ACKNOWLEDGEMENT

My heart knows no bounds in expressing deep sense of gratitude and sincere thanks to Prof. U. Rajeswara Rao, Professor of Mathematics, S.K. University, Anantapuramu, for having received from him inspiration, encouragement, help and guidance with affection to carry out the research work successfully. I am greatly indebted to him for sparing his valuable time for lengthy discussions and constructive comments during the course of progress of this work and also for providing me necessary support at all the stages facilitating me in carrying out this research work successfully.

I am very much grateful to Prof. K. Lal Kishore, Vice-Chancellor of Jawaharlal Nehru Technological University Anantapur, Anantapuramu for his encouragement and cooperation in successful completion of this research work.

I am very much thankful to Prof. E. Kesava Reddy, Assoc. Professor and Controller of examinations (i/c), Dr. R. Bhuvana Vijaya, HOD, Assistant Professor, Dept. of Mathematics, JNTUCEA, for their help and encouragement in successful completion of this research work.

I am very much thankful to Prof. V. Ramachandra Prasad, Head, Dept. of Basic Sciences and Humanities, Madanapalle Institute of Technology and Sciences, Madanapalle and Dr. B. Vasu Assistant Professor, Dept. of Mathematics, Mothilal Nehru National Institute of Technology (MNNIT) Allahabad for their help and encouragement in successful completion of this research work.

I am very much thankful to the authorities of Jawaharlal Nehru Technological University Anantapur, Anantapuramu for permitting me to register for Ph.D. in this institute and enabling me to pursue my research work.

I am very much thankful to Prof. K. B. Chandra Sekhar, Director, R & D Cell, J.N.T University Anantapur, Anantapuramu for his encouragement and cooperation.

I am very thankful to Sri M. Anantha Ramudu, Chairman, Sri M. Ramesh Naidu, Director and Dr. B. Ramesh Babu, Principal, Anantha Lakshmi Institute of Technology & Sciences, Anantapur, for their encouragement and cooperation in completion of my research work.
I am very much thankful to Dr. T. Madhavi, B. Phani Kumar, Dr. Y. Kalyan Chakravarthy Dept. of Mathematics, Dr. K. Victor Vedanayagam, M. Vasudeva Reddy, M. Praveena, Dept. of Physics, Dr. G. Sumati, V. Nagendram, Dept. of Chemistry and for their encouragement in successful completion of this research work.

I am very much thankful to my friends and Research scholars Mr. Mallikarjuna, Mr. Sridhar, Dr. Sri Lakshmi, Mr. K. Vijay Kumar, Mr. K. Rama Krishna Reddy (Chemistry) for their encouragement in successful completion of this research work.

I wish to appreciate my parents Smt. G. Ademma, G. Venkatesh, my beloved life partner Smt. G. Lakshmi Narayanamma (school Asst. Maths) and my beloved daughter Anvitha. Gudipati and my beloved brother G. Siva Sankar (Indian Army) sister-in-law Smt. G. Kalyani, and my sisters, for their encouragement in successful completion of my research work.

I am very much thankful to my Brother-in-law B. Bhaskar, helped me a lot in successful completion of this research work.

I thank one and all, who helped me directly or indirectly for completing this research work.

G. VISWANATH