

CERTIFICATE

This is to certify that the thesis entitled “**Single Server Batch Arrival Retrial G-Queues with Multistage and Multi-Optional Services**” submitted to the Avinashilingam Institute for Home Science and Higher Education for Women, Coimbatore, in partial fulfilment of the requirements for the award of the Degree of **Doctor of Philosophy in Mathematics**, is a record of original research work done by **N. Sangeetha**, as a Full time Research Scholar, during the period of her study from July 2018 to May 2021 in the Department of Mathematics at Avinashilingam Institute for Home Science and Higher Education for Women, Coimbatore, under my supervision and guidance and the thesis has not formed the basis for the award of any Degree/ Diploma / Associateship / Fellowship or other similar title to any candidate of this or any other University.

K. Sivakumari
31/05/21

**Signature of the
Head of the Department**

P. Dayanand
31.5.21

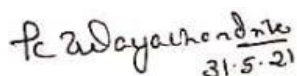
Signature of the Supervisor

P. Dayanand
31.5.21

Signature of the Dean

DECLARATION

I, **N. Sangeetha**, hereby declare that the thesis entitled “**Single Server Batch Arrival Retrial G-Queues with Multistage and Multi-Optional Services**” submitted to the Avinashilingam Institute for Home Science and Higher Education for Women, Coimbatore, in partial fulfilment of the requirements for the award of the Degree of **Doctor of Philosophy in Mathematics** is a record of original and independent research work done by me during the period under the supervision and guidance of **Dr. K. Udaya Chandrika**, Professor, Department of Mathematics, Dean, School of Physical Sciences and Computational Sciences, Avinashilingam Institute for Home Science and Higher Education for Women, Coimbatore, and it has not formed the basis for the award of any Degree/Diploma/Associateship/Fellowship or other similar title to any candidate of this or any other University.


31.5.21

Signature of the Supervisor



Signature of the Candidate