

PG Projects

2023-24

Department of Botany



DEPARTMENT OF BOTANY



PROVIDENCE WOMEN'S COLLEGE (AUTONOMOUS),
KOZHIKODE, KERALA 673009, INDIA

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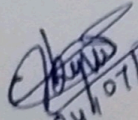
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Date: 03/07/2024

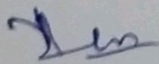
CERTIFICATE

Certified that this dissertation entitled **ASSESSMENT OF THE INFLUENCE OF ORGANIC AND INORGANIC FERTILIZERS ON THE GROWTH AND YIELD OF ABELMOSCHUS ESCULENTUS (L.)** was carried out by Ms. AKHILA M, Reg. No PWAWMBT001 under my supervision and guidance during the year 2023-24.

Supervising teacher :

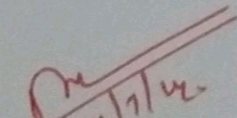

24/07/24

HoD :

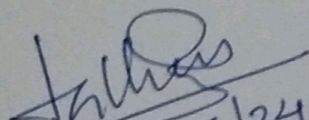

Head
Department of Botany
Providence Women's College
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Examiners

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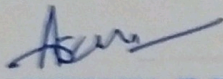
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Date: 03//07/2024

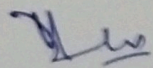
CERTIFICATE

Certified that this dissertation entitled 'Phytochemical analysis and allelopathic studies of the weed *Cyperus mindorensis* (Steud.) Hyugh on some selected crops' was carried out by Ms. AKSHAVYA T P, Reg. No PWAWMBT002 under my supervision and guidance during the year 2023-24.

Supervising teacher :



Dr. ARCHANA E.R
Assistant Professor
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HoD

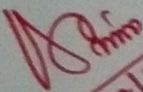

Head
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Examiners

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mailto: pwcbotany@gmail.com



Date: 03//07/2024

CERTIFICATE

Certified that this dissertation entitled 'Cytotoxicity studies of the plant extract and Biogenically synthesized Silver nanoparticles from *Sauropus androgynus* (L.) Merr.' was carried out by Ms. Akshaya N., Reg. No PWAWMBT003 under my supervision and guidance during the year 2023-24.

Supervising teacher :

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HoD :

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Examiners

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Date: 03/07/2024

CERTIFICATE

Certified that this dissertation entitled 'Comparative assessment of air pollution tolerance index (APTI) of selected herb and tree species in a polluted and non-polluted area' was carried out by Ms. AMALA MATHEW, Reg. No: PWAWMBT004 under my supervision and guidance during the year 2023-24.

Supervising teacher :

HoD

Head
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Examiners

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Date: 03//07/2024

CERTIFICATE

Certified that this dissertation entitled "Evaluation of Phytochemicals and Anti-bacterial Activity of *Sauropous androgynous*(L.) Merr." was carried out by Ms. ANJANA. O Reg. No PWAWMBT006 under my supervision and guidance during the year 2023-24.

Supervising teacher : MAK

HoD

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Head Botany
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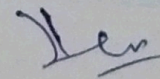
CERTIFICATE

Certified that this dissertation entitled 'MORPHOLOGICAL AND PHYSIO-CHEMICAL ASSESSMENT OF *TRIGONELLA FOENUM-GRÆCUM* L., UNDER POLYETHYLENE GLYCOL INDUCED DROUGHT STRESS' was carried out by Ms. APARNA K Reg. No PWAWMBT007 under my supervision and guidance during the year 2023-24.

Supervising teacher :

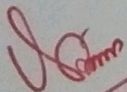

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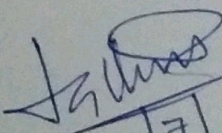

Head
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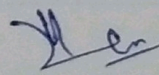
CERTIFICATE

Certified that this dissertation entitled ' **MORPHO-PHYSIOLOGICAL & BIOCHEMICAL ANALYSIS OF *MACROTYLOMA UNIFLORUM* (Lam.) Verdc. UNDER BORIC ACID TREATMENT** ' was carried out by Ms. **AYSHA SANA** Reg. No **PWAWMBT008** under my supervision and guidance during the year 2023-24.

Supervising teacher :

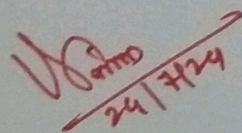

PILTY PETER A
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HoD :

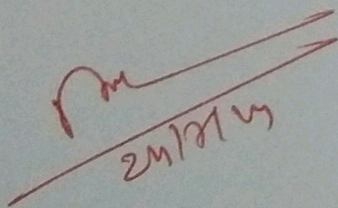

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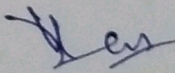
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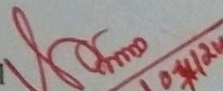
Certified that this dissertation entitled 'Ecological Integrity Of Thurayil Kavu, A Sacred Grove In Kozhikode District, Kerala: A Study On Plant Diversity, Microclimate And Carbon Storage' was carried out by Ms. Devika T., Reg. No PWAWMBT009 under my supervision and guidance during the year 2023-24.

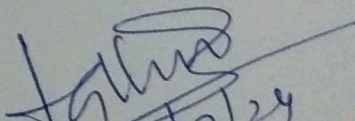
Supervising teacher :

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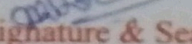
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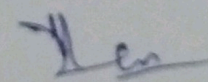
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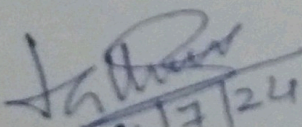
Certified that this dissertation entitled '*Comparative Phytochemical Analysis of Methanol, Acetone and Aqueous leaves extracts of Dicranopteris linearis (Burm.f.) Undrew and Analysis of Antibacterial Activity of Methanolic leaves extract*' was carried out by Ms. FATHIMA SAFA K.M Reg. No PWAWMBT010 under my supervision and guidance during the year 2023-24.

Supervising teacher :  Signature & Seal

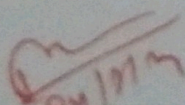
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Date: 03//07/2024

CERTIFICATE

Certified that this dissertation entitled 'Effect of automobile pollution and comparative assessment of air pollution tolerance index (APTI) of selected plants from two different locations in Kozhikode' was carried out by Ms. JIMFA NAHVIN P.G, Reg. No PWAWMBT012 under my supervision and guidance during the year 2023-24.

Supervising teacher :

HoD :

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Examiners

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<mailto:pwcbotany@gmail.com>

Date: 03//07/2024

CERTIFICATE

Certified that this dissertation entitled 'Ethnomedicinal properties and Indigenous knowledge documentation of the Kurichiar tribe of Idiyamvayal, Wayanad' was carried out by Ms. Kavya Chandran V M, Reg. No PWAWMBT013 under my supervision and guidance during the year 2023-24.

Supervising teacher :

Dr. ARCHANA E.R
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Head
Department of Botany
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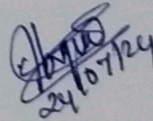
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Date: 03//07/2024

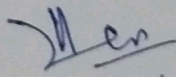
CERTIFICATE

Certified that this dissertation entitled '**Phytochemical analysis and antioxidant activity of selected species in Plumbaginaceae**' was carried out by **Ms. Shyama K**, Reg. No **PWAWMBT016** under my supervision and guidance during the year 2023-24.

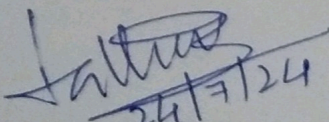
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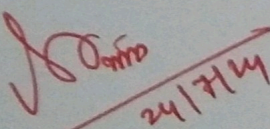

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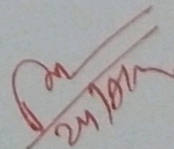
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Head
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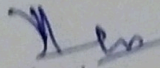
Date:03//07/2024

CERTIFICATE

Certified that this dissertation entitled '**Evaluating the floristic diversity and ecological functions of Valayrott Kavu, a sacred grove in Kozhikode district, kerala**' was carried out by **Ms. SNEHASREE S**, Reg. No **PWAWMBT017** under my supervision and guidance during the year 2023-24.

Supervising teacher :

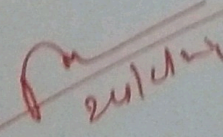
HOD :


Head
Department of Botany
Providence Women's College
Kozhikode-673009, Kerala

Examiners

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2


24/7/24

Department of Commerce

**Department of
Computer Science**

PROVIDENCE WOMEN'S COLLEGE(AUTONOMOUS)

MALAPARAMBA, CALICUT

Department Of Computer Science





CERTIFICATE

This is to certify that this project/thesis entitled "TAC TRACER" submitted here with is an authentic record of the project work done by **Ananya Padmanabhan (PWAWMCS001)**. Submitted under the supervision & guidance of **Ms. SAVITHA SV** in the partial fulfillment of the requirements for award of **MASTER OF COMPUTER SCIENCE** during the academic year 2022-2024 at Providence Women's College (Autonomous) Malaparamba, Calicut.

Project Co-ordinator
Dept. of Computer Science
Providence Women's College
Calicut-9

Head of Department
Dept. of Computer Science
Providence Women's College
Calicut-9

External Examiner

1. *Pence Joy* 
2. *Savitha S.V* 

Place:

Date:

09/07/2024

TAC TRACER
A PROJECT REPORT

SUBMITTED BY
ANANYA PADMANABHAN

PWAWMCS001



DEPARTMENT OF COMPUTER SCIENCE
PROVIDENCE WOMEN'S COLLEGE
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DBT Star College, Re-Accredited with Grade A++ by NAAC (3.65)

(AFFILIATED TO THE UNIVERSITY OF CALICUT)

Malaparamba, Kozhikode-673009

2022 - 2024

ZENZONE

A PROJECT REPORT

SUBMITTED BY

ASIMA E

PWAWMCS002

**FOR THE AWARD OF THE
DEGREE OF MASTER OF SCIENCE (M.Sc.) IN
COMPUTER SCIENCE
(UNIVERSITY OF CALICUT)**



**DEPARTMENT OF COMPUTER SCIENCE
PROVIDENCE WOMEN'S COLLEGE
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**DBT Star College, Re-Accredited with Grade A++ by NAAC(3.65)
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2022 - 2024

**PROVIDENCE WOMEN'S COLLEGE (AUTONOMOUS)
MALAPARAMBA, CALICUT**

Department Of Computer Science



CERTIFICATE

This is to certify that this project/thesis entitled "ZENZONE" submitted here with is an authentic record of the project work done by **Asima E (PVAWMCS002)**. Submitted under the supervision & guidance of **Ms. SHILKA MV** in the partial fulfillment of the requirements for award of **MASTER OF COMPUTER SCIENCE** during the academic year 2022-2024 at Providence Women's College (Autonomous) Malaparamba, Calicut.


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Providence Women's College
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Head of Department
Dept. of Computer Science
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Calicut-9

External Examiner

1.  Perince
2.  Savitha S.V

Place:

Date:

09/07/2024

EM DRUG

A PROJECT REPORT

SUBMITTED BY

DHARMAJA

PWAWMCS003

**FOR THE AWARD OF THE
DEGREE OF MASTER OF SCIENCE (M.Sc.) IN
COMPUTER SCIENCE
(UNIVERSITY OF CALICUT)**



**DEPARTMENT OF COMPUTER SCIENCE
PROVIDENCE WOMEN'S COLLEGE
(AUTONOMOUS)**

**DBT Star College, Re-Accredited with Grade A++ by NAAC(3.65)
(AFFILIATED TO THE UNIVERSITY OF CALICUT)**

Malaparamba, Kozhikode - 673009

2022 - 2024

**PROVIDENCE WOMEN'S COLLEGE (AUTONOMOUS)
MALAPARAMBA, CALICUT**

Department Of Computer Science



CERTIFICATE

This is to certify that this project/thesis entitled "EM DRUG" submitted here with is an authentic record of the project work done by **Dharmaja (PWAWMCS003)**. Submitted under the supervision & guidance of **Ms. SHARANYA VP** in the partial fulfillment of the requirements for award of **MASTER OF COMPUTER SCIENCE** during the academic year 2022-2024 at Providence Women's College (Autonomous), Malaparamba, Calicut.

Sharanya V.P.

Project Co-ordinator

Department of Computer Science
Providence Women's College
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Savitha S.V.

Head of Department

Department of Computer Science
Providence Women's College
Calicut-9

External Examiner

- Pernice C.P.* 09/07
- Savitha S.V.*

Place:

Date:

KTD
09/07/2024

BLIND ASSISTANCE

A PROJECT REPORT

SUBMITTED BY

HIBA JASMINE P V

PWAWMCS004

**FOR THE AWARD OF THE
DEGREE OF MASTER OF SCIENCE (M.Sc.) IN
COMPUTER SCIENCE
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**DEPARTMENT OF COMPUTER SCIENCE
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(AUTONOMOUS)**

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Malaparamba, Kozhikode - 673009

2022 - 2024

PROVIDENCE WOMEN'S COLLEGE (AUTONOMOUS)

MALAPARAMBA, CALICUT

Department Of Computer Science



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This is to certify that this project/thesis entitled "BLIND ASSISTANCE" submitted here with is an authentic record of the project work done by **HIBA JASMINE P V (PWAWMCS004)**. Submitted under the supervision & guidance of Ms. **ANNA JACOB** in the partial fulfillment of the requirements for award of **MASTER OF COMPUTER SCIENCE** during the academic year 2022-2024 Under University of Calicut at Providence Women's College(Autonomous),Malaparamba Calicut.

ANNA JACOB

Project Coordinator

Dep. of Computer Science
Providence Women's College
Calicut-9

Savitha S V

Head of Department

External Examiner

- 1.
- 2.

Place:

Date:

04/07/2024

SORTSAVVY

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SUBMITTED BY

MARVA M

PWAWMCS005

**FOR THE AWARD OF THE
DEGREE OF MASTER OF SCIENCE (M.Sc.) IN
COMPUTER SCIENCE
(UNIVERSITY OF CALICUT)**



**DEPARTMENT OF COMPUTER SCIENCE
PROVIDENCE WOMEN'S COLLEGE
(AUTONOMOUS)**

**DBT Star College, Re-Accredited with Grade A++ by NAAC (3.65)
(AFFILIATED TO THE UNIVERSITY OF CALICUT)**

Malaparamba, Kozhikode - 673009

2022 - 2024

**PROVIDENCE WOMEN'S COLLEGE (AUTONOMOUS)
MALAPARAMBA, CALICUT**


Department Of Computer Science



CERTIFICATE

This is to certify that this project/thesis entitled "SORTSAVVY" submitted here with is an authentic record of the project work done by **MARVA M (PVAWMCS005)**. Submitted under the supervision & guidance of **Ms. ANJU MOHAN P** in the partial fulfillment of the requirements for award of **MASTER OF COMPUTER SCIENCE** during the academic year 2022-2024 at Providence Women's College (Autonomous) Malaparamba, Calicut.


Project Co-ordinator
Dept. of Computer Science
Providence Women's College
Calicut-9

Savitha.s.v 
Head of Department
Dept. of Computer Science
Providence Women's College
Calicut-9

External Examiner

1. **Prince Jay** 
2. **Savitha.s.v** 

Place:

Date:


09/07/2024

SMART ADS

A PROJECT REPORT

SUBMITTED BY

NABEELA V K

PWAWMCS006

**FOR THE AWARD OF THE
DEGREE OF MASTER OF SCIENCE (M.Sc.) IN
COMPUTER SCIENCE
(UNIVERSITY OF CALICUT)**



**DEPARTMENT OF COMPUTER SCIENCE
PROVIDENCE WOMEN'S COLLEGE
(AUTONOMOUS)**

**DBT Star College, Re-Accredited with Grade A++ by NAAC(3.65)
(AFFILIATED TO THE UNIVERSITY OF CALICUT)**

Malaparamba, Kozhikode - 673009

2022 - 2024

**PROVIDENCE WOMEN'S COLLEGE CALICUT(AUTONOMOUS)
MALAPARAMBA,CALICUT**

Department Of Computer Science



CERTIFICATE

This is to certify that this project/thesis entitled "SMART ADS " submitted here with is an authentic record of the project work done by **NABEELA V K (PWAWMCS006)**. Submitted under the supervision & guidance of **Ms. DILNA K ULLASKUMAR** in the partial fulfillment of the requirements for award of **MASTER OF COMPUTER SCIENCE** during the academic year 2022-2024 at Providence Women's College(Autonomous) Malaparamba, Calicut.

DKU

Project Co-ordinator
Dept. of Computer Science
Providence Women's College
Calicut-9

Sawitha.S.V

[Signature]

Head of Department
Dept. of Computer Science
Providence Women's College
Calicut-9

External Examiner

- 1. Pamee [Signature]*
- 2. Sawitha.S.V*

Place:

Date:

[Signature]
09/07/2024

PROCTO GUARD

A PROJECT REPORT

SUBMITTED BY

NAJA FATHIMA MK

PWAWMCS007

**FOR THE AWARD OF THE
DEGREE OF MASTER OF SCIENCE (M.Sc.) IN
COMPUTER SCIENCE
(UNIVERSITY OF CALICUT)**



**DEPARTMENT OF COMPUTER SCIENCE
PROVIDENCE WOMEN'S COLLEGE
(AUTONOMOUS)**

**DBT Star College, Re-Accredited with Grade A++ by NAAC(3.65)
(AFFILIATED TO THE UNIVERSITY OF CALICUT)
Malaparamba, Kozhikode - 673009**

2022 - 2024

PROVIDENCE WOMEN'S COLLEGE (AUTONOMOUS)
MALAPARAMBA, CALICUT

Department Of Computer Science



CERTIFICATE

This is to certify that this project/thesis entitled "**PROCTO GUARD**" submitted here with is an authentic record of the project work done by **Naja Fathima MK (PVAWMCS007)**. Submitted under the supervision & guidance of **Ms. SHARANYA VP** in the partial fulfillment of the requirements for award of **MASTER OF COMPUTER SCIENCE** during the academic year 2022-2024 Under University of Calicut at Providence Women's College (Autonomous) Malaparamba, Calicut.

Sharanya V.P.

Project Co-ordinator
Dept. of Computer Science
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Savitha S.V.

Head of Department
Dept. of Computer Science
Providence Women's College
Calicut-9

External Examiner

- Prince P.P.*
- Savitha S.V.*

Place:

Date:

09/07/2024

DROPO-SENS

A PROJECT REPORT

SUBMITTED BY
RAYEESHA SHANU

PWAWMCS008

**FOR THE AWARD OF THE
DEGREE OF MASTER OF SCIENCE (M.Sc.) IN
COMPUTER SCIENCE
(UNIVERSITY OF CALICUT)**



**DEPARTMENT OF COMPUTER SCIENCE
PROVIDENCE WOMEN'S COLLEGE
(AUTONOMOUS)**

**DBT Star College, Re-Accredited with Grade A++ by NAAC(3.65)
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Malaparamba, Kozhikode - 673009**

2022 - 2024

PROVIDENCE WOMEN'S COLLEGE (AUTONOMOUS)
MALAPARAMBA, CALICUT
Department Of Computer Science



CERTIFICATE


This is to certify that this project/thesis entitled "DROPO-SENS" submitted here with is an authentic record of the project work done by **Rayeesha shanu(PWAWMCS008)**. Submitted under the supervision & guidance of **Ms. ANNA JACOB** in the partial fulfillment of the requirements for award of **MASTER OF COMPUTER SCIENCE** during the academic year 2022-2024 Under at Providence Women's College (Autonomous), Malaparamba, Calicut.

ANNA JACOB

Project Co-ordinator

Dept. of Computer Science
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Calicut-9

External Examiner

1. **Prince** 
2. **Savitha S.V**

Place:

Date:

Dept. of Computer Science
Providence Women's College
Calicut

Savitha S.V 

Head of Department


09/07
09/07/2024

VITASCAN

A PROJECT REPORT

SUBMITTED BY

SAFA SHERIN P

PWAWMCS009

**FOR THE AWARD OF THE
DEGREE OF MASTER OF SCIENCE (M.Sc.) IN
COMPUTER SCIENCE
(UNIVERSITY OF CALICUT)**



**DEPARTMENT OF COMPUTER SCIENCE
PROVIDENCE WOMEN'S COLLEGE
(AUTONOMOUS)**

**DBT Star College, Re-Accredited with Grade A++ by NAAC(3.65)
(AFFILIATED TO THE UNIVERSITY OF CALICUT)**

Malaparamba, Kozhikode - 673009

2022 - 2024

PROVIDENCE WOMEN'S COLLEGE (AUTONOMOUS)
MALAPARAMBA, CALICUT
Department Of Computer Science



CERTIFICATE

This is to certify that this project/thesis entitled "VITA-SCAN" submitted here with is an authentic record of the project work done by **Safa Sherin P (PVAWMCS008)**. Submitted under the supervision & guidance of **Ms. ANJU MOHAN P** in the partial fulfillment of the requirements for award of **MASTER OF COMPUTER SCIENCE** during the academic year 2022-2024 Under at Providence Women's College (Autonomous), Malaparamba, Calicut.

Project Co-ordinator
Dept. of Computer Science
Providence Women's College
Calicut-9

Head of Department
Dept. of Computer Science
Providence Women's College
Calicut-9

External Examiner

1. 09/07
2.

Place:

Date:

09/07/2024

FIRE GUARD
A PROJECT REPORT

SUBMITTED BY
SHIBINA PC
PWAWMCS010

FOR THE AWARD OF THE
DEGREE OF MASTER OF SCIENCE (M.Sc.) IN
COMPUTER SCIENCE
(UNIVERSITY OF CALICUT)



DEPARTMENT OF COMPUTER SCIENCE
PROVIDENCE WOMEN'S COLLEGE
(AUTONOMOUS)

DBT Star College, Re-Accredited with Grade A++ by NAAC(3.65)
(AFFILIATED TO THE UNIVERSITY OF CALICUT)
Malaparamba, Kozhikode - 673009

2022 - 2024

PROVIDENCE WOMEN'S COLLEGE CALICUT

(AUTONOMOUS)

Department Of Computer Science



CERTIFICATE

This is to certify that this project/thesis entitled "**FIRE GUARD**" submitted here with is an authentic record of the project work done by **Shibina PC (PVAWMCS010)**. Submitted under the supervision & guidance of **Ms. DILNA K ULLASKUMAR** in the partial fulfillment of the requirements for award of **MASTER OF COMPUTER SCIENCE** during the academic year 2022-2024 at Providence Women's College (Autonomous), Malaparamba Calicut.

[Handwritten signature]

Project Co-ordinator
Dept. of Computer Science
Providence Women's College
Calicut-9

Savitha-S.V

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Head of Department
Dept. of Computer Science
Providence Women's College
Calicut-9

External Examiner

- Prinnee [Handwritten signature]*
- Savitha-S.V [Handwritten signature]*

Place:

Date:

09/07/2024

**Department of
English**

**Department of
Mathematics and Statistics**

NUMERICAL APPROXIMATIONS FOR AN SEIR COVID-19 MODEL USING THE DIFFERENTIAL TRANSFORM AND RUNGE-KUTTA METHODS

PROJECT REPORT SUBMITTED TO
CALICUT UNIVERSITY

BY

AISWARYA V C

REG NO: PWAVSMT001

VISMAYA N

REG NO: PWAVSMT004

NITA ANN THOMAS

REG NO: PWAVSMT035



DEPARTMENT OF MATHEMATICS
PROVIDENCE WOMEN'S COLLEGE

CALICUT-673009

2021-2024

CERTIFICATE

This is to certify that the project titled NUMERICAL APPROXIMATIONS FOR AN SEIR COVID19 MODEL USING THE DIFFERENTIAL TRANSFORM AND RUNGE-KUTTA METHODS submitted to Calicut University in partial fulfillment of the requirements of BACHELOR OF SCIENCE in MATHEMATICS is a bonafide record of original project done by Miss. AISWARYA V. C., Miss. VISMAYA N. and Miss. NITA ANN THOMAS, during their study in the Department of Mathematics, Providence Women's College, Calicut-09 under my supervision and guidance.



Dr. Shyni U.K.

Project Guide

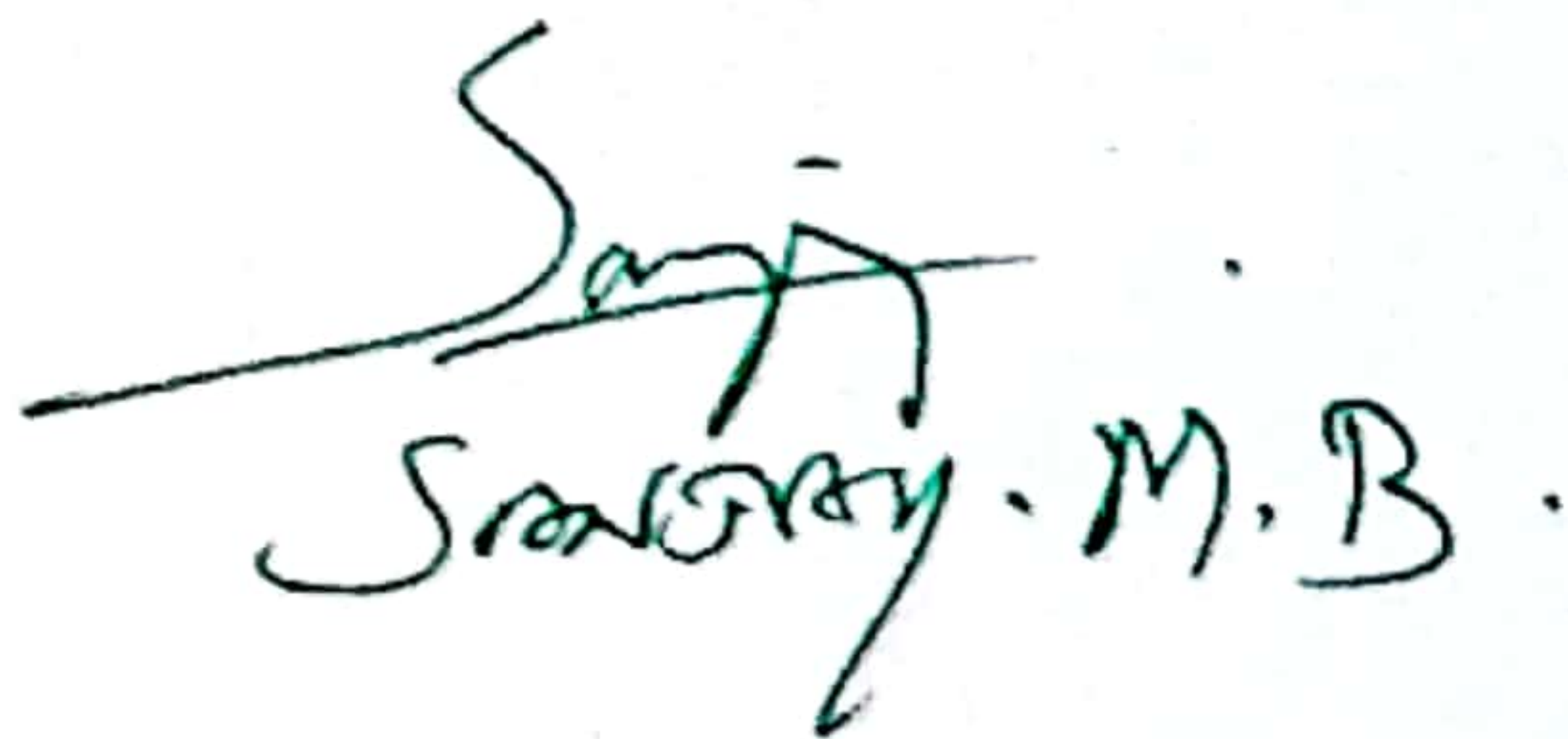
Assistant Professor

Department of Mathematics



Head of the Department

Ms. Aiswarya Paul



Sanjay M.B.

MATHEMATICS IN BIOINFORMATICS AND GENOMIC DATA ANALYSIS

PROJECT REPORT SUBMITTED TO
CALICUT UNIVERSITY

BY

MARIYAM K.M REG.NO:PWAVSMT002
NOORA ASHRAF K.P REG.NO:PWAVSMT011
RABA E.K REG.NO:PWAVSMT012



DEPARTMENT OF MATHEMATICS
PROVIDENCE WOMEN'S COLLEGE

CALICUT-673009

2021-2024

CERTIFICATE

This is to certify the project titled MATHEMATICS IN BIOINFORMATICS AND GENOMIC DATA ANALYSIS submitted to Calicut University in partial fulfillment of the requirements of BACHELOR OF SCIENCE in MATHEMATICS is a bonafide record of original project done by Miss. MARIYAM K.M, Miss. NOORA ASHRAF K.P and Miss. RABA E.K during their study in the Department of Mathematics, Providence Women's College, Calicut – 09 under my supervision and guidance.




Dr. Shyni U K

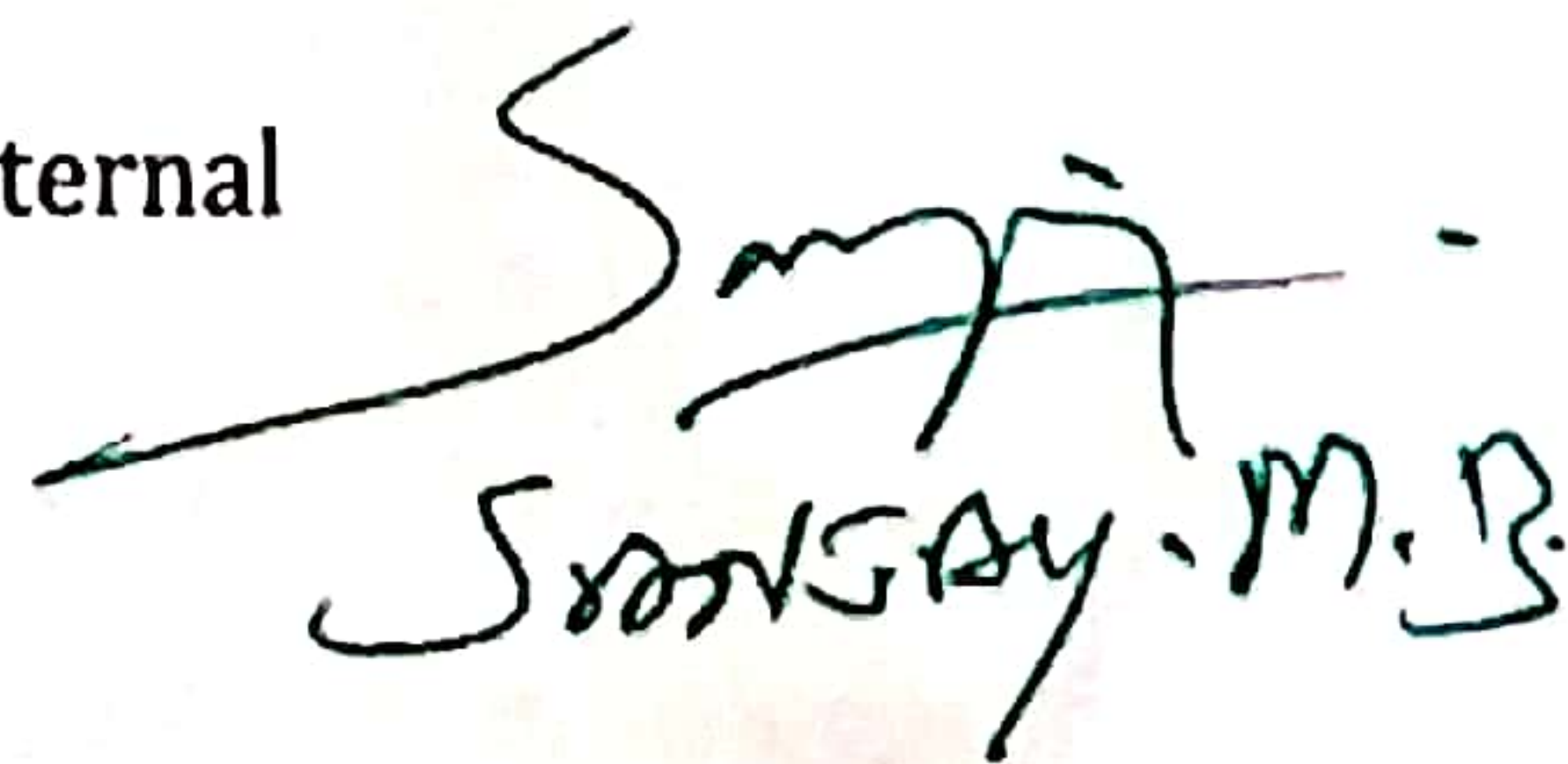
Project Guide

Assistant Professor

Department of Mathematics


Head of Department
Ms. Aiswarya Paul

External



SARVAGAY - M. B.

MATHEMATICS IN PHARMACOKINETICS

PROJECT REPORT SUBMITTED TO

CALICUT UNIVERSITY

BY

AMRUTHA VIJITH T REG.NO: PWAVSMT005

FATHIMA AFRA TN REG.NO: PWAVSMT007

ANENA PP REG.NO: PWAVSMT021



**DEPARTMENT OF MATHEMATICS
PROVIDENCE WOMEN'S COLLEGE**

CALICUT-673009

2021-2024

CERTIFICATE

This is to certify the project titled MATHEMATICS IN PHARMACOKINETICS submitted to Calicut university in partial fulfillment of the requirements of BACHELOR OF SCIENCE in MATHEMATICS is a bonafide record of original project done by Miss. AMRUTHA VIJITH T, Miss. FATHIMA AFRA TN,

Miss. ANENA PP during their study in the Department of Mathematics, Providence Women's College, Calicut-09 under my supervision and guidance.



Ms. Shibina A K

Project Guide

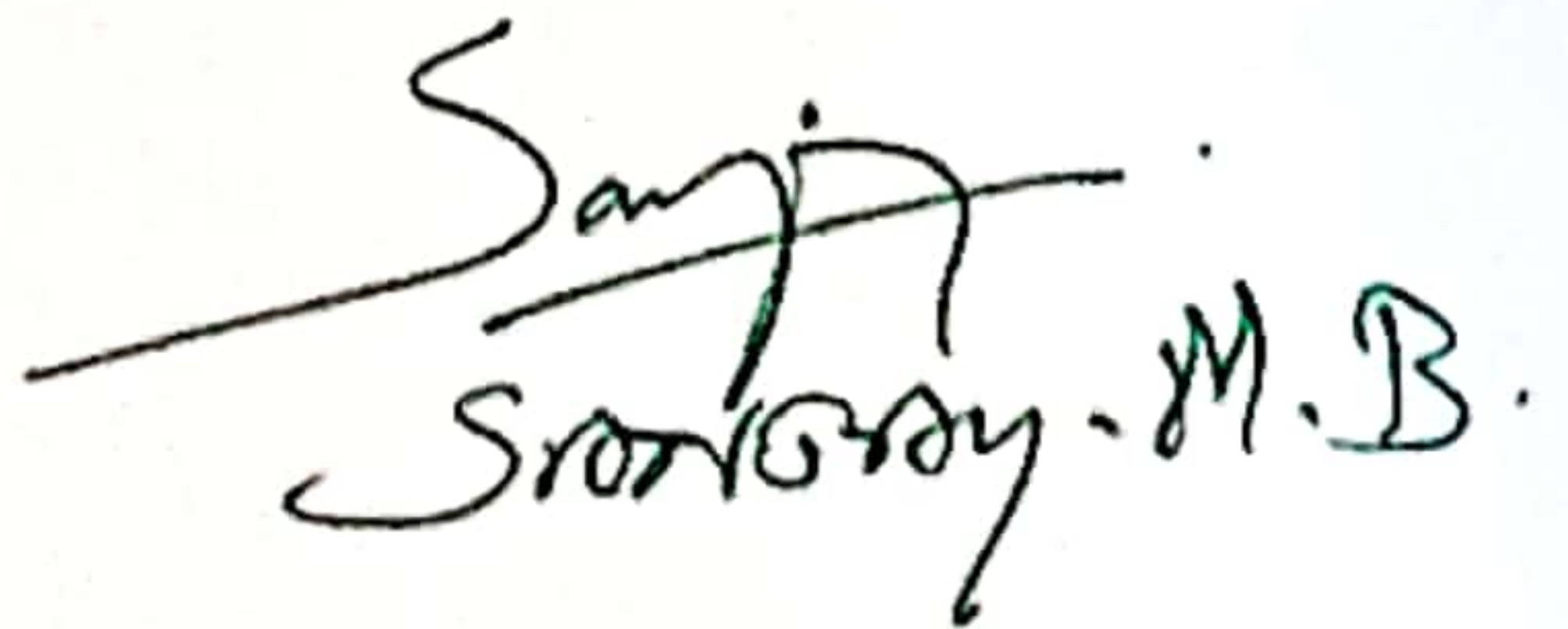
Assistant Professor

Department of Mathematics



Head of Department

Ms. Aiswarya Paul



**APPLICATION OF MATHEMATICS IN MUTATION
AND DNA TOPOLOGY**

**PROJECT REPORT SUBMITTED TO
CALICUT UNIVERSITY**

BY

ANAMIKA S

REG. NO: PWAVSMT006

NANDANA N

REG.NO: PWAVSMT010



**DEPARTMENT OF MATHEMATICS
PROVIDENCE WOMEN'S COLLEGE**

CALICUT-673009

2021-2024

CERTIFICATE

This is to certify the project titled APPLICATION OF MUTATION AND DNA TOPOLOGY submitted to Calicut university in partial fulfillment of the requirements of BACHELOR OF SCIENCE in MATHEMATICS is a bonafide record of original project done by Miss. ANAMIKA S and Miss. NANDANA N during their study in the department of mathematics, Providence Women's college, Calicut-09 under my supervision and guidance.



Ms. Shibina A K

Project Guide

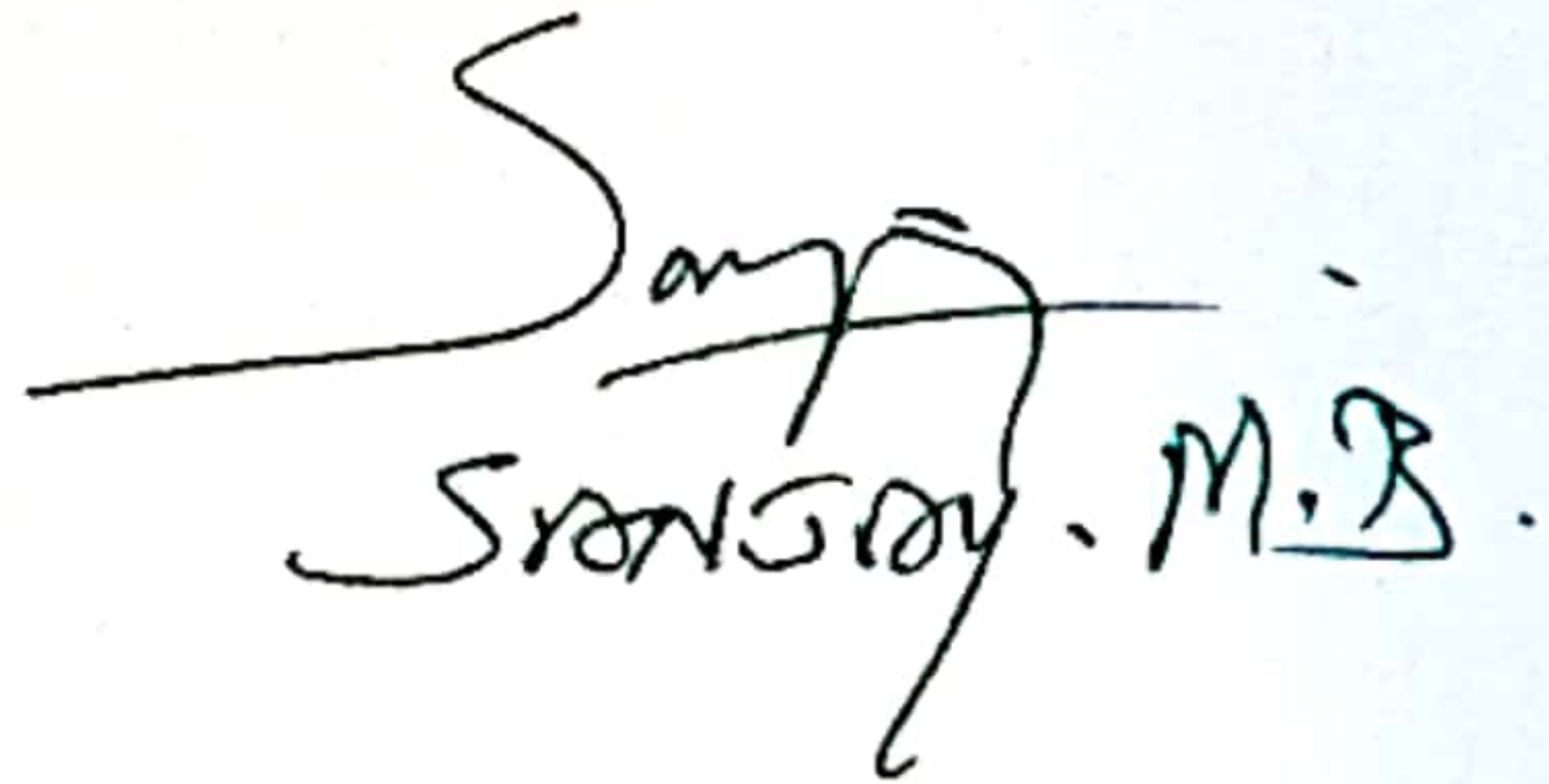
Assistant Professor

Department of Mathematics



Head of Department

Ms. Aiswarya Paul



Sangay M.B.

MATHEMATICAL ONCOLOGY

PROJECT REPORT SUBMITTED TO

CALICUT UNIVERSITY

BY

FATHIMA NUSFA S REG.NO: PWAVSMT008

AYSHA SHAMLA T.T REG.NO: PWAVSMT026

FASEENA REG.NO: PWAVSMT028



DEPARTMENT OF MATHEMATICS

PROVIDENCE WOMEN'S COLLEGE

CALICUT-673009

2021-2024

CERTIFICATE

This is to certify the project titled MATHEMATICAL ONCOLOGY submitted to Calicut University in partial fulfilments of the requirements of BACHELOR OF SCIENCE in MATHEMATICS is a bonafide record of original project done by Miss. FATHIMA NUSFA .S, Miss FASEENA and Miss. AYSHA SHAMLA T.T during their study in the Department of Mathematics, Providence Women's College, Calicut-09 under my supervision and guidance.

Aiswarya

Ms. Aiswarya Paul

Project Guide

Assistant Professor

Department of Mathematics

Aiswarya

Head of Department

Ms. Aiswarya Paul

Sanjay
Sanjay.M.B.

MATHEMATICS IN OPHTHALMOLOGY
PROJECT REPORT SUBMITTED TO
CALICUT UNIVERSITY
BY

JAHANA SHERIN I K
DEVIKA PRADEESH
SWALIHA JINANA

REG NO: PWAVSMT009
REG NO: PWAVSMT027
REG NO: PWAVSMT039



DEPARTMENT OF MATHEMATICS
PROVIDENCE WOMEN'S COLLEGE
CALICUT - 673009
2021-2024

CERTIFICATE

This is to certify the project titled MATHEMATICS IN OPHTHALMOLOGY submitted to Calicut University in partial fulfillment of the requirements of BACHELOR OF SCIENCE in MATHEMATICS is a bona fide record of original project done by Miss. JAHANA SHERIN I K, Miss. DEVIKA PRADEESH and Miss. SWALIHA JINANA during their study in the department of mathematics, Providence Women's College, Calicut-09 under my supervision and guidance.

Ms. Aiswarya K.K



Project Guide

Department of Mathematics



Head of Department

Ms. Aiswarya Paul



Sanjay M.B.

FRACTAL GEOMETRY

PROJECT REPORT SUBMITTED TO
UNIVERSITY OF CALICUT

BY

AJANYA V.S

Reg. no: PWAVSMT017

ASWATHY C.T

Reg. no: PWAVSMT024

GOPIKA P

Reg. no: PWAVSMT032



DEPARTMENT OF MATHEMATICS
PROVIDENCE WOMEN'S COLLEGE

CALICUT 673009

2023 - 2024

CERTIFICATE

This is to certify the project titled FRACTAL GEOMETRY submitted to Calicut university in partial fulfillment of the requirements of BACHELOR OF SCIENCE in MATHEMATICS is a bonafide record of original project done by Miss. AJANYA V S, Miss. ASWATHY C T and Miss. GOPIKA P during their study in the department of mathematics, providence women's college, Calicut-09 under my supervision and guidance.

Aiswarya Paul

Smt. AISWARYA PAUL

Project Guide

Assistant Professor

Department of Mathematics

Aiswarya Paul

Head of the Department

Smt. AISWARYA PAUL

Sanjay M. B.

MATHEMATICAL MODELLING OF INFECTIOUS DISEASES

PROJECT REPORT SUBMITTED TO
CALICUT UNIVERSITY

BY

AMINA FARHA M K REG.NO: PWAVSMT019

POOJA PRAKASH REG. NO: PWAVSMT003

RANA FATHIMA P REG. NO: PWAVSMT013



DEPARTMENT OF MATHEMATICS
PROVIDENCE WOMEN'S COLLEGE

CALICUT-673009

2021-2024

CERTIFICATE

This is to certify the project titled MATHEMATICAL MODELLING OF INFECTIOUS DISEASE submitted to Calicut university in partial fulfillment of the requirements of BACHELOR OF SCIENCE in MATHEMATICS is a bonafide record of original project done by Miss. AMINA FARHA MK, Miss. RANAFATHIMA P and Miss. POOJA PRAKASH during their study in the department of mathematics, providence women's college, Calicut-09 under my supervision and guidance.



Ms. Punnya P.P

Project Guide

Assistant Professor

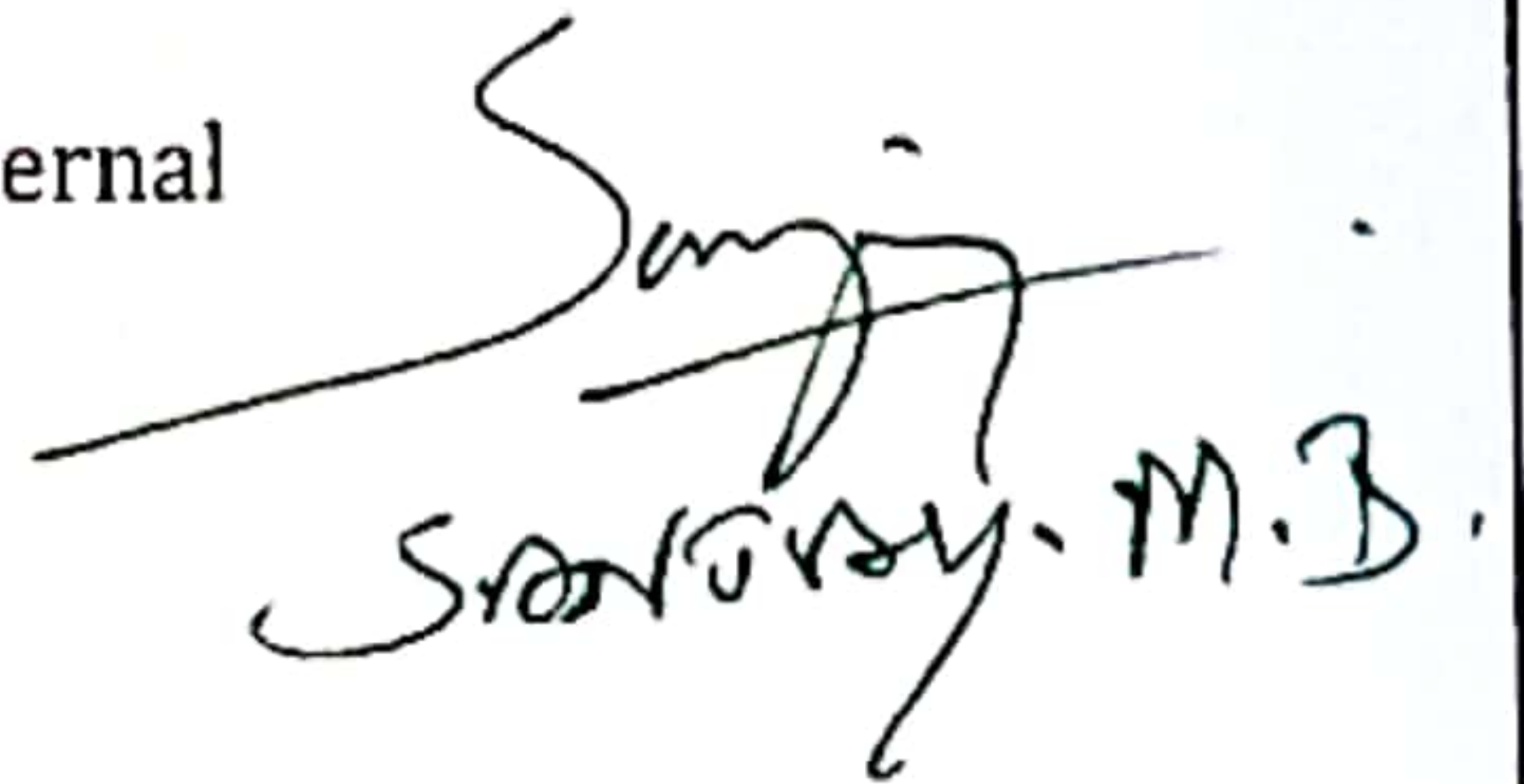
Department of Mathematics



Head of Department

Ms. Aiswarya Paul

External



Sanjay M.B.

MATHEMATICS IN FACIAL SURGERIES

PROJECT REPORT SUBMITTED TO
CALICUT UNIVERSITY

BY

ARYA K

REG NO: PWAVSMT040

ANAGHA SHAJITH P

REG NO: PWAVSMT020

RIYA RUKKIYA P T

REG NO: PWAVSMT038



DEPARTMENT OF MATHEMATICS

PROVIDENCE WOMEN'S COLLEGE

CALICUT-673009

2021-2024

CERTIFICATE

This is to certify that the project titled MATHEMATICS IN FACIAL SURGERIES submitted to Calicut University in partial fulfilment of the requirements of BACHELOR OF SCIENCE in MATHEMATICS is a bonafide record of original project done by Miss ARYA K, Miss ANAGHA SHAJITH P, Miss RIYA RUKKIYA P T during their study in the Department of Mathematics, Providence Women's College, Calicut -09 under my supervision and guidance.



Dr Nitha Niralda P.C

Project Guide

Assistant professor

Department of mathematics



Head of Department

Ms. Aiswarya Paul



Somya M.B.

MATHEMATICS IN POSTMORTEM & FORENSIC ANALYSIS

PROJECT REPORT SUBMITTED TO

CALICUT UNIVERSITY

BY

ANUSHA K

REG NO: PWAVSMT022

SNEHA KRISHNAN K

REGNO:PWAVSMT015

THEJALAKSHMI E T

REGNO:PWAVSMT016



DEPARTMENT OF MATHEMATICS

PROVIDENCE WOMEN'S COLLEGE

CALICUT - 673009

2021-2024

CERTIFICATE

This is to certify the project titled POSTMORTEM & FORENSIC ANALYSIS submitted to Calicut university in partial fulfillment of the requirements of BACHELOR OF SCIENCE in MATHEMATICS is a bonafide record of original project done by Miss. ANUSHA K, Miss. SNEHA KRISHNAN K and Miss. THEJALAKSHMI ET during their study in the department of mathematics, providence women's college, Calicut-09 under my supervision and guidance.

Ms.Aiswarya. K.K



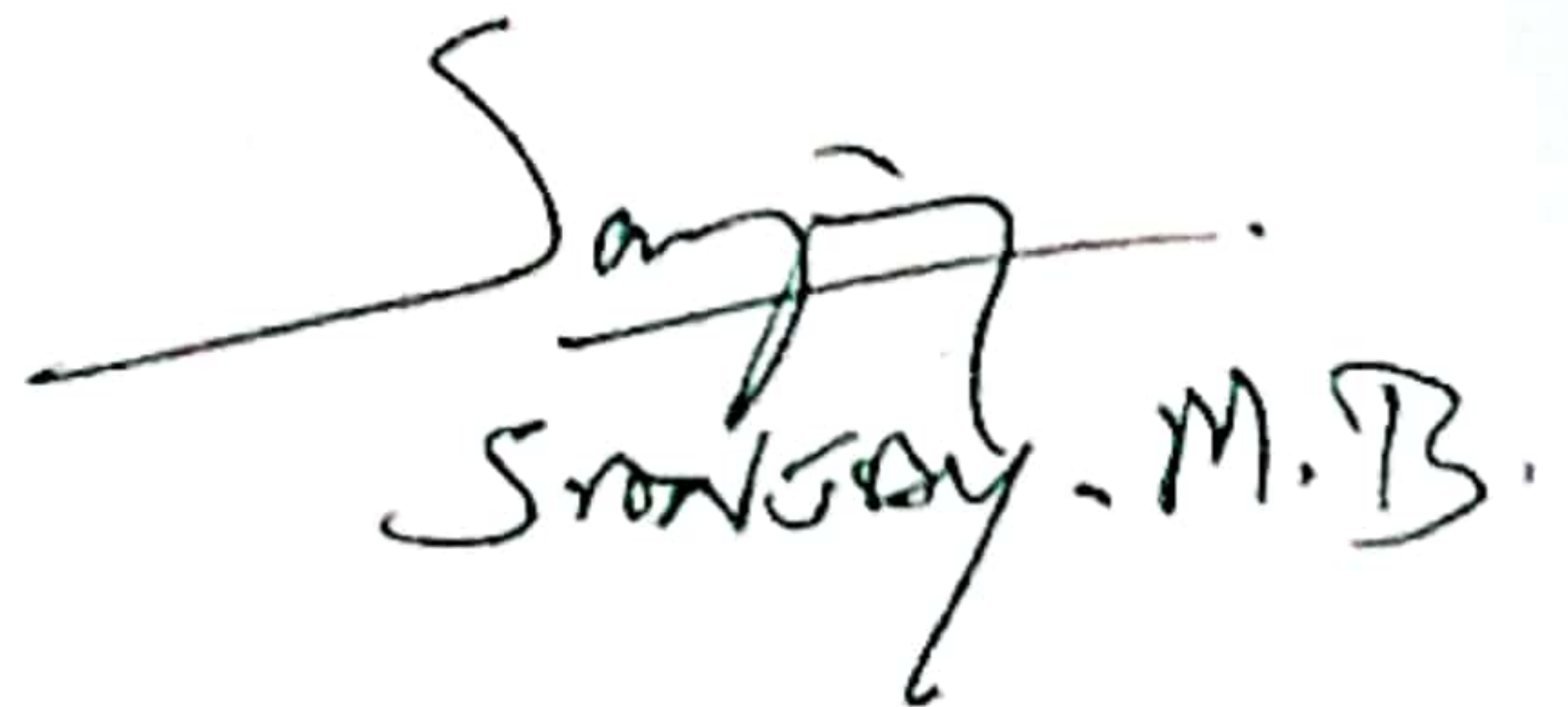
Project guide

Department of mathematics



Head of Department

Ms. Aiswarya Paul



Sanjay - M.B.

MATHEMATICAL MODELING OF CORNEAL EPITHELIAL WOUND HEALING

PROJECT SUBMITTED TO
CALICUT UNIVERSITY

BY

ARATHI KRISHNA K C REG. NO: PWAVSMT023
FATHIMA BATHOOL K REG. NO: PWAVSMT029
GOPIKA M REG. NO: PWAVSMT031



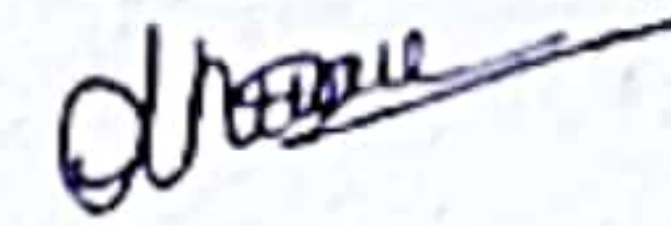
DEPARTMENT OF MATHEMATICS
PROVIDENCE WOMEN'S COLLEGE

CALICUT - 673009

2021-2024

CERTIFICATE

This is to certify the project titled MATHEMATICAL MODELING OF CORNEAL EPITHELIAL WOUND HEALING submitted to Calicut university in partial fulfillment of the requirements of BACHELOR OF SCIENCE in MATHEMATICS is a bonafide record of original project done by Miss. ARATHI KRISHNA K C, Miss. FATHIMA BATHOOL K and Miss. GOPIKA M during their study in the department of mathematics, providence women's college, Calicut-09 under my supervision and guidance.



Dr. Nitha Niralda P.C

Project Guide

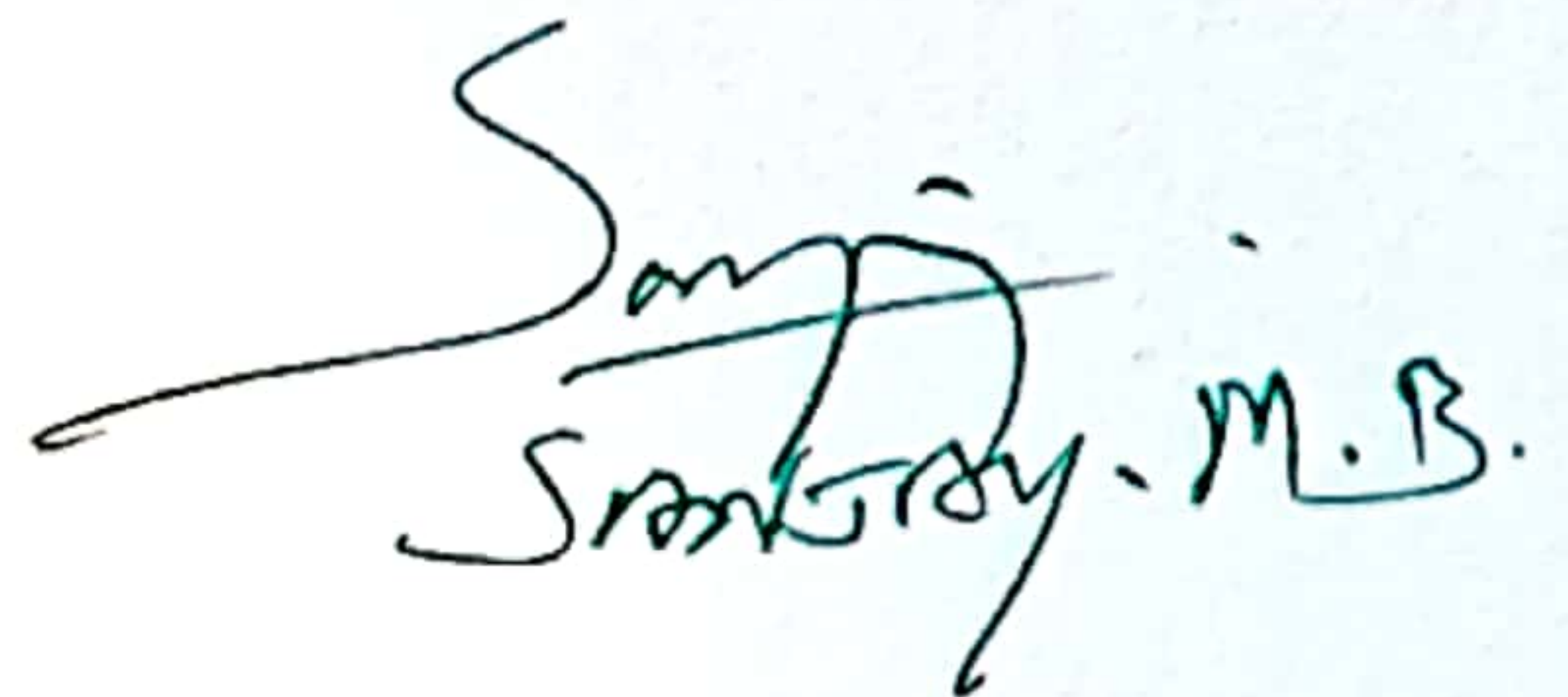
Assistant Professor

Department of Mathematics



Head of Department

Ms. Aiswarya Paul



Sanjay M.B.

APPLICATION OF MATHEMATICS IN CARDIOLOGY

PROJECT REPORT SUBMITTED TO

CALICUT UNIVERSITY

BY

AVANTHIKA S ANAND REG. NO: PWAVSMT025

GOPIKA AJITH REG. NO: PWAVSMT030

NANDANA.S REG. NO:PWAVSMT034



DEPARTMENT OF MATHEMATICS

PROVIDENCE WOMEN'S COLLEGE

CALICUT-673009

2021-2024

CERTIFICATE

This is to certify the project titled **APPLICATION OF MATHEMATICS IN CARDIOLOGY** submitted to Calicut University in partial fulfillment of the requirements of **BACHELOR OF SCIENCE in MATHEMATICS** is a bonafide record of original project done by Miss. **AVANTHIKA S ANAND**, Miss. **GOPIKA AJITH** and Miss. **NANDANA S** during their study in the Department of Mathematics, providence women's college, Calicut-09 under my supervision and guidance.



Ms. Punnya P P

Project Guide

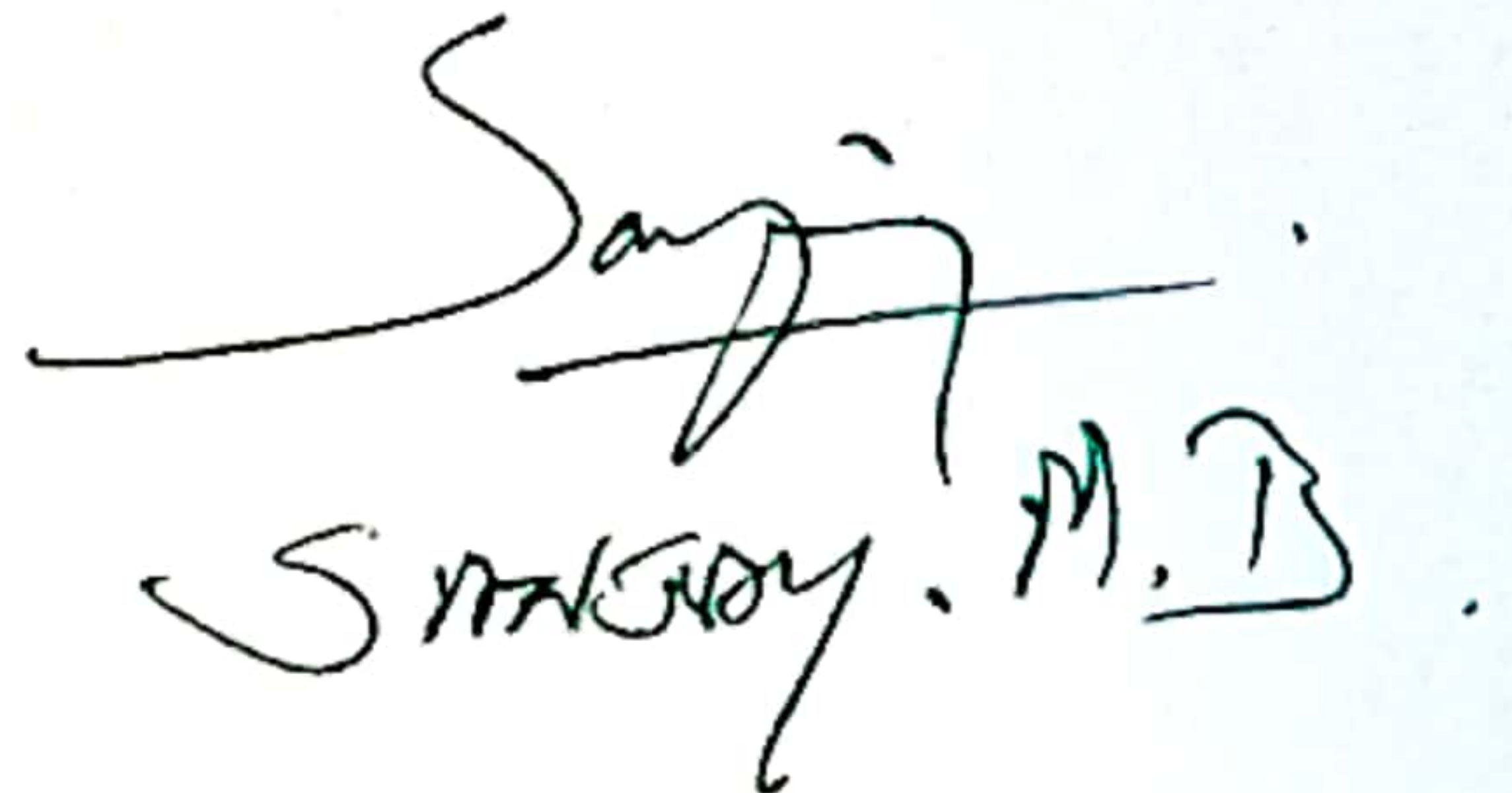
Assistant Professor

Department of Mathematics



Head of Department

Ms. Aiswarya Paul



Sanjay M. B.

**APPLICATION OF MATHEMATICS
IN MRI AND CT SCAN**

**PROJECT REPORT SUBMITTED TO
CALICUT UNIVERSITY**

BY

HENNA JOHN

REG NO: PWAVSMT033

NIVEDHITHA VINOD

REG NO: PWAVSMT036

PARVATHY P

REG NO: PWAVSMT037



**DEPARTMENT OF MATHEMATICS
PROVIDENCE WOMEN'S COLLEGE**

CALICUT – 673009

2021-2024

CERTIFICATE

This is to certify that this project entitled **APPLICATION OF MATHEMATICS IN MRI AND CT SCAN** submitted to Calicut University in partial fulfilment of the requirement for the awards of Bachelor of Science in Mathematics is a bonafide record of an original project done by **HENNA JOHN, NIVEDHITHA VINOD, PARVATHY P** during their period of study in the Department of Mathematics and Statistics, Providence Women's College, Calicut-09, under our supervision and guidance.

Nitha

Dr. Nitha Niralda

Project Guide

Professor

Department of Mathematics and

Statistics

Providence Women's College

Calicut

Aiswarya

Ms. Aiswarya Paul

Head of the Department

Department of Mathematics and
Statistics

Providence Women's College

Calicut

Sangay
SANGAY.M.B.

Department of Physics

**SYNTHESIS AND CHARACTERIZATION OF NANOCRYSTALLINE
HYDROXYAPATITE FROM SEA SHELL WASTE AND PEAT WATER
PURIFICATION TREATMENT**

Project report submitted to

UNIVERSITY OF CALICUT

In partial fulfillment of the degree in
MASTER OF SCIENCE IN PHYSICS

By

AKHILA UK (PWAWMPH001)



2022 – 2024

**DEPARTMENT OF PHYSICS
PROVIDENCE WOMEN'S COLLEGE, CALICUT**

CERTIFICATE

This is to certify that the project report entitled "SYNTHESIS AND CHARACTERIZATION OF NANOCRYSTALLINE HYDROXYAPATITE FROM SEA SHELL WASTE AND PEAT WATER PURIFICATION TREATMENT" is submitted in partial fulfilment for the degree of master of science in physics at Providence Women's college affiliated to university of Calicut and is a bonafide record of the project work carried out by Ms. AKHILA U K (Reg.no: PWAWMPH001) under the supervision and guidance of Dr. Sr. RIYA JOSE.

Sini L

Head of the department Dr. SINI L
Head of the Dept. of Physics
Examiners Providence Women's College
Kozhikode-673 009, Kerala

Supervising Guide

Riya 17/7/2024

1) *Dr. Hanikrishnan G.*.....

lwk

2) *Sreekrishna VR*.....

MS

**ESTIMATION OF THE MASS OF A BLACKHOLE USING
SPECTROSCOPY**

Project report submitted to
UNIVERSITY OF CALICUT

In partial fulfilment of the degree in
MASTER OF SCIENCE IN PHYSICS

By
ASWATHIN (PWAWMPH002)



DEPARTMENT OF PHYSICS
PROVIDENCE WOMEN'S COLLEGE(AUTONOMOUS), CALICUT

2022 - 2024

CERTIFICATE

This is to certify that the project report entitled " ESTIMATION OF THE MASS OF A BLACKHOLE USING SPECTROSCOPY" is submitted in partial fulfilment for the degree of master of science in physics at Providence Women's college affiliated to university of Calicut and is a bonafide record of the project work carried out by Ms. ASWATHI N (Reg.no:PWAWMPH002) under the supervision and guidance of Dr. ASWATHY S.

Sini R

Head of the department

Dr. SINI R
Head of the Dept. of Physics
Providence Women's College
Kozhikode-673 009, Kerala

Aswathy S
12/07/2024

Supervising Guide

Dr. ASWATHY. S
Assistant Professor
Department of Physics
Providence Women's College
Calicut-673009

Examiners

- 1)..... *Dr. Hanikrishnan G* *hkg*
2)..... *Sreekrishna V.R.* *ms*

PHOTOMETRIC ANALYSIS OF GALAXY

Project report submitted to

UNIVERSITY OF CALICUT

In partial fulfilment of the degree in

MASTER OF SCIENCE IN PHYSICS

By

AVANI K P (PWAWMPH003)



2022 – 2024

DEPARTMENT OF PHYSICS

PROVIDENCE WOMEN'S COLLEGE, CALICUT

CERTIFICATE

This is to certify that the project report entitled "**PHOTOMETRIC ANALYSIS OF ELLIPTICAL GALAXY**" is submitted in partial fulfilment for the degree of master of science in physics at Providence Women's college affiliated to university of Calicut and is a bonafide record of the project work carried out by Ms. Avani K P (Reg no. PWAWMPH003) under the supervision and guidance of Dr S. Aswathy.

Sini R

Head of the department

Dr. SINI R
Head of the Dept. of Physics
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Kozhikode-673 009, Kerala

Aswathy S
12/07/2024

Supervising guide

Dr. ASWATHY. S
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Examiners

- 1)..... *Dr. Hanshanu* *G* *late*
- 2)..... *Sreekumar - VK* *M*

**VIBRATION ANALYSIS USING MPU6050 SENSORS AND
SEELab**

Report on the Project work submitted to the University of Calicut in partial
fulfilment of the requirements for the Award of
MASTER OF SCIENCE IN PHYSICS

Submitted by

AYSHA JAZBIN P.T.

(Reg.No:PWAWMPH004)



DEPARTMENT OF PHYSICS
PROVIDENCE WOMEN'S COLLEGE (AUTONOMOUS),
CALICUT

2024



Under the Guidance of
DR. MOHAMED SHAHIN THAYYIL
Professor and Head, Department of Physics
University of Calicut

CERTIFICATE

This is to certify that the project report entitled 'VIBRATIONAL ANALYSIS USING MPU6050 SENSORS AND SEELab', submitted by Ms. Aysha Jazbin P.T. of Providence women's college (Autonomous), Calicut to Department of Physics during the period of study 2022-24 towards partial fulfilment of requirements for the award of Degree of Master of Science in Physics of University of Calicut.



Dr. Sini R

Head of Department

Department of Physics

Providence Women's College, Calicut

Dr. SINI R
Head of the Dept. of Physics
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Kozhikode-673 009, Kerala

VIBRATION ANALYSIS USING MPU6050 SENSORS AND

SEELab

Submitted by

AYSHA JAZBIN P.T.

(Reg.No:PWAWMPH004)

The project presentation/viva voce held on 12/07/2024.... at Providence women's college, Calicut is evaluated and approved by

External Examiners

1. Dr. Hanikrishnan G

HK

2. Sreekrishna VR

MS

**EFFECT OF ZINC DOPING ON STRUCTURAL
AND OPTICAL PROPERTIES OF $LaNiO_3$
PEROVSKITE NANOSTRUCTURES**

Project report submitted to
UNIVERSITY OF CALICUT

In partial fulfillment of the degree in
MASTER OF SCIENCE IN PHYSICS

By
DEVIKA E (PVAWMPH005)



2022-2024
DEPARTMENT OF PHYSICS
PROVIDENCE WOMENS COLLEGE, CALICUT

CERTIFICATE

This is to certify that the project entitled "EFFECT OF ZINC DOPING ON STRUCTURAL AND OPTICAL PROPERTIES OF $LaNiO_3$ PEROVSKITE NANOSTRUCTURES" is submitted in partial fulfilment for the degree of master of science in Physics at Providence Women's College affiliated to University of Calicut and is a bona fide record of the project work carried out by Ms. DEVIKA E is working under the supervision and guidance of Ms. Shija K.

Sini R

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Shija K

Supervising Guide

SHIJA. K
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Examiners

1)..... *Dr. Hanikrishna G*

2)..... *Sreekrishna VR*

GROWTH AND CHARACTERISATION OF SINGLE CRYSTALS GROWN USING GEL TECHNIQUE

Project report submitted to
UNIVERSITY OF CALICUT

For the partial fulfilment for the award of the degree in

MASTER OF SCIENCE

IN

PHYSICS

By

FATHIMATH LABEEBA

Reg No: PWAWMPH006



2022 - 2024

DEPARTMENT OF PHYSICS

PROVIDENCE WOMEN'S COLLEGE (AUTONOMOUS), CALICUT

Under the guidance of

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Assistant professor of Physics,

Dayapuram Arts and Science College for women,

Calicut

**DEPARTMENT OF PHYSICS
PROVIDENCE WOMEN'S COLLEGE
(AUTONOMOUS), CALICUT**



CERTIFICATE

This is to certify that the project report entitled "GROWTH AND CHARACTERIZATION OF SINGLE CRYSTALS GROWN USING GEL TECHNIQUE" submitted by FATHIMATH LABEEBA (PWAWMPH006), PROVIDENCE WOMEN'S COLLEGE for the partial fulfilment of the requirement for the award of degree of Master of Science in Physics, is an authentic work carried out by her under the supervision and guidance of Dr. JAYA T P.

Sini

Sini R
Head of Department
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Dr. SINI R
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Examiner

1. Dr. Hanishkhan G *HKG*
2. Sreekrishna VR *SRV*

PRECISE TIME MEASUREMENT IN PHYSICS: EXPLORING FREE FALL, ROLLING MOTION, AND CIRCULAR MOTION USING SEELab

Project report submitted to

UNIVERSITY OF CALICUT

In partial fulfillment of the degree in

MASTER OF SCIENCE IN PHYSICS

By

JEEVA SAJAN(PWAWMPH007)



2022-2024

PROVIDENCE WOMENS COLLEGE,CALICUT



Under the guidance of

DR. MOHAMED SHAHIN THAYYIL

Professor and Head, Department of Physics

University of Calicut

CERTIFICATE

This is to certify that the project entitled "PRECISE TIME MEASUREMENT IN PHYSICS: EXPLORING FREE FALL, ROLLING MOTION, AND CIRCULAR MOTION USING SEELab" is submitted in partial fulfillment for the degree of master of science in Physics at Providence Women's College affiliated to university of Calicut and is a bonafide record of the project work carried out by Ms. Jeeva Sajan under the supervision and guidance of Dr. Mohamed Shahin Thayyil.



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Dr. Mohamed Shahin Thayyil
Supervising Guide
Professor
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University of Calicut

Examiners:

1. Dr. Hanishkumar G
2. Sreekrishna VR.



INVESTIGATING NUCLEAR FUSION-FISSION DYNAMICS USING NEUTRON MULTIPLICITIES

Project report submitted to

UNIVERSITY OF CALICUT

In partial fulfillment of the degree in

MASTER OF SCIENCE IN PHYSICS

By

SANJANA SARA STEPHEN (PWAWMPH009)



2022-2024

**DEPARTMENT OF PHYSICS PROVIDENCE WOMENS
COLLEGE, CALICUT**



CERTIFICATE

This is to certify that the thesis entitled **INVESTIGATING NUCLEAR FUSION-FISSION DYNAMICS USING NEUTRON MULTIPLICITIES** submitted by **SANJANA SARA STEPHEN** to Providence Women's College affiliated to university of Calicut for the award of the degree of Master of Science in Physics is a bonafide record of the research work carried out by her under my supervision and guidance of Dr. M. Shareef, Assistant Professor of Department of Physics, NIT Calicut. The content of the thesis, in full or parts have not been submitted to any other institute or university for the award of any degree or diploma.

Dr. Sini R
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Dr Sini R
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Providence Women's College, Calicut.

Dr. M. Shareef
Supervising Guide
Assistant Professor
Department of Physics
NIT Calicut

Examiners

- 1)..... **Dr. Hanakrishnan G**
- 2)..... **Sreekrishna K**

Date: 15/07/2024

Third Order Nonlinear Optical properties of C-4-hydroxy-3-methoxyphenylcalix[4]resorcinarene

Project Report submitted to
University of Calicut

In partial fulfillment of the requirements for the award of the Degree of
MASTER OF SCIENCE
IN PHYSICS

by

SHAMNA K

PWAWMPH010



Department Of Physics

Providence Women's College (Autonomous), Calicut

2022-2024

CERTIFICATE

CERTIFICATE This is to certify that the project entitled "**Third Order Nonlinear Optical properties of C-4-hydroxy-3-methoxyphenylcalix[4]resorcinarene**" is submitted in partial fulfillment for the degree of master of science in Physics at Providence Women's College affiliated to university of Calicut and is a bonafide record of the project work carried out by Ms. SHAMNA K under the supervision and guidance of Dr. SIJI ALAPPATTU JOHN



Dr SIJI ALAPPATTU JOHN

Assistant professor



Department of physics

Providence Women's College



Dr. SINI R
Head of the Dept. of Physics
Providence Women's College
Kozhikode-673 009, Kerala

Examiners

- 1)..... Dr. Hanumanthrao G 
- 2)..... Sree Krishna Varma Rega 

**TUNING THE FLUORESCENT PROPERTIES OF C-4-
HYDROXY-3-METHOXYPHENIL CALIX[4]-
RESORCINARENE BY PROTONATING ITS
NANOCOMPOSITE**

Project Report submitted to
University of Calicut

In partial fulfillment of the requirements for the award of the Degree of

**MASTER OF SCIENCE
IN PHYSICS**

by

**SHANIYA RAFSA
PWA WMPH011**



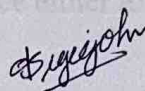
Department Of Physics

Providence Women's College (Autonomous), Calicut

2022-2024

CERTIFICATE

Certified that the work incorporated with the project entitled, "Tuning the Fluorescent Properties of C-4-hydroxy-3-methoxyphenilcalix[4]-Resorcinarene by Protonating its Nanocomposite " submitted by Ms. SHANIYA RAFSA for the partial fulfillment of the M.Sc. course of the Department of Physics, Providence Women's College, Calicut during 2022-2024 comprises the results of independent and original work done by the candidate under my supervision.



Dr. SIJI ALAPPATTU JOHN

Assistant Professor

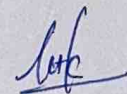
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EXTERNAL EXAMINER

- 1.
- 2.

Dr. Hanumanthra G



Sreekanthra VR



DATE: 12.07.2024

**STUDY OF STRUCTURAL, MORPHOLOGICAL
AND OPTICAL PROPERTIES OF $\text{La}_{0.8}\text{Y}_{0.2}\text{NiO}_3$
NANOSTRUCTURES**

Project report submitted to

UNIVERSITY OF CALICUT

In partial fulfillment of the degree in

MASTER OF SCIENCE IN PHYSICS

By

SREELAKSHMI TT (PWAWMPH012)



2022-2024

**DEPARTMENT OF PHYSICS
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This is to certify that the project entitled "STUDY OF STRUCTURAL, MORPHOLOGICAL AND OPTICAL PROPERTIES OF $\text{La}_{0.8}\text{Y}_{0.2}\text{NiO}_3$ NANOPARTICLES" is submitted in partial fulfilment for the degree of master of science in Physics at Providence Women's College affiliated to university of Calicut and is a bonafide record of the project work carried out by Ms. Sreelakshmi TT is working under the supervision and guidance of Ms. Shija K.

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Examiners

- 1)..... *Dr. Hanukshnan G* *hkg*
- 2)..... *Sreekrishna VR* *SRK*

SYNTHESIS OF COPPER SULPHIDE (CuS) USING SIMPLE CO-PRECIPITATION METHOD AND ITS CHARACTERISATION

Project Report submitted to
University of Calicut

In partial fulfillment of the requirements for the award of the Degree of
**MASTER OF SCIENCE
IN PHYSICS**

by

**THASLEENA K
PWA WMPH013**



Department Of Physics
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2022-2024

CERTIFICATE

Certified that the work incorporated with the project entitled, "SYNTHESIS OF COPPER SULPHIDE (CuS) USING SIMPLE CO-PRECIPIATION METHOD AND ITS CHARACTERISATION" submitted by Ms. THASLEENA K for the partial fulfillment of the M.Sc. course of the Department of Physics, Providence Women's College, Calicut during 2022-2024 comprises the results of independent and original work done by the candidate under my supervision.

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Dr. Sobha. A

Professor

Department of Physics

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EXTERNAL EXAMINER

1. Dr. Hanikrishnan G Hanikrishnan G
2. Sreekrishna VR Sreekrishna VR

DATE: 12.07.2024

SYNTHESIS AND CHARACTERISATION OF HYDROXYAPATITE NANOPARTICLE USING EGGSHELL FOR PEATWATER TREATMENT

Project Report submitted to
University of Calicut

In partial fulfilment of the requirements for the award of the Degree of

**MASTER OF SCIENCE IN
PHYSICS**

By

**VAISHNAVI.M
PWAWMPH014**



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Providence Women's College (Autonomous), Calicut

2022-2024

CERTIFICATE

Certified that the work incorporated with the project entitled, "SYNTHESIS AND CHARACTERISATION HYDROXYAPATITE NANOPARTICLE USING EGGSHELL FOR PEATWATER TREATMENT" submitted by Ms.

VAISHNAVI.M for the partial fulfillment of the M.Sc. course of the Department of Physics, Providence Women's College, Calicut during 2022-2024 comprises the results of independent and original work done by the candidate under my supervision.

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Professor

Department of Physics

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EXTERNAL EXAMINER

1. Dr. Hanakrishnan G

2. Sreekrishna ve

[Signature]
[Signature]

[Signature]
17/07/2024

DATE: 12.07.2024