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CERTIFICATE

This is to certify that the work entitled "*In vitro* STUDY OF THE ANTI METASTATIC ACTIVITY OF QUERCETIN IN HUMAN BREAST CANCER CELLS AND ROLE OF NOTCH SIGNALLING" is a bonafide project work done by FATHIMA SAJMI., student of AL-Ameen College, Edathala (Affiliated to MG University) in partial fulfilment of Bachelors Degree in Biotechnology.

Under the guidance and supervision



Dr. RAJESH R. MOHANDRAN
DIRECTOR

R&D IN BIOTECHNOLOGY - TECHNOLOGY TRANSFER - CONTRACT RESEARCH

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Phone : 0484 - 2837561 (Principal)
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Date: 12th July, 2021

CERTIFICATE

This is to certify that the dissertation entitled "INVITRO ANTIBACTERIAL AND ANDIOXIDANT STUDY OF LAC FROM *LACCIFER LACCA* AND ITS BIOACTIVE COMPOUND AND FUNCTIONAL GROUP ANALYSIS " submitted to Mahatma Gandhi University, Kottayam in partial fulfilment of the requirements for the award of the Degree of Bachelor of Science in Biotechnology, is a bonafide record of the original work done by **Ms MEHANAS MN (Reg. no: 180021046908)** under the supervision and guidance of **Ms ALPHY NISA STEAPHEN**, Asst. Professor, Dept. Of Biotechnology, AL-Ameen College, Edathala for the period of 3 months (November 1st – January 31st). The work presented here is the original and has not been submitted so far in part of fulfilment for any other degree or diploma of any other university/institutions.

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Dr. Cini Kurian
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Date: July 12th 2021

CERTIFICATE

This is to certify that the dissertation entitled "Green Synthesis of Zinc Oxide Nanoparticles Using *Azadirachta Indica* Leaf Extract" submitted to the Mahatma Gandhi University, Kottayam in partial fulfilment of the requirements for the award of the degree of Bachelor of Science in Biotechnology is a record of original research work done by Mukhila M (Reg. No: 180021046910), Al Ameen College, Edathala for the period of 3 months (November 1st - January 31st) under the supervision and guidance of Ms. Rahimal Ramesh, Head of the Department, AL Ameen College, Edathala. The work presented here is original and has not been submitted so far in part or full for any other degree or diploma of any other university/institution.



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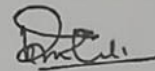
CERTIFICATE

This is to certify that the dissertation entitled “**Isolation and molecular identification of Plant Growth Promoting Rhizobacteria (PGPR) associated with orchid roots and evaluation of microbial production of auxin**” is a bonafide record of the original research work done by **Ms. Rizwana K N, Al-Ameen College, Edathala** partial fulfillment of the requirement for the award of ‘**Degree of Bachelor of Science in Biotechnology**’ during the period of her study in the Department of Biotechnology, under my direct supervision & guidance.



South Kalamaserry

15/03/2021



Dr. K.S Rishad

(Supervising Guide)



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Date: July 12th 2021

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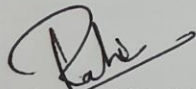
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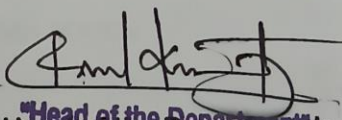
Date: 10/06/2020

CERTIFICATE

This is to certify that the dissertation entitled "MOLECULAR IDENTIFICATION OF ALKALINE PROTEASE GENE PRODUCING BACTERIA FROM SOIL" submitted to Mahatma Gandhi University, Kottayam in partial fulfillment of requirement for the award of the degree of Bachelor of Science in Biotechnology, is a bonafied record of the original work done by **Ms.FATHIMA MAHIN** Reg.no. **160021050161** under the supervision and guidance of **Dr.K S RISHAD**, Unibiosis Biotech Research Lab during the period of December 2018 to March 2019.


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Date : July 12th 2021

CERTIFICATE

This is to certify that the dissertation titled "**REMOVAL OF POLYETHYLENE BY SOIL MICROORGANISM AS A SOLUTION FOR PLASTIC LITTER POLLUTION**" submitted to Mahatma Gandhi University, Kottayam in partial fulfillment of requirement for the award of the Degree of Bachelor of Science in Biotechnology, is a bonafide record of the original work done by **MS SANGEETHA SATHEESH** Reg No: **180021046921** under the supervision and guidance of **Dr DHANYA V**, Dept. Of Biotechnology, AL-Ameen College, Edathala during the period of 3 months (November 1st – January 31st). The work presented here is the original and has not been submitted so far in part of full for any other degree or diploma of any other university/institutions.

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Date :

CERTIFICATE

This is to certify that the dissertation titled “ **PHYSICO-CHEMICAL AND BACTERIOLOGICAL ANALYSIS OF THE WATER SAMPLE TAKEN FROM PERIYAR RIVER DURING THE OUTBREAK OF COVID-19** ” submitted to Mahatma Gandhi University, Kottayam in partial fulfilment of requirement for the award of the Degree of Bachelor of Science in Biotechnology, is a bonafide record of the original work done by **Ms KRISHNAPRIYA PJ (Register No : 18002146907)** under the supervision and guidance of **Ms SANOOJA M S**, Department Of Biotechnology, AL-Ameen College, Edathala during the period of 3 months (November 1st – January 31st). The work presented here is original and has not been submitted so far in part or full for any other degree or diploma of any other university/institutions.

Head of the Department
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Internal Guide:

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Internal Examiner:

External Examiner:

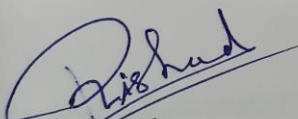


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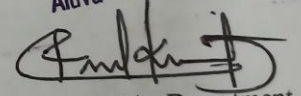
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This is to certify that the dissertation titled "ISOLATION OF PGPR ASSOCIATED WITH ORCHID ROOTS AND EVALUATION OF MICROBIAL AUXIN PRODUCTION" submitted to Mahatma Gandhi University, Kottayam, in partial fulfillment of requirement for the award of the Degree of **Bachelor of Science in Biotechnology**, is a bonafide record of the original work done by **Ms. NEEMA JOSE**, Reg. No. 180021046911 under the supervision and guidance of **Dr. K S Rishad**, the supervising guide, Unibiosys Biotech Research Labs, Kalamaserry during the period of December 2020 to January 2021.


Internal Guide

"Head of the Department"
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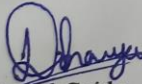
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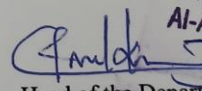
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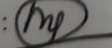
This is to certify that the dissertation titled "**REMOVAL OF POLYETHYLENE BY SOIL MICROORGANISM AS A SOLUTION FOR PLASTIC LITTER POLLUTION**" submitted to Mahatma Gandhi University, Kottayam in partial fulfilment of requirement for the award of the Degree of Bachelor of Science in Biotechnology, is a bonafide record of the original work done by **ANITHRA R** Reg. No. 180021046895 under the supervision and guidance of **Dr. DHANYA V**, Department of Biotechnology, Al-Ameen College, Edathala during the period of December 2020 to March 2021.


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CERTIFICATE

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Dr. Cini Kurian
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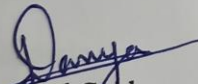
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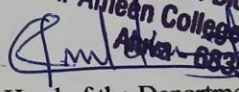
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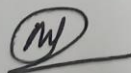
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Internal Guide:


"Head of the Department"
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Internal Examiner: 

External Examiner:



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CERTIFICATE

This is to certify that the dissertation entitled “GREEN SYNTHESIS OF ZINC OXIDE NANOPARTICLES USING *AZADIRACHTA INDICA* LEAF EXTRACT” submitted to the Mahatma Gandhi University, Kottayam in partial fulfilment of the requirements for the award of the degree of **Bachelor of Science in Biotechnology** is a record of original research work done by **Fathima M.S** under the supervision and guidance of **Rahimol Ramesh**

Rahimol Ramesh

Head of Department

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Rahimol Ramesh

Samsaja . M.S.



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CERTIFICATE

This is to certify that the dissertation entitled “**DRIED LEAF EXTRACTED MEDIATED GREEN SYNTHESIS OF ZINC OXIDE NANOPARTICLES FROM AZADIRACHTA INDICA**” submitted to the Mahatma Gandhi University, Kottayam in partial fulfilment of the requirements for the award of the degree of **Bachelor of Science in Biotechnology** is a record of original research work done by **Abin Joy** under the supervision and guidance of **Rahimol Ramesh**

Rahimol Ramesh
Head of Department
Biotechnology

Internal Examiner

External Examiner

Rahimol Ramesh

Sanooja . M . S



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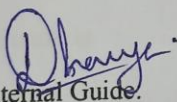
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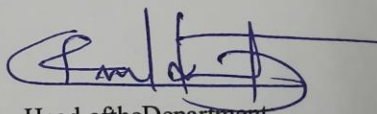
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Internal Guide.


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External Examiner: 
Internal Examiner :



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Date: 12/6/21

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Internal Guide:

Head of the Department:

Submitted to the external examiner for viva voce on12/6/21

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Date: 21/6/21

CERTIFICATE


This is to certify that the dissertation titled “**DEVELOPMENT OF POTENTIAL BIOCONTROL AGENTS AND ITS EXPLOITATION IN AGRICULTURE**” submitted to Mahatma Gandhi University, Kottayam in partial fulfilment of requirement for the award of the Degree of Bachelor of Science in Biotechnology, is a bonafide record of the original work done by **V.A. SHABANA Reg. no. 170021042878** under the supervision and guidance of Dept. of Biotechnology, Al-Ameen College, Edathala during the period of January 2020 to February 2020.


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Internal Examiner:


10/6/2020

External Examiner:



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This is to certify that the dissertation entitled "Isolation and molecular identification of Plant Growth Promoting Rhizobacteria (PGPR) associated with orchid roots and evaluation of microbial production of auxin" is a bonafide record of the original research work done by Ms. Farzana P Marakkar, Al-Ameen College, Edathala partial fulfillment of the requirement for the award of 'Degree of Bachelor of Science in Biotechnology' during the period of her study in the Department of Biotechnology, under my direct supervision & guidance.



Dr. K.S Rishad

(Supervising Guide)

South Kalamaserry

15/03/2021



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Dr. K.S Rishad

(Supervising Guide)



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CERTIFICATE

This is to certify that the dissertation entitled “Green Synthesis of Zinc Oxide Nanoparticles Using *Azadirachta Indica* Leaf Extract” submitted to the Mahatma Gandhi University, Kottayam in partial fulfilment of the requirements for the award of the degree of Bachelor of Science in Biotechnology is a record of original research work done by Divya Johnson (Reg. No: 180021046900), Al Ameen College, Edathala for the period of 3 months (November 1st – January 31st) under the supervision and guidance of Ms. Rahimol Ramesh, Head of the Department, AL Ameen College, Edathala. The work presented here is original and has not been submitted so far in part of full for any other degree or diploma of any other university/institution.



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This is to certify that the dissertation entitled "ANTIOXIDANT, ANTIMICROBIAL AND PHYTOCHEMICAL ANALYSIS OF *ACORUS CALAMUS* RHIZOME EXTRACT" submitted to Mahatma Gandhi University, Kottayam in partial fulfilment of the requirements for the award of the Degree of Bachelor of Science in Biotechnology, is a bonafide record of the original work done by **Mr ASTLE ARUJA**(Reg No: **180021046899**) under the supervision and guidance of **Ms ALPHY NISA STEAPHEN**, Asst. Professor, Dept. Of Biotechnology, AL-Ameen College, Edathala for the period of 3 months (November 1st – January 31st). The work presented here is the original and has not been submitted so far in part of fulfilment for any other degree or diploma of any other university/institutions.


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