DEDICATION

This work is dedicated to the memories of my mentor late Dr. Mahesh Chandra Sharma and my beloved grandmother who passed away during the period of my research. My grandmother was not living with me but I have always felt her blessings. Until death in 2015, Dr. M.C. Sharma has given guidance, inspiration and encouragement to me. He was my professor, adviser and mentor since my Masters studies. He was professor and head of the department of biotechnology. He has guided me not only in my studies and research but also in life. I will never forget his efforts, hard work and guidance.