ACKNOWLEDGEMENT

Looking back and remembering the past is never easy, more so when we tend to remember trifles of things that have contributed to our present. But I am taking this opportunity to articulate my feelings for all those people who matters most in my life. It is by the grace and will of the Almighty that I have reached the finishing tape with a thesis in my pocket and it feels good! Sometimes I have been running against the wind, but most often I have had the wind behind me. I would like to take this opportunity to humbly express my deepest gratitude for the innumerable gesture of help, cooperation and inspiration that I have received from my teachers, elders, and friends and well wishers during the course of this work.

This Research work, like all worthwhile pursuits has been a team effort. I wish to express my sincere gratitude to all those involved. At first, I want to thank the Vice-Chancellor of Bundelkhasnd University, Jhansi for allowing me to pursue my Ph.D. in Biotechnology from the University.

It is pleasure to place to my heart thank to Prof. Vijay Kumar Sehgal, Dean, Faculty of Science, Bundelkhand University, Jhansi, for providing me permission to do Research work and track this opportunity to express my deep sense of regard and gratitude for his whole heartiest support. He has been perennial source of inspiration and encouragement from the beginning until the
completion of the Ph.D. degree course, giving the words of strength, appreciation and helping me in every step in my University campus.

I feel the scarcity of words when I try to express my feeling for my Supervisor, Dr. Pramod Kumar Pandey, Reader, Department of Biotechnology, Bundelkhand University, Jhansi. When I joined him, I was a raw student. It his foresightedness and strong determination that led all-round development of his student and I was fortunate that got a chance to work with him. He is a perfectionist and expects the same from his students. He groomed every aspect of my personality whether it was paper writing or data analysis. He has been kind enough too squeezed out time for me from his busy schedule to provide me with novel ideas, analytical expertise and critical insight into the subject, which led to the successful completion of my Research work. I don’t know what prompted his to choose me for a scientific Research work in the Lab but from that day onwards, in each of endeavors, he always stood by me. Her outstanding scientific intelligence and energetic approach steered my Research abilities in the direction of the production of present thesis. If I define my relation with him then it won’t be a “student and guide” but it will always be “a son and his father”. Thank you sir, for everything you did for me.

It is the moment of esteemed pleasure for me to express my heartfelt indebtedness and deepest gratitude to Dr. Jose Mathews, Head, Department of Biotechnology, Bundelkhand University, Jhansi, for his positive attitude, continuous support and keen interest in my Research work. I have been his student since my Master’s
Degree program and it was his motivation and constant encouragement that saw me opting for a research career.

I would be failing in my duties if I do not express my gratitude to my departmental faculty Dr. Pradeep Kumar Kamal and Dr. Vinay Singh Chauhan, Assistant Professors, Department of Biotechnology, Bundelkhand University, Jhansi for their cooperation, valuable suggestions and pursuit in the fruitful completion of the study. I express my thankfulness to all these teachers for their academics, training, encouragement and help during the years of my studentship without which it would have been impossible to relish climbing the ladder of education and research.

I am fortunate enough to have the guidance of Dr. (Mrs.) Bhanumati Singh, Assistant Professor, Department of Biotechnology, Bundelkhand University, Jhansi. I am thankful for her help in many ways during my Research period and teaching me very basic techniques. It was her generous help and support that has made my Research work a success.

I sincerely wish to express my sincere gratitude and appreciation to Dr. Fahim Ahmad and Dr. (Mrs.) Amna Siddiqui, Research Scientists, for introducing me to the exciting field of research in Biotechnology. I will ever remain grateful to him for his excellent guidance, valuable suggestions, unending encouragement and constant cooperation for being a source of strength and motivation over the years in every walk of my life.
I pay my heartfelt gratitude and unfathomable indebtedness to Mr. Mahendra Kumar, Deputy Registrar, Administration, Bundelkhand University, Jhansi, for his invaluable suggestions during the course of my Research work for Ph.D. Degree, giving me opportunities to grow personally.

I pay my special thanks and gratitude to Mr. Giri Raj Nayak, Senior Assistant, Administration, Bundelkhand University, Jhansi, for extending his cooperation to enable the progress of this work.

God cannot be with everyone all the times. That's why he made parents. A child can never thank his parents but he owes his existence to them. I will also not show my courage to thank my parents, but I would just pray to God that never in my life should I do anything that can hurt them. My honest, simple and immensely will-powered parents never wanted anything from me. I can never be like you Papa and Mom, but just give me your blessing so that I can never be disloyal to your limitless trust, love warmth and care. Let me not make your sacrifices go to waste.

My sisters Garima and Geeta have always been a source of stimulation for me. Their immense faith in my capabilities always inspired me to work harder. Their innocent love; care and affection always gave me a flesh least of life.

Last but not least, I am thankful to the God, for putting such wonderful people in my life and bestowing his Warmth and Affection through them.

........ Omendra Kumar Prajapati