Acknowledgements

To Him, the Supreme Controller of the Universe, who defined the purpose of my being, and bestowed on me both secular and spiritual knowledge, the very essence of my existence, the charioteer of my life and the Founder Chancellor of the University, Bhagawan Sri Sathya Sai Baba, I offer this humble endeavour in absolute humility and infinite gratitude. Surrendering my efforts at Thy Lotus feet, I take this opportunity to thank every person directly or indirectly involved in this work.

I am highly indebted to Prof. J. Shashidhara Prasad, Vice Chancellor of the University, Prof. Vishwanath Pandit, former Vice Chancellor, Dr. Naren Ramji, Registrar, Sri Srinivas Srirangarajan, Controller of Examination and Management of Sri Sathya Sai Institute of Higher Learning, for giving me the opportunity to pursue doctoral research in this hallowed institution and for providing all the facilities and infrastructure essential to carry out my research work. The serene ambience at the Anantapur campus of the University has been definitely instrumental in learning through a spiritual perspective.

The successful completion of my thesis today, wouldn’t have been smooth without the unsolicited support from my guide Dr. N. Srividya, Assistant Professor, Department of Home Science, Sri Sathya Sai Institute of Higher Learning, Anantapur campus, whose loving encouragement fuelled the enthusiasm in me to pursue research. Her meticulous planning, continuous supervision and encouragement throughout the research helped me develop a deeper understanding of the subject and grasp its rich complexity. Her dedication towards any work taken up and impeccable perfection helped me learn that work is truly worship, to be performed as an offering to God. I am really obliged to you, Madam, for being a meticulous source of motivation, for your boundless patience and tolerance, for all the care and concern you showered on me, for always standing beside me during tough times, for reaffirming in me faith in the Almighty and confidence in myself and for teaching me lessons not only helpful in science but also in life.
My heartfelt thanks to Prof. Rashmi Kapoor, Head of the Dept. of Home Science for always being available whenever required and for encouraging me to face all problems with a cheerful demeanour.

The success of a student is just a reflection of teachers’ guidance. I am grateful to all the teachers of my department Dr. (Mrs.) B. Andallu, Dr. (Mrs.) M. Srijaya, Ms. Meera and Mrs. Sumana for their loving support and guidance at any point of time. Thank you teachers, for giving me the knowledge which will go a long way in shaping my future career.

I convey my heartfelt gratitude to Prof. Madhu Kapani, Director of the campus, for her encouragement and cooperation. I would also like to thank Prof.(Mrs.) Dwaraka Rani Rao, former Director for her constant guidance and appreciation.

My sincere thanks to Dr. (Ms.) Kiron Bala Arora, warden of the campus, for her deep care and concern, deputy wardens Dr. (Ms.) Sharada Subramanian and Dr. (Ms.) T.R. Rajeshwari for the advices and suggestions lent to me. Special thanks to Ms. Meera, incharge of the hostel-II for being approachable always and extending timely help. I also thank the former Wardens of the campus, Jayamma Madam and Pushpa Madam for all the love they showered on me.

I also thank my dear teachers Suma Madam and Deepa Madam for their loving attitude and for sharing their practical knowledge.

My sincere thanks to the University Grants Commission, New Delhi for the research fellowship provided towards carrying out the present work.

I am much obliged to Dr. Sudha M.L., Senior Scientist, Central Food Technological Research Institute (CFTRI), Mysore for helping me with the instrumental rheological analysis and guiding me with the interpretation of results. I acknowledge the Indian Institute of Science, Bangalore for the differential scanning calorimetry (DSC) analysis facility and Acharya N.G.Ranga Agricultural University, Hyderabad for atomic absorption spectroscopy facility. I also extend my thanks to Dr. V. Mohan, Director, Madras Diabetes Research Foundation, Chennai, for permitting me to carry out advanced nutritional analysis of the research samples in his laboratory.
I extend my gratitude to my senior Dr. (Ms.) Tapasya Anand, my present and ex-roommates Ms. Rajeshwari C.U, Ms. Iyer Shobha Ramamurthy and Ms. Akriti Pradhan for extending their help in multifarious ways that aided in the timely completion of the thesis.

Special thanks to my juniors Ms. Saima Kadam and Ms. Manjula Devi for extending their timely and much needed support with great patience and interest in the final thesis compilation.

It is rightly said that since God could not be present everywhere, He created parents. My heartfelt gratitude to my dearmost Appa, Mr. S. Ramachandran and Amma, Mrs. Shyamala Ramachandran for their selfless and bountiful love, for the encouragement and freedom they provided to take independent decisions, for all the innumerable sacrifices they made so that I could be comfortable, and for being always available in the time of need. Dear Amma and Appa, though I could never explicitly express this, I am truly indebted to you both for everything that you have done for me and sincerely pray to God to bless me to be your child in all future births.

My loving thanks to my sweet, smart and bubbly sister Supriya Ramachandran, who helped me every time I was stuck up through her innumerable contacts, for lovingly encouraging me in times of despair and for her sweet care and concern throughout. Life would have been extremely dull and boring without your presence, my dear sister.

If parents are verily God, I consider myself extremely lucky to have two sets! My sincere thanks to my father and mother-in-law, Mr. P.Subramanian and Mrs. Parvathi Subramanian who could in fact be called my father and mother-in-love. Thank you, Appa and Amma, for all your loving care and concern, for being extremely understanding and standing by me during the times of need.

At the end of a tiring and hectic day, who would not love to have someone who could refresh you with their words. I am thankful to my life partner, Mr. Padmanabh Subramanian, for his regular doses of humorous anecdotes, stories and one-liners which would act as a stress buster, recharging me to put in a few more hours of work. Thank you, dear Sai, for supporting me throughout despite your own work pressures and being more like a friend with whom I could share everything.
I would be failing in my duty if I do not thank the subjects who consented to participate in the research and lent their valuable time.

I am thankful to Prasanna Akka, Ratna Akka and Lakshmi Akka for helping me in the timely procurement of samples and extending their help in various ways.

I thank you, once again My Dear Lord, for coming in the form of different people and for completing Your work, for I am just Your instrument in use.

Pushkala Ramachandran