

Established in 1981

**Sree Narayana College**  
**Chengannur, Kerala - 689508**

Managed by the Sree Narayana Trusts, Kollam

Affiliated to the University of Kerala

Accredited by NAAC with B Grade

Tel : 0479 2962728

e-mail:snchengannur@gmail.com

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**Dr.Anju K S**

Principal in charge

Mob : +91 9447187800

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**DVV Clarification 1.3.2**

HEI to provide the e-copies certificate of project completion work for the metric 1.3.2

**Response**

Project Completion Certificate is attached.



PRINCIPAL  
SREE NARAYANA COLLEGE  
CHENGANNUR

## CERTIFICATE

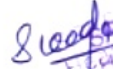
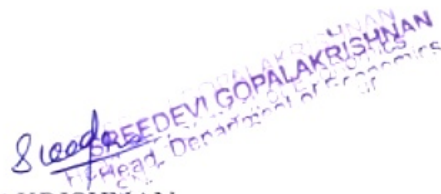
This is to certify that this dissertation entitled '**SOCIO ECONOMIC CONDITION OF FISHERMEN IN KERALA WITH SPECIAL REFERENCE OF CHELLANAM VILLAGE IN ERNAKULAM DISRICT**' is an authentic record of the work carried out by Miss. Lakshmi R (Candidate Code: 15020128010), Miss. Nandana J (Candidate Code: 15020128051), Miss Gopika Prasad (Candidate Code: 15020128039), Mr. Navaneeth S Das (Candidate Code: 15020128052) of 6<sup>th</sup> semester BA Economics, Department of Economics, Sree Narayana College Chengannur under my supervision and guidance in partial fulfillment of the requirements for the award of the degree of Bachelor of Arts in Economics under CBCSS of University of Kerala and that no part thereof has been presented for any other degree.



**SREEDEVI GOPALAKRISHNAN**

(Project Guide)

Countersigned by

**SREEDEVI GOPALAKRISHNAN**

(Head of Dept. of Economics)

Chengannur

Date: 15/5/2023

## CERTIFICATE

This is certify that the work entitled “SOCIO- ECONOMIC IMPACT OF WATER POLLUTION – A CASE STUDY OF AMBALAPPUZHA NORTH GRAMA PANCHAYAT” submitted to the University of Kerala in partial fulfillment of the requirement for the award of BA Degree, Final Semester Degree Programme in Economics under CBCSS is a bonafide research carried out by MEGHA MURALI ,MUHSINA SIDHIQ, NABIN NAZAR , SANDRA S NAIR, SURYA LEKSHMI .S, Sree Narayana College . Chengannur under our supervision and guidance .



Prahaladhan K.K  
Guest lecturer  
Department of Economics  
SN College Chengannur



Sreedevi Gopalakrishnan  
HoD & Assistant professor  
Department of Economics  
SN College Chengannur

**JYOTHISH S**

Guest Lecturer

Department of Economics

S N College, Chengannur


---

**CERTIFICATE**

This is to certify that the dissertation entitled “**Economic burden of diabetes in Kerala: with special reference to Ala Panchayat, Alappuzha District**” submitted for the partial fulfillment of the requirement for the award of the Degree of the Bachelor of Arts in Economics by **ADITHYA SHANKAR, AMESH MOHAN, AMJAD NAVAS, ANANDU S** is based on the original work undertaken by them in the Department of Economics, SN College Chengannur, and that this entitled work has not previously formed the basis for the award of any Degree, Diploma, Associateship, Fellowship or any other similar title.

Place: Chengannur

Date: 15<sup>th</sup> May, 2023

  
**JYOTHISH S**

(Supervisor)



**SREEDEVI GOPALAKRISHNAN**


(Assistant Professor & HoD,  
Department of Economics)

Sreedevi Gopalakrishnan  
Head, Department of Economics  
SN College, Chengannur




## CERTIFICATE

This is to certify that project entitled "IMPACT OF HOUSEBOAT TOURISM -A STUDY ON ALPPUZHA REGION, KERALA" submitted to the university of kerala in partial fulfilment of requirements for the award of BA Degree , First Degree program in Economics under the CBCSS is a bonafide research carried out by, Ajaya kumar . M, Anjali. m, Anujith.T, Aromal. k.s, Arun.R VI semester BA Economics, Sree Narayana college chengannur, under my supervision and guidance.

  
Mrs. Sreedevi Gopalakrishnan  
Head & Assistant professor  
Department of Economics,  
SN college chengannur

SREEDEVI GOPALAKRISHNAN  
Head, Department of Economics  
SN College, Chengannur

  
Smt. Rajani. N  
Supervisory Teacher

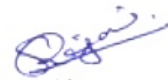
## CERTIFICATE

This is to certify that project entitled "*THE STUDY ONF THE TEMPORARY WORKERS IN ECOTOURISM DESTINATIONS OF PATHANAMTHITTA*" submitted to the university of kerala in partial fulfilment of requirements for the award of BA Degree , First Degree program in Economics under the CBCSS is a bonafide research carried out by, Davison sam, Ganga lekshmi.G, Jincy.s ,Lekshmi.r ,and Malu.s, VI semester BA Economics, Sree Narayana college chengannur, under my supervision and guidance.



Mrs. Sreedevi Gopalakrishnan,  
Head & Assistant professor  
Department of Economics,  
SN college chengannur

SREEDEVI GOPALAKRISHNAN  
Head, Department of Economics  
SN College, Chengannur



Smt. Rajani. N

Supervisory Teacher

## CERTIFICATE

This is to certify that this work entitled "*A study on online food delivery system with special reference to the Alappuzha district*" submitted to the University of Kerala in partial fulfilment of the requirement for the award of B. A Degree, First Degree program in Economics under CBCSS is bonafide research carried out by GANGA S LAL, LAJIN A, NITHUL RAJ, RAJU. G, and SWATHY GIREESH, VI Semester B.A Economics, Sree Narayana College, Chengannur under my supervision and guidance.

*Sreedevi*

**Mrs Sreedevi Gopalakrishnan**  
Head of the Department  
Department of Economics  
S N College Chengannur

*Mahima*

**Dr Mahima S**  
Assistant Professor  
Department of Economics  
S N College Chengannur

SREEDEVI GOPALAKRISHNAN  
Head, Department of Economics  
SN College, Chengannur

### DECLARATION

We, do hereby declare that the project report entitled **A CAUSE STUDY OF PATHANAMTHITTA DISTRICT KHADI INDUSTRY ELANTHOOR** is a record of an original work carried out by us under the supervision and guidance of Assistant professor Ms Deepti Acharya Department of economics Sree Narayana College Chegannur we declare this has not previously formed the basis for the award of any degree , diploma , fellowship, or other similar title of recognition.

Place: *Chengannur*

Date: *15/5/2023*

ATHIRA R. *Athira R*

ATHUL KRISHNAN *Athul*

ATHULYA S. *Athulya*

AVANI SUSEELAN. *Avani*

DEVIKA REGHU *Devika*



**CERTIFICATE**

Sree Narayana College

Chengannur 689508

May 2023

**DEPARTMENT OF ECONOMICS**

**CERTIFICATE**

This is to certify that this project intitled " **SOCIO-ECONOMIC CASE STUDY OF CASHEW WORKERS ERUVA** " is an authentic record of the work carried out by the following candidates in partial fullfillment of the requirement for the award of the Degree of Bachelor of Arts in Economics of the university of Kerala under my supervisions

SIno	Name of candidates
1.	Indrajith Krisnan
2.	Teema Yohannan
3.	Varsha. V
4.	Vishnu. S
5.	Vishnu Jayakumar

  
**Ms. DEEPTI ACHARYA**

(Supervising Teacher)

  
**Smt.SREEDEVIGOPALAKRISHNAN**

(Head of the Department)

**SREEDEVI GOPALAKRISHNAN**  
Head, Department of Economics  
SN College, Chengannur

Sree Narayana College chengan

SREE NARAYANA COLLEGE, CHENGANNUR



CERTIFICATE

This is to certify that the project report entitled "DAIRY FARMING AND CONTRIBUTION OF APCOS- A CASE STUDY OF THAMARAKULAM KUSC PANCHAYAT" submitted to the University of Kerala in partial fulfillment of the requirement for the award of BA Degree, Final Semester Degree Programme in Economics under CBCSS is a bonafide research carried out by NIDHIN .S. MADHU, NIKHIL KUMAR .A, SAKEER HUSSAIN .S, VISHNU .C , Sree Narayana College , Chengannur under our supervision and guidance .

Prahaladhan K.K  
Guest lecturer  
Department of Economics  
SN College, Chengannur

SREEDEVI GOPALAKRISHNAN  
Head, Department of Economics

Sreedevi Gopalakrishnan  
HoD & Assistant professor  
Department of Economics  
SN College Chengannur

### CERTIFICATE

This is certify that the work entitled " *STUDY ON EFFECTS SHOPPING MALL WITH SPECIAL REFERENCE TO LULU MALL TRIVANDRUM*" submitted to the university of Kerala in partial fulfillment of requirements for the award of BA Degree, First Degree program in Economics under the CBCSS is a bonafide research carried out by VIDHUMOL R , ABIN A ,ADHITHYAN K S , AKHILA B , AMALKRISHNAN K VI semester BA Economics, Sree Narayana college Chengannur under my supervision and guidance

*Sreedevi*  
**SREEDEVI GOPALAKRISHNAN**  
Head, Department of Economics  
SN College, Chengannur

**Mrs. Sreedevi Gopalakrishnan,**  
**Head & Assistant professor**  
**Department of Economics,**  
**SN college Chengannur**

*Mahima*  
**Dr Mahima S**  
**Assistant Professor**  
**Department of Economics**  
**SN College Chengannur**

SREE NARAYANA COLLEGE  
CHENGANNUR, KERALA  
DEPARTMENT OF COMMERCE

CERTIFICATE

This is to certify that a report on "A STUDY ON TRANSPORTATION FACILITIES IN CHENGANNUR " carried out by SANJAY SAJAYAN, SARANYA.S ,SIYANA SUDHEER, SREELEKSHMIS, VINOY VARGHESE , in partial fulfillment of the requirement of Bachelor of commerce, University of Kerala. This is Bonafide report of the work done by them under our supervision and guidance. Also certified that this report has been submitted to any other institute or university for the award of any degree, diploma or fellowship.



**Smt. THUSHARA U.S**  
(Head of Commerce Department)

**THUSHARA. U.S**  
Asst. Professor & HOD  
Department of Commerce  
Sree Narayana College  
Chengannur



**DR NISHAD A**  
(Assistant professor)

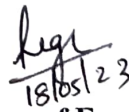


9/05/23

**Dr. SHEREEN. K**

Principal  
SREE NARAYANA COLLEGE  
CHENGANNUR  
Sree Narayana College

Chengannur



18/05/23

**Signature of Examiner**





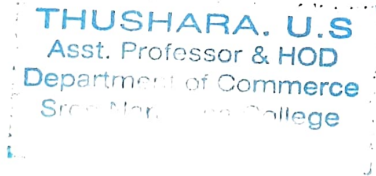
**DEPARTMENT OF COMMERCE**  
**SREE NARAYANA COLLEGE, CHENGANNUR, KERALA**

**CERTIFICATE**

This is to certify that a report on “ A STUDY ON THE EFFECTIVENESS OF EMPLOYEES GRIEVANCE REDRESSAL SYSTEM WITH SPECIAL REFERENCE TO MILMA IN KOLLAM ” is a record of studies carried out by NAVANEETH A.R, NILA S ANAND, NISHANTH SUDHAN, PUNYA S, RITHU T in partial fulfilment of the requirement of Bachelor of commerce, University of Kerala. This is the bonafide report of the work done by them under our supervision and guidance and that no part of this project has been submitted to any other institute or university for the award of any degree , diploma or fellowship .


  
Smt. **THUSHARA US**

Head, Department of Commerce  
Sree Narayana College , Chengannur



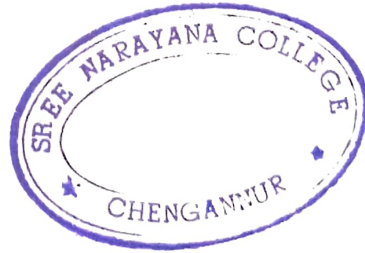


Smt. **SOUMYA SURENDRAN**  
Assistant professor  
Sree Narayana College ,  
Chengannur

  
8/5/23.

PRINCIPAL  
SREE NARAYANA COLLEGE  
CHENGANNUR

Dr . **SHEREEN K**  
Principal in charge  
Sree Narayana College , Chengannur



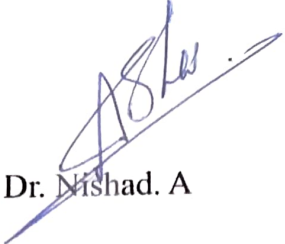
  
Signature of Examiner


**SREE NARAYANA COLLEGE, CHENGANNUR**

**DEPARTMENT OF COMMERCE**

**CERTIFICATE**

This is to certify that a report on "A STUDY ON SOLID WASTE MANAGEMENT BY HARITHA KARMA SENA IN CHERIYANNAD LOCALITY" carried out by DHANYA P S, MIDHUN MOHAN, MUHAMMAD BILALS, NAVAMY Z and SONA AJI in partial fulfilment of the requirement of bachelor of commerce, Kerala University. This is a bonfire report of the work done by them under our supervision and guidance. Also certified that this report has not been submitted to any other institution or university for the award of any degree, diploma or fellowship.

  
Dr. Nishad. A  
(Asst. professor)

  
Smt. Thushara U.S  
(Asst. professor)

Head of the department of commerce

**THUSHARA, U.S**  
Asst. Professor & HOD  
Department of Commerce  
Sree Narayana College  
Chengannur

  
DR SHEREEN K

**PRINCIPAL  
SREE NARAYANA COLLEGE  
CHENGANNUR**

Principal,

SN College, Chengannur

Signature of the Examiner



# DEPARTMENT OF COMMERCE

SREE NARAYANA COLLEGE, CHENGANNUR, KERALA

## CERTIFICATE

This is to certify that this project entitled **A STUDY ON THE WORK LIFE BALANCE AMONG WOMEN TEACHERS IN HIGHER SECONDARY SCHOOLS A STUDY WITH SPECIAL REFERENCE TO CHENGANNUR TALUK** is a record of studies carried out by **Abhaya U.S, Aparna Raj, Dhanya Babu, Bipin.B and Muhammed Asif** in partial fulfilment of the requirements for the Degree of Bachelor of Commerce, University of Kerala. This is bonafide report of the work done by them under our supervision and guidance and that no part of this project has been presented earlier for the award of any degree, diploma, title or recognition.

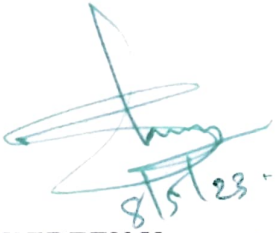


**THUSHARA U S**

**THUSHARA. U.S**  
Asst. Professor & HOD  
Department of Commerce  
Sree Narayana College  
Chengannur

Head, Department of Commerce

Sree Narayana College, Chengannur



**Dr.SHEREEN K**

**PRINCIPAL**  
**SREE NARAYANA COLLEGE**  
**CHENGANNUR**

Principal in charge

Sree Narayana College, Chengannur



Signature of Examiner

DEPARTMENT OF COMMERCE  
SREE NARAYANA COLLEGE  
CHENGANNUR, KERALA

CERTIFICATE

This is to certify that a report on "A study on consumer awareness towards consumer protection Act, 1986 with special reference to Chengannur Taluk" carried out by ABIN BINU, VARSHA RAJESH, SAYUJYA JAYARAJ, SHERY SHIBU, SHILPA SURESH in partial fulfilment of the requirement of Bachelor of commerce, University of Kerala. This is Bonafide report of the work done by them under our supervision and guidance. Also certified that this report has been submitted to any other institute or university for the award of any degree, diploma or fellowship.



Smt. THUSHARA U.S  
(Head of Commerce Department)



Ms. SNEHA SURESH  
(Assistant professor on contract)



Dr. SHEREEN. K

Principal

Sree Narayana college

Chengannur

Signature of examiner



PRINCIPAL  
SREE NARAYANA COLLEGE  
CHENGANNUR



DEPARTMENT OF COMMERCE

SREE NARAYANA COLLEGE, CHENGANNUR, KERALA

CERTIFICATE

This is to certify that a report on "A STUDY ON PROBLEMS AND PROSPECTS OF WOMEN ENTREPRENEURSHIP IN MAVELIKARA" carried out by ARSHA R, ASHWIN BINU, ASWANY S LALU, ASWIN V K, ATHULYA P in partial fulfilment of the requirement of **Bachelor of commerce, University of Kerala**. This is Bonafide report of the work done by them under our supervision and guidance. Also certified that this report has been submitted to any other institute or university for the award of any degree, diploma or fellowship.



Smt. **THUSHARA U S**

HOD, Department of commerce

Sree Narayana College,

Chengannur

**THUSHARA. U.S**  
Asst. Professor & HOD  
Department of Commerce  
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Smt. **SOUMYA SURENDRAN**

Assistant professor

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Dr. **SHEREEN. K**

Principal.

Sree Narayana College,

Chengannur

PRINCIPAL  
SREE NARAYANA COLLEGE  
CHENGANNUR



Signature of Examiner

# WIRELESS POWER TRANSMISSION

MINI PROJECT REPORT

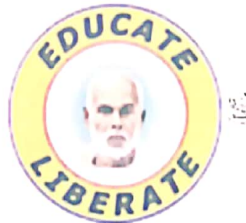
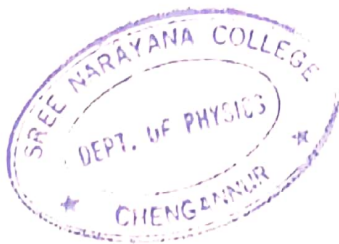
*Submitted to*

UNIVERSITY OF KERALA

In Partial fulfillment of the requirements for the award of the degree  
of Bachelor of Science in Physics



SUBMITTED BY,  
DAYAL UDAYAN



DEPARTMENT OF PHYSICS  
SREE NARAYANA COLLEGE  
CHENGANNUR

**SREE NARAYANA COLLEGE  
CHENGANNUR**

**DEPARTMENT OF PHYSICS  
CORE COURSE -PHYSICS**



**PROJECT REPORT**

Name : DAYAL UDAYAN  
Register No : 23020128004  
Admission No : 10188  
Serial No :  
Year of study from : 2020-2023

Group members name :  
1. ANJU B  
2. ANSEENA A  
3. DAYAL UDAYAN  
4. SANJEEV SATHYAN  
5. SHIJI JOHNSAN

Examiner (1).....*Dr. Anu A*

Certificate Bonafide:.....

Examiner (2).....*Dr. ABraham*

Head of the Dept.....

# PIEZOELECTRIC GENERATOR

MINI PROJECT REPORT

*Submitted to*

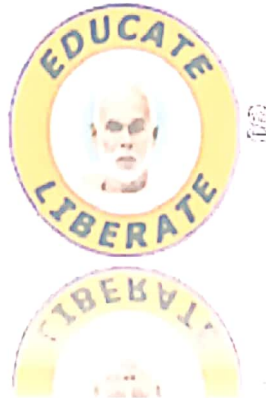
UNIVERSITY OF KERALA

In Partial fulfillment of the requirements for the award of the degree  
of Bachelor of Science in Physics



SUBMITTED BY

GROUP II



DEPARTMENT OF PHYSICS

SREE NARAYANA COLLEGE CHENGANNUR



**SREE NARAYANA COLLEGE  
CHENGANNUR**

**DEPARTMENT OF PHYSICS  
CORE COURSE -PHYSICS**



**PROJECT REPORT**

**Name : THOMAS KURIAKOSE  
TINI CHANDRAN  
AMRUTHA S  
ANJU UTHAMAN  
SWATHY SANTHOSH**

**RegisterNo : 23020128007,2302012800  
8,23020128009,23020128  
010,23020128011**

**AdmissionNo : 10417,10309,10319,10312**

**Serial No :**

**Year of study : 2020-2023**

**Examiner(1).....**

**CertificateBonafide:.....**

**Examiner(2).....**

**Head of theDept.....**

# **STRUCTURAL AND OPTICAL PROPERTIES OF COPPER DOPED TITANIUM OXIDE NANOPARTICLES**

Project report submitted to the University of Kerala for the partial fulfilment of the  
Requirement for the award of degree of

**MASTER OF SCIENCE**

**IN**

**PHYSICS**

**By**

**LAKSHMI S**

**Reg. no: 63021128008**



**SREE NARAYANA COLLEGE,  
CHENGANNUR**

**Under the supervision of**

**Dr. K. SREELATHA**

**ASSOCIATE PROFESSOR AND HEAD  
SREE NARAYANA COLLEGE, CHENGANNUR**

# **Hydrothermal route to graphene quantum dots (GQDs): Effects of temperature**

A Project report submitted to the

University of Kerala

For the partial fulfilment of the requirements for the Degree of

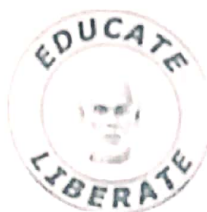
**MASTER OF SCIENCE IN**

**PHYSICS**

By

LEKSHMI B

Reg no: 63021128009



Sree Narayana College,

Chengannur

Under the supervision of

Dr VINOY THOMAS

ASSOCIATE PROFESSOR

HEAD OF THE DEPARTMENT

CHRISTIAN COLLEGE

CHENGANNUR

AUGUST 2023



**SYNTHESIS AND CHARACTERISATION OF**  
**LITHIUM FERRITE**

A Project Report submitted to the University of Kerala  
for the partial fulfillment of the requirements for the Degree of

**MASTER OF SCIENCE IN**  
**PHYSICS**

By

**PARVATHY.S.KUMAR**

Reg no : 63021128010



SREE NARAYANA COLLEGE , CHENGANNUR

Under the supervision of

DR. LAKSHMI VIJAYAN

ASSISTANT PROFESSOR

ST.ALOYSIUS COLLEGE , EDATHUA

AUGUST 2023





***Structural and optical bandgap analysis of a novel  
heterogeneous nanocomposite***

***Project report submitted to the  
University of Kerala***

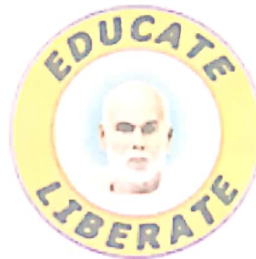
***In partial fulfilment of the requirements for the award of the Degree of***

***MASTER OF SCIENCE  
IN PHYSICS***

***By***

**SANDEEP KUMAR.S**

Reg.no: 63021128011



Sree Narayana College,  
Chengannur

Under the supervision of

Dr. INDULAL C.R

ASSISTANT PROFESSOR  
ST. GREGORIOS COLLEGE  
KOTTARAKKARA  
AUGUST 2023



*Structural, optical and viscous studies of  
Barium Oxide nanofluid*

*Project report submitted to the*

*University of Kerala*

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

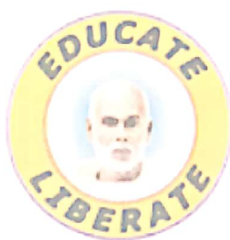
**MASTER OF SCIENCE**

**IN PHYSICS**

*By*

**ANJALI.S**

Reg.no: 63021128001



Sree Narayana College,

Chengannur

Under the supervision of

Dr. INDULAL C.R

ASSISTANT PROFESSOR

ST. GREGORIOS COLLEGE

KOTTARAKKARA

AUGUST 2023



**Investigation of the structural properties of reduced graphene oxide (RGO)  
via green hydrothermal method at different temperatures**

A project report submitted to the University of Kerala for the partial fulfilment of the

Requirement for the degree of

**MASTER OF SCIENCE**

**IN PHYSICS**

By

**ARDRA SAJEEV**

**Reg. no: 63021128002**



**Sree Narayana College,**

**Chengannur**

**Under the supervision of**

**Dr. VINOY THOMAS**

**ASSOCIATE PROFESSOR AND**

**HEAD OF THE DEPARTMENT**

**CHRISTIAN COLLEGE**

**CHENGANNUR**

**AUGUST 2023**



**STRUCTURAL AND OPTICAL  
PROPERTIES CNT INTERCALATED  $\text{In}_2\text{S}_3$   
THIN FILM**

Project report submitted to the University of Kerala for the partial fulfilment of the  
Requirement for the degree of

**MASTER OF SCIENCE  
IN  
PHYSICS**

By  
**ASWATHI ASHOK**  
Reg. no: 63021128003



**SREE NARAYANA COLLEGE,  
CHENGANNUR**

Under the supervision of

**Dr. JINCEMON CYRIAC**  
**ASSISTANT PROFESSOR**  
**MARIAN COLLEGE (AUTONOMOUS), KUTTIKANAM**

**AUGUST 2023**





# **SYNTHESIS AND CHARACTERIZATION OF TITANIUM OXIDE NANOPARTICLES**

Project report submitted to the University of Kerala for the partial fulfilment of the  
Requirement for the award of degree of

**MASTER OF SCIENCE**

**IN**

**PHYSICS**

**By**

**GOPIKA P S**

**Reg. no: 63021128005**



**SREE NARAYANA COLLEGE,  
CHENGANNUR**

**Under the supervision of**

**Dr. K. SREELATHA**

**ASSOCIATE PROFESSOR AND HEAD  
SREE NARAYANA COLLEGE, CHENGANNUR**

# **Experimental investigation on thermal conductivity of Strontium Oxide Nano fluid**

**Project report submitted to the**

**University of Kerala**

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

**MASTER OF SCIENCE**

**IN PHYSICS**

*By*

**GREESHMA BABU**

**Reg. no: 63021128006**



**Department of Physics**

**SREE NARAYANA COLLEGE**

**CHENGANNUR**

**2021-2023**

# PHOTOCATALYSIS STUDY OF GRAPHENE: $\text{In}_2\text{S}_3$ NANOCOMPOSITE THIN FILMS

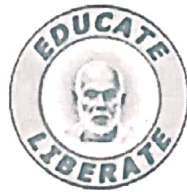
*A project report submitted to the University of Kerala for the partial fulfilment Of the  
Requirement for the Degree of*

**MASTER OF SCIENCE  
IN PHYSICS**

By

**KAVITHA K M**

**Reg. no: 63021128007**



**SREE NARAYANA COLLEGE,  
CHENGANNUR**

Under the supervision of

**Dr. JINCEMON CYRIAC  
ASSISTANT PROFESSOR**

**MARIAN COLLEGE (AUTONOMOUS), KUTTIKANAM**

**AUGUST 2023**



# ESTIMATION OF CHLOROPHYLL CONTENT OF SOME MEDICINAL PLANTS AVAILABLE IN KERALA

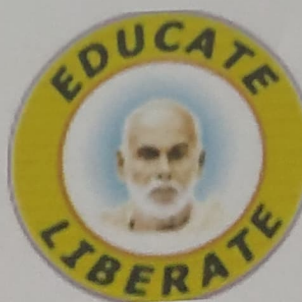
*Dissertation submitted to the University of Kerala in  
partial fulfillment for the award of Degree of Bachelor of  
Science in Chemistry*

Submitted by:

Name	Candidate Code
1. GOPIKA S. SHAJI	: 23520128005
2. SAVANTH S.	: 23520128006

Subject Code: 235  
Exam Code: 23520601

*Under the guidance of*  
**Dr. Jisha Sreedharan**  
Assistant Professor



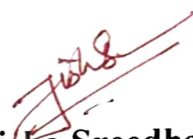
DEPARTMENT OF CHEMISTRY  
SREE NARAYANA COLLEGE  
CHENGANNUR, ALAPPUZHA  
MARCH 2023

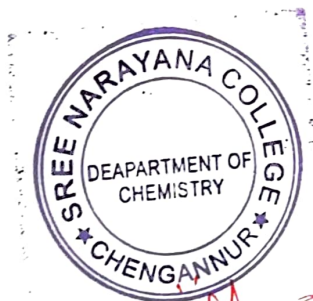


## CERTIFICATE

*This is to certify that the dissertation entitled “Estimation Of Chlorophyll Content Of Some Medicinal Plants Available In Kerala” is an authentic record of work carried out under my supervision and guidance in partial fulfillment of requirement for the award of the Bachelor Degree in Chemistry. I further certified that no part of this project has been submitted earlier for the award of any other degree, diploma of other similar titles of any University.*

**Dr. Venu S.**  
Head and Assistant Professor  
Department of Chemistry  
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**Dr. Jisha Sreedharan**  
Assistant Professor  
Department of Chemistry  
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**External Examiners:**

1.   
17/5/23

2.   
17/5/23

*Valued*

**DETERMINATION OF VITAMIN C  
CONCENTRATION IN DIFFERENT FRUIT SAMPLE BY REDOX  
TITRATION**



*Dissertation submitted to the university of Kerala in partial fulfillment for the Award of  
Degree of bachelor of science in chemistry*

**SUBMITTED BY ,**

ARJUN A

REG NO. 23520128007

ARSHA A KUMAR

REG NO. 23520128008

TS ADITHYARAJ

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**EXAMINATION CODE : 23520601**

**SUBJECT CODE : 235**

**UNDER THE GUIDANCE OF DR . AMBILY CHANDRAN  
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**DEPARTMENT OF CHEMISTRY  
SREE NARAYANA COLLEGE  
NEDUVARAMCODE P O, CHENGANNUR, KERALA**

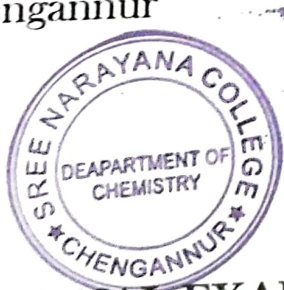
**MARCH 2023**

## CERTIFICATE

*This is to certify that the dissertation entitled  
"DETERMINATION OF VITAMIN C  
CONCENTRATION IN DIFFERENT FRUIT  
SAMPLE BY REDOX TITRATION" is an  
authentic record of work carried out under my  
supervision and  
guidance in partial fulfillment of requirement for the  
award of the Bachelor Degree in Chemistry. I  
further certified that no part of this project has been  
submitted earlier for the award of any other degree,  
diploma of other similar titles of any University.*

**Dr. Venu S.**  
Head and Assistant Professor  
Department of Chemistry  
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**Dr. Ambily chandran**  
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**EXTERNAL EXAMINERS:**

1. *[Signature]*  
17/5/23
2. *[Signature]*  
17/5/23

*Valmed*

**EXTRACTION OF CAFFEINE FROM VARIOUS  
BRANDS OF COMMERCIALY  
AVAILABLE TEA LEAVES**

*Dissertation submitted to the University of Kerala in partial fulfillment for the  
award of Degree of Bachelor of Science in Chemistry*

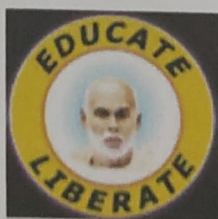
Submitted by:

Name		Candidate Code
1. AJAY R	:	23520128002
2. NEETHU S	:	23520128009
3. RISHIKESH P S	:	23520128010

Subject Code : 235  
Exam Code : 23520601

Under the guidance of

**Dr. Smitha Sasidharan**  
Assistant Professor  
Department of Chemistry



**DEPARTMENT OF CHEMISTRY  
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CHENGANNUR, ALAPPUZHA  
MAY 2023**



## CERTIFICATE

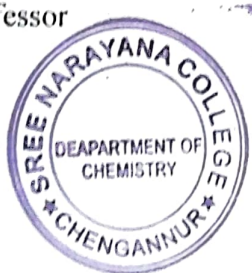
*This is to certify that the project entitled*


### **'EXTRACTION OF CAFFINE FROM VARIOUS BRANDS OF COMMERCIALY AVAILABLE TEA LEAVES'**

*is an authentic record of the dissertation work carried out under my supervision and guidance in partial fulfillment of requirement for the award of the Bachelor Degree in Chemistry. I further certified that no part of this project has been submitted earlier for the award of any other degree, diploma of other similar titles of any University.*

**Dr. Venu S.**  
Head and Assistant Professor

Department of Chemistry  
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**Dr. Smitha Sasidharan**  
Assistant Professor

Department of Chemistry  
Sree Narayana College  
Chengannur

**EXTERNAL EXAMINERS: 1.**

  
17/5/23

**2.**

  
17/5/23

*Valmed*

# ESTIMATION OF FERROUS IRON CONTENT PRESENT IN DIFFERENT IRON TABLETS

*Dissertation submitted to the University of  
Kerala in partial fulfillment for the award of Degree of  
Bachelor of Science in Chemistry*

Submitted by

Name	Candidate Code
1. ABHILASH T MOHAN	23520128001
2. GAUTHAM MANMADHAN	23520128004
3. SWETHA SURESH	23520128011

Subject code : 235

Exam code : 23520601

Under the Guidance of

Dr. Anju K S  
Assistant Professor



**DEPARTMENT OF CHEMISTRY**  
SREE NARAYANA COLLEGE, CHENGANNUR  
ALAPPUZHA, MAY 2023

## CERTIFICATE

This is to certify that the dissertation entitled "*ESTIMATION OF FERROUS IRON CONTENT PRESENT IN DIFFERENT IRON TABLETS*" is an authentic record of work carried out under my supervision and guidance in partial fulfillment of requirement for the award of the Bachelor Degree in Chemistry. I further certified that no part of this project has been submitted earlier for the award of any other degree, diploma of other similar titles of any University.

Dr. Venu S

Head and Assistant professor

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Dr. Anju K S

Assistant professor

Department of Chemistry

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Chengannur



External Examiners :

(1) ~~PP~~  
12/5/23

(2) PP  
17/5/23

~~Venu S~~

63521128001



**Dr. Smitha Chandran.S**  
**Associate Professor**  
**Department of Chemistry**

### CERTIFICATE

This is to certify that the thesis report entitled "**Phyto mediated biogenic synthesis of silver nanoparticles using leaf extract of *Justicia adhatoda* and its applications**" has been carried out by **AJIL S B (63521128001)** under my guidance and supervision at the **Department of Chemistry, Amrita School of Physical Sciences, Amrita Vishwa Vidyapeetham, Amritapuri, Kollam – 690525**, as part of the final semester project work for his Master's Degree in Chemistry, is an authentic record of the work carried out by him, under my supervision during the period from March 2023 to April 2023 and no part of this report has formed the basis for the award of any degree, diploma or other similar titles of any University.

Amritapuri

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**Department of Chemistry**  
**Amrita Vishwa Vidyapeetham**  
**School of Arts & Sciences**  
**Amritapuri Campus, Cleppana P.O**  
**Kollam - 690 525**

  
**Dr. Smitha Chandran.S**



63521128002

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Phone : 0497 - 2906402  
Telefax : 0497 - 2906402

Ref. No. ....

Date : 22-08-2023

### CERTIFICATE

This is to certify that the project entitled "Graphitic Carbon Nitride/Graphene Oxide Nanohybrid for the Adsorptive Removal of Methyl Orange from Wastewater" submitted to Kerala University in partial fulfilment of the requirements for the award of the Degree of Master of Science is a record of original work done by **ANJANA T.V (Reg No: 63521128002)** from School of Chemical Sciences, Payyanur Campus, Kannur University under my supervision and guidance. The work presented in this dissertation has not been submitted for any other degree/diploma of this or any other university.



Place: Payyanur

Date: 22-08-2023


*Shima*

Dr. SHIMA P.D

Dr. SHIMA. P.D  
Assistant Professor  
Department of Chemistry  
(Swami Anandatheertha Campus-Payyanur)  
Kannur University, Kerala - 670 327




63521128003


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**CERTIFICATE**

This is to certify that the dissertation entitled "SYNTHESIS AND STUDY OF DITHIOBENZOTHLADIAZOLE BASED DONOR- $\pi$ -ACCEPTOR SYSTEM FOR HEAVY METAL DETECTION" is an authentic record of project work carried out by **Ms. ANUGRAHA A.S.** Reg No.635211280103, Stree Narayana college, Chengannur under our combined supervision and guidance at Advanced Molecular Materials and Research Centre (AMMRC), Mahatma Gandhi University, Kottayam, during the period from 01/03/2023-30/05/2023 in partial fulfilment for the requirements for the award of degree of Master of Science in Chemistry.

Kottayam  
1/08/2023

  
Dr. Vineetha P. K.  
(Project Supervisor)

  
Dr.S.Anas  
(Co-Guide)  
Honorary Director, AMMRC

63521128004



**Dr. Sreedha Sambhudevan**  
Assistant Professor  
Department of Chemistry

### CERTIFICATE

This is to certify that the thesis report entitled "**SYNTHESIS OF ALPHA CHITIN & BETA CHITIN NANOFIBERS AS A BIOBASED REINFORCEMENT FOR PVA/Fe(III) NANOCOMPOSITE FILMS – FABRICATION -MECHANICAL & ABSORPTION STUDIES**" has been carried out by ARABHI A R (63521128004) under my guidance and supervision at the Department of Chemistry, Amrita School of Arts & Sciences, Amrita Vishwa Vidyapeetham, Amritapuri, Kollam - 690525, as part of the final term project work for her Master's Degree in Chemistry, is an authentic record of the work carried out by her, under my supervision during the period from March 2023 to April 2023 and no part of this report has formed the basis for the award of any degree, diploma or other similar titles of any University.

Chairperson  
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School of Physical Sciences  
Amrita Vishwa Vidyapeetham  
Amritapuri Campus, Kollam-690525  
Amritapuri

Dr SREEDHA SAMBHUDEVAN

63521128005



**Dr. Beena S**  
**Assistant Professor (Sl. Grade)**  
**Department of Chemistry**

### CERTIFICATE

This is to certify that the thesis report entitled “ **ELECTROCHEMICAL QUANTIFICATION OF TRYPTAMINE USING ORTHO-PHENYLENEDIAMINE MODIFIED PENSIL GRAPHITE ELECTRODE**” has been carried out by **CHIPPY HARISH (63521128005)** under my guidance and supervision at the **Department of Chemistry, Amrita School of Arts & Sciences, Amrita Vishwa Vidyapeetham, Amritapuri Kollam – 690525**, as part of the final term project work for her Master’s Degree in Chemistry, is an authentic record of the work carried out by her, under my supervision during the period from March 2023 to April 2023 and no part of this report has formed the basis for the award of any degree, diploma or other similar titles of any University.

**Chairperson**  
**Department of Chemistry**  
School of Physical Sciences  
Amrita Vishwa Vidyapeetham  
Amritapuri Campus, Kollam-690525

Amritapuri

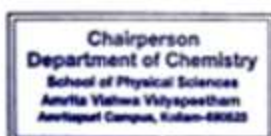
*Beena*  
23/08/2023  
Dr. Beena S



**Dr.Shylesh Chandran M S**  
**Assistant Professor**  
**Department of Chemistry**

### **CERTIFICATE**

This is to certify that the thesis report entitled "Assessment of Microplastic Concentration Sediments in Azheekkal Beach, Kollam District, Kerala" has been carried out by **GOWRI PRASAD (63521128006)** under my guidance and supervision at the **Department of Chemistry, Amrita School of Physical Sciences, Amrita Vishwa Vidyapeetham, Amritapuri, Kollam – 690525**, as part of the final semester project work for her Master's Degree in Chemistry, is an authentic record of the work carried out by her, under my supervision during the period from March 2023 to April 2023 and no part of this report has formed the basis for the award of any degree, diploma or other similar titles of any University.



Amritapuri

*M.S. Chandran*  
\_\_\_\_\_  
**Dr.Shylesh Chandran M S**

63521128007



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SUSTAINABLE DEVELOPMENT (ACCESSD) - An Inter University Centre**

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Kerala, India.

To : 0481-2732120, 2732630 (CI)

Fax : 0481-2732630

E-mail : accessd@mgu.ac.in

**CERTIFICATE**

This is to certify that the project report entitled "FABRICATION OF MULTI-LAYERED AQUATIC WEED DERIVED NATURAL FIBER FOR THE ENHANCED REMOVAL OF TEXTILE DYE" is a bona fide record of the work done by Ms. Krishna. S.V(Candidate code 63521128007), M.Sc. Chemistry, Sree Narayana college Chengannur, Alappuzha, under my guidance in the Advanced Centre of Environmental Studies and Sustainable Development (ACCESSD), Mahatma Gandhi University, Kottayam, from March to May 2023.

**Dr. Shanthi Prabha V**  
(Research guide)  
Research Scientist  
ACCESSD  
Mahatma Gandhi University  
Kottayam

**Dr. A P Thomas**  
Director  
ACCESSD  
Mahatma Gandhi University  
Kottayam





63521128008

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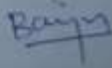
Date: 22-05-2023


Ref No: \_\_\_\_\_

**CERTIFICATE**

This is to certify that the project entitled "**Doped g-C<sub>3</sub>N<sub>4</sub>-BiVO<sub>4</sub> composite for photocatalytic degradation of dye and antibiotics in water**" submitted to Kerala University in partial fulfillment of the requirements for the award of the Degree of Master of Science in Chemistry is a record of original work done by **Meenakshy A (63521128008)** at School of Chemical Sciences, Payyanur Campus, Kannur University under my supervision and guidance. The work presented in this dissertation has not been submitted for any other degree/diploma of this or any other University.

Place: Payyanur  
Date: 22-05-2023

  
**Dr. BAIJU, K. V., M.Sc, Ph.D.**  
Assistant Professor, Department of Chemistry  
Kannur University, Payyanur Campus  
Edat P. O., Kannur-670 327



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<p>കണ്ണൂർ സർവ്വകലാശാല <b>KANNUR UNIVERSITY</b></p> <p>(NAAC Accredited with B Grade) <b>SCHOOL OF CHEMICAL SCIENCES</b> SWAMI ANANTHA THEERTHA CAMPUS PAYYANUR, EDAT, P.O. - 679 327 KERALA, INDIA.</p> <p>Phone : 0467 - 2906402 Telefax : 0467 - 2906402</p>	
Ref. No. _____	Date: <u>22-08-2023</u>
<p><b><u>CERTIFICATE</u></b></p>	
<p>This is to certify that the project entitled "Adsorptive Removal of Organic Pollutant Methylene Blue from Aqueous Solution Using Graphene Oxide/Graphitic Carbon Nitride Nano hybrid" submitted to Kerala University in partial fulfillment of the requirements for the award of the Degree of Master of Science in Chemistry is a record of original work done by <b>MEENU REMESH (Reg.No: 63521128009)</b> from School of Chemical Sciences, Payyanur Campus, Kannur University under my supervision and guidance. The work presented in this dissertation has not been submitted for any other degree/diploma of this or any other university.</p>	
Place: Payyanur Date: <u>22-8-2023</u>	 <b>Dr. SHIMA P. D.</b>  <b>Dr. SHIMA. P.D</b> Assistant Professor Department of Chemistry (Swami Anandatheertha Campus-Payyanur) Kannur University, Kerala - 670 327

63521128010



श्री चित्रा तिरुनाल आयुर्विज्ञान और प्रौद्योगिकी संस्थान, तिरुवनन्तपुरम- 11, केरल  
Sree Chitra Tirunal Institute for Medical Sciences and Technology,  
Thiruvananthapuram- 11, Kerala  
(भारत सरकार के अधीन राष्ट्रीय महत्व का संस्था)  
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Email: [manjus@sctimst.ac.in](mailto:manjus@sctimst.ac.in)

15<sup>th</sup> August 2023

#### CERTIFICATE

This is to certify that the dissertation entitled "**Synthesis and Characterisation of Zein based Radiopaque Microbeads for Transarterial Chemoembolization**" is an authentic record of the work carried out by Ms. Reshma R S, under my supervision in partial fulfilment for the degree of Master of Science in Chemistry and no part of this dissertation has been presented before for any other degree.

Thiruvananthapuram

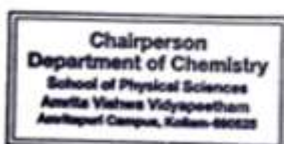
  
Dr. Manju.S  
Guide



**Dr. Shylesh Chandran M S**  
Assistant Professor  
Department of Chemistry

**CERTIFICATE**

This is to certify that the thesis report entitled "Microplasties In Mangrove Sediments, Near Azheekal Beach, Kollam District" has been carried out by **ROHINI S PILLAI (63521128011)** under my guidance and supervision at the **Department of Chemistry, Amrita School of Physical Sciences, Amrita Vishwa Vidyapeetham, Amritapuri, Kollam-690525**, as part of the final semester project work for her Master's Degree in Chemistry, is an authentic record of the work carried out by her, under my supervision during the period from March 2023 to April 2023 and no part of this report has formed the basis for the award of any degree, diploma or other similar titles of any University.



Amritapuri

**Dr. Shylesh Chandran M S**

63521128012

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Phone : 0497 - 2808402  
Mobile : 0497 - 2808402

Ref No: \_\_\_\_\_

Date: 22/08/2023

### CERTIFICATE

This is to certify that the project entitled "Fabrication of Flexible Titania nanotube and its Composites for Supercapacitor Applications" submitted to Kerala University in partial fulfillment of the requirements for the award of the Degree of Master of Science in Chemistry is a record of original work done by **Shamla. P. S (Reg. No: 63521128012)** at School of Chemical Sciences, Payyanur Campus, Kannur University under my supervision and guidance. The work presented in this dissertation has not been submitted for any other degree/diploma of this or any other University.

Place: Payyanur

Date: 22-08-2023

Dr. RAJU, K. V., M.Sc, Ph.D.  
Assistant Professor, Department of Chemistry  
Kannur University, Payyanur Campus  
Edas P. O., Kannur-679 327



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<b>MAHATMA GANDHI UNIVERSITY</b> Priyadarshini Hills P.O., Kottayam - 686 560, Kerala, India		Sl. 0481-2732120, 2732620 (04) Fax 0481-2732620 E-mail accessd@mgu.ac.in

**CERTIFICATE**

This is to certify that the project report entitled "NANOCELLULOSE-BASED BIOCHAR MEMBRANE FOR SELECTED TEXTILE DYE REMOVAL FROM AQUEOUS MEDIUM" is a bona fide record of the work done by Ms. Sradha R(Candidate code 63521128013), M.Sc. Chemistry, Sree Narayana College Chengannur, Alappuzha, under my guidance in the Advanced Centre of Environmental Studies and Sustainable Development (ACCESSD), Mahatma Gandhi University, Kottayam, from March to May 2023.

	
<b>Dr. Shanthi Prabha V</b> (Research guide) Research Scientist ACCESSD Mahatma Gandhi University Kottayam	<b>Dr. A P Thomas</b> Director ACCESSD Mahatma Gandhi University Kottayam

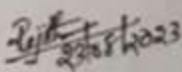




### CERTIFICATE

This is to certify that the thesis report entitled "EXTRACTION, IDENTIFICATION AND DETERMINATION OF ANTIOXIDANT ACTIVITY FROM METHANOL EXTRACT OF LEAVES OF CATHARANTHUS ROSEUS- PERIWINKLE" has been carried out by SREELEKSHMI M S (63521128014) under my guidance and supervision at the Department of Chemistry, Amrita School of Arts & Sciences, Amrita Vishwa Vidyapeetham, Amritapuri, Kollam - 690525, as part of the final term project work for her Master's Degree in Chemistry, is an authentic record of the work carried out by her, under my supervision during the period from March 2023 to April 2023 and no part of this report has formed the basis for the award of any degree, diploma or other similar titles of any University.

Amritapuri

  
Dr. Rejithamol R

Assistant Professor  
Department of Chemistry  
Department of Chemistry  
Amrita Vishwa Vidyapeetham  
Amritapuri Campus.

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**CERTIFICATE**

This is to certify that the dissertation entitled "SYNTHESIS AND PHOTOPHYSICAL STUDIES OF LOW BAND GAP CONJUGATED POLYMERS" is an authentic record of project work carried out by Ms. SRUTHY S. Reg No.63521128015, Sree Narayana college, Chengannur under our combined supervision and guidance at Advanced Molecular Materials and Research Centre (AMMRC), Mahatma Gandhi University, Kottayam, during the period from 01/03/2023- 30/05/2023 in partial fulfilment for the requirements for the award of degree of Master of Science in Chemistry.

Kottayam

1/08/2023

Dr. Vineetha P. K.

(Project Supervisor)

Dr.S.Anas

(Co-Guide)

Honorary Director, AMMRC

63521128016



**Dr. Saritha A**  
**Associate Professor**  
**Department of Chemistry**

### CERTIFICATE

This is to certify that the thesis report entitled "**FACILE EXTRACTION AND COMPARISON OF LIGNIN FROM COCONUT SHELL WITH MULTIPLE APPLICATIONS**" has been carried out by **VISMAYA VV (63521128016)** under my guidance and supervision at the Department of Chemistry, Amrita School of Arts & Sciences, Amrita Vishwa Vidyapeetham, Amritapuri, Kollam - 690525, as part of the final term project work for her Master's Degree in Chemistry, is an authentic record of the work carried out by her, under my supervision during the period from March 2023 to April 2023 and no part of this report has formed the basis for the award of any degree, diploma or other similar titles of any University.

Amritapuri

**Chairperson**  
**Department of Chemistry**  
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