

ACKNOWLEDGEMENT

With immense pleasure and deep sense of gratitude, I wish to express my sincere thanks to my supervisors **Dr. K. Indhira**, Associate Professor and **Dr. V. M. Chandrasekaran**, Senior Professor, Department of Mathematics, School of Advanced Sciences, VIT. This research would not have been successfully completed without their motivation and continuous encouragement.

I am grateful to the Chancellor of VIT, **Dr. G. Viswanathan**, the Vice Presidents, and the Vice Chancellor for motivating me to carry out research in VIT and also for providing me with infrastructural facilities and many other resources needed for my research.

I express my sincere thanks to **Dr. R. Vijayaraghavan**, Dean (SAS) and **Dr. B. Rushi Kumar**, HOD, Department of Mathematics, SAS, VIT for their kind words of support and encouragement. Besides my supervisor, I would like to thank my Doctoral Committee members **Dr. P. Manoharan**, **Dr. B. Praba** and **Dr. K. Karthikeyan**, for their advice, encouragement and insightful comments.

I like to acknowledge the support rendered by National Board of Higher Mathematics, Department of Atomic Energy (NBHM-DAE) (Reference No.2/48(6)/2015/NBHM (R. P)/R&D 11/14129) of the Government of India, for providing financial support as a JRF, to complete my research work.

I express my heartfelt thanks to **Dr. M. Haridass**, Assistant professor (Senior Grade), Department of Mathematics, PSG College of Technology, Coimbatore, who motivated me to initiate the research work in queueing theory. I would like to extend my sincere thanks to my colleague **Ms. Julie Thomas**, for her support in formatting the present work.

I wish to extend my profound sense of gratitude to my mother **Mrs. Gowri Palani** and my brother **Mr. S. P. Dhananjayan** for all the sacrifices they made during my research and also providing me with moral support and encouragement whenever required..

Place: Vellore

Date: 11-10-2018

spliranjana
NIRANJAN S.P