

Acknowledgment

The present thesis entitled “*A new class of special functions suggested by the generalized hypergeometric function and its q -analogue*” incorporates the investigation carried out by me under the able guidance of Dr. B. I. Dave, Associate Professor, Department of Mathematics, Faculty of Science, The Maharaja Sayajirao University of Baroda, Vadaodara.

It is pleasant and foremost duty to express my deep sense of gratitude to my guide, Dr. B. I. Dave for his invaluable guidance, constant encouragement and help during the entire period of my research work. Dr. Dave has also collaborated with me in papers referred earlier.

My respectful thanks are also due to Prof. H. R. Kataria, Head, Department of Mathematics for providing me all possible facilities during the course of work.

I thank all my teachers and the administrative staff of the Department of Mathematics, Faculty of Science and the Smt. Hansa Mehta Library for their cooperation during the entire period. I am indebted to my senior Ms. Bharti V. Nathwani for her help and support. I am also thankful to the teaching assistants Ms. Foram, Ms. Kriti, Mr. Ankush and Mr. Suhel for their joyful and friendly treat. Due to their presence, the research period became more memorable.

I admit again my deep thanks to my guide Dr. B. I. Dave for not only assisting me in this research work but also giving me guidance in spiritual path. The discussion on this divine line fulfilled my mind with piece and tremendous positive energy. These fruitful hours caused a huge impact on my both research and personal life.

Among all the nice things, I must admit that these long years were not always smooth. In such period, I got an opportunity to attend the summer school on “*Matrix Methods and Fractional Calculus*” during April 28, 2014 - May 23, 2014 (4 weeks) at the Center of Mathematical and Statistical Sciences, Kerala. I met a group of young researchers who left amazing footmarks in my life. In particular, I am indebted to Sameera, Savitri, Amiya da, Balaswamy, Siva kumar, Rustam Abbas, Bhumika, Durga Prasad, Sangita and Krunal for making their presence in

my life. The thought process and simple life style of Prof. A. M. Mathai heavily directed me and recharged me many times for research work whenever I disappointed and discouraged due to some reasons. I am thankful to Dr. Dilip Kumar (Resource person: SERB-2014 School, Kerala) and Dr. Amiya Bhowmick (Participant: SERB-2014 School, Kerala) for their estimable help in Maple and L^AT_EX softwares.

I could not forget to thank my soul mates Kirti, Dhyey, Sheral, Jyoti, Kinjal and Shahnavaz.

I owe a deep sense of gratefulness to my all *family members* for their co-operation, encouragement and constant support during my B.Sc., M.Sc., M.Phil. course as well as during the entire period of my research work.

I am also indebted to all those persons whose work (quoted in Bibliography) I have consulted.

My sincere thanks to all who directly or indirectly helped me in successful completion of this work.

Last but not the least; I thank God, the almighty, for giving me strength and ability to accomplish this work, taken on hand.

Vadodara,
September, 2016

(Meera H. Chudasama)