stages of research. To have worked with her is an unforgettable, proud privilege for me.

I am very thankful to I.O.C.L, Panipat who provided me useful information regarding the failure/repair rate of the units of an oil delivering system.

I extremely thankful to Dr. Mukesh Sharma, Professor and Head of Department of Statistics, Punjabi University, Patiala for his continuous encouragement and cooperation throughout the course of this work.

I tender my humble thanks to Dr. H.S. Jhajji, Professor, Punjabi University, Patiala for judicious suggestions. I also thanks to Dr. P.C Garg, other faculty members and official staff for all the instances in which their assistance helped me along the way.

I feel greatly honoured to express my deepest sense of gratitude from the core of my heart to Dr. R.K Tuteja (Retd.) Professor, M.D.U. Rohtak, who gave perpetual inspiration and constant encouragement throughout the progress of investigation embounded in this thesis.

Merely words are not sufficient to express my heartfelt feelings of everlasting and deepest sense of gratitude to Dr. Gulshan Taneja, Associate Professor, Department of Mathematics, M.D.U Rohtak, who helped me to crystallize ideas in terms of a research proposal. Under his guidance I successfully overcome many difficulties and learned a lot. I have deeply appreciated all his advices and knowledgeable comments. I profoundly feel that without his blessings, guidance and scholarly touch it could not have been possible to give research work the present shape.
I am particularly grateful to Dr. Amit Minocha who as a good friend was always willing to help me and give his best suggestions.

My special thanks are reserved for my mother in-law and my husband Adish Narang who showed me a ray of hope with their utmost care and active support whenever I felt down and out. I also want to thank my parents for good wishes and supporting me spiritually. Last but not least my appreciations are limitless for my beloved son Yashmit Narang who had to sacrifice a large number of affectionate moments and exemplary patience due to my involvement in this research work.

Above all, I thank the almighty for showering his blessings for me.

Date : (Rekha)