Acknowledgement

It is not possible to complete research work without the assistance and encouragement of other people. This one is surely no exception.

On the very outset of this research work, I would like to extend my sincere and heartfelt obligation towards all the personages who have helped me in this endeavour. Without their active role, guidance, help cooperation and encouragement, I would not have made headway in the research project.

I am inexpressibly beholden to my research supervisor and also my respectable Prof. (Dr) Pravin P.Rathod (In charge Principal Government Engineering College Bhuj) who enjoys numbers of years of research experience in mechanical engineering field. It was not possible to complete this research without his conscientious guidance, encouragement and dominant support to accomplish this research project.

Secondly I express my honest thankfulness to Mr.S.D.Rathod (Lab Instructor),Mr. R.S.Vasava (Lab. Assistant) and Kamlesh Jadav (Peon) of Government Engineering College Bhuj for providing constant last four year support during experimentation of this research project. I am highly obliged to Mr. Pruthvis Patel Mechanical Engineer and ANSYS expert for all his contributions of time, ideas and constructive comments to make the research experience fruitful and stimulating.

I express thanks to Gujarat Council on Science and Technology (GUJCOST), Gandhinagar Gujarat for providing financial support of Rs. 7,77,000/- for completing this research project.

I take this occasion to acknowledge the Commissioner ate of Technical Education to grant me permission for further study. I am thankful to the former in charge Principals Prof.A.I.Lalani and Prof.H.R.Varia, Government Engineering College, Bhuj to avail college facility.

I am thankful for the co-operation provided by Prof.I. H. Bhorania, Head, Mechanical Department, Government Engineering College, Bhuj, Prof.Rasik.D.Bhayga Machine Lab In charge officer and Prof.Mahipalsinh B. Zala, Head of Electrical Department, Government Engineering College Bhuj. I am also thankful to the colleagues of the
entire mechanical department for their kind help and moral support during my study. My special thanks go to Prof. (Dr.) Maulik P Vyas, Prof. P.V. Savaliya (GEC Bhuj), Prof. B.C. Khatri (LDCE Ahmadabad) and Mr. Anis Sumra (Lab, Assistance) for their exceptional assistance throughout the work.

Last but not the least, I express my deep appreciation for my mother and wife for being a never-ending source of motivation and energy. I also appreciate the tremendous patience and support of my dear relative Sonal, Vipul and my son Vatsom. They have nurtured my desire to embark on a journey of research and provided me with their unconditional love and unending moral support without which it was difficult to complete this work.

Any omission in this brief acknowledgement does not mean lack of gratitude.

Arvindkumar Shamjibhai Sorathiya