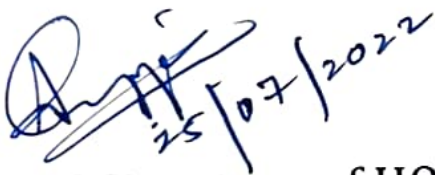


CERTIFICATE

This is to certify that the project report entitled "**A brief study on Directed Graphs**" is a bonafide work carried out by **HUDA ZAINABA BASHEER , 208022** under the guidance of **Dr D. SHUBHALAKSHMI** in the department of PG Studies in Mathematics and Research, St. Aloysius College.

The same is being submitted to the Post Graduation of Mathematics, St Aloysius College in partial fulfilment of the requirements for the award of **Master of Science – Mathematics**. No part of this thesis has been presented for the award of any other degree.



Handwritten signature of Mrs. Anupriya Shetty, dated 25/07/2022.

Name and Signature of HOD

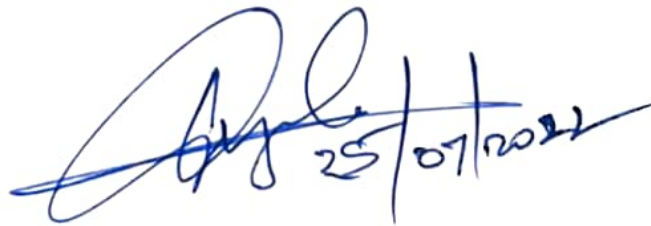
Mrs. Anupriya Shetty



Handwritten signature of Dr. D. Shubhalakshmi.

Name and Signature of the Guide

Dr. D. Shubhalakshmi



Handwritten signature of Dr. D. Shubhalakshmi, dated 25/07/2022.