

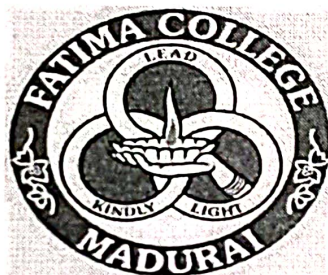
HEAVY METAL ANALYSIS IN KOVALAM SEDIMENT SAMPLES BY X-RAY FLUORESCENCE TECHNIQUE

Internship Report

Submitted by

Ms. S. FAZUL FATHIMA

(Register No: 2023MSCP06)



DEPARTMENT OF PHYSICS

FATIMA COLLEGE (AUTONOMOUS)

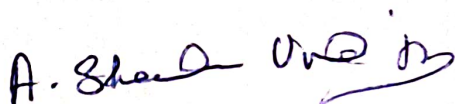
RE-ACCREDITED WITH 'A⁺⁺' GRADE BY NACC (4th Cycle)

(CGPA: 3.61) in the fourth cycle

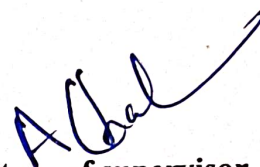
MADURAI-625018.

BONAFIDE CERTIFICATE

This is to certify that this internship project report entitled "HEAVY METAL ANALYSIS IN KOVALAM SEDIMENT SAMPLES BY X-RAY FLUORESCENCE TECHNIQUE" was submitted to Department of Physics, Fatima College (Autonomous), Madurai, is a bonafide record of work done by "Ms. S. FAZUL FATHIMA" under my supervision from 06-05-2024 to 24-05-2024.

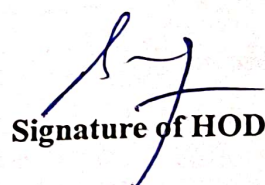


Dr. A. Sheela Vimala Rani
Head and Associate Professor,
Research Centre of Physics,
Fatima College,
Madurai-625018.



Signature of supervisor

(Dr. A. Chandrasekaran)
Dr. A. ChandraSekaran, M.Sc., M.Phil., Ph.D., PGDCA.,
Assistant Professor
Department of Physics
SSN College of Engineering
Kalavakkam - 603 110.

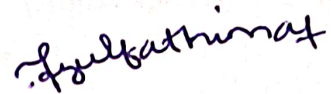


Signature of HOD

(Dr. S. M. M. Kennedy)
Dr. S. MASILLA MOSES KENNEDY
Professor and Head
Department of Physics
SSN College of Engineering
Kalavakkam-603 110

DECLARATION

I do hereby declare that this dissertation entitled “HEAVY METAL ANALYSIS IN KOVALAM SEDIMENT SAMPLES BY X-RAY FLUORESCENCE TECHNIQUE” was carried out by S. FAZUL FATHIMA (Reg. No: 2023MSCP06) submitted to the Department of Physics, Fatima College, Madurai in partial fulfillment of the requirements for the award of MASTER OF SCIENCE in PHYSICS, during the academic year, 2024 – 2025.



S. FAZUL FATHIMA

(2023MSCP06)

Place: Madurai

Date:

ACKNOWLEDGEMENT

“GLORY TO GOD ALMIGHTY WHO GIVES US THE VICTORY”

We are grateful to **Dr. Sr. G. CELINE SAHAYA MARY**, Principal, Fatima College, Madurai, for permitting us to carry out our internship at Department of Physics, Sri Sivasubramaniya Nadar College of Engineering (Autonomous), Kalavakkam-603110 and also, I would like to thank **Dr. Sr. M. FRANCISCA FLORA**, Secretary, Fatima College, Madurai for her prayers and blessings.

I thank **Dr. A. SHEELA VIMALA RANI**, Head, Research Centre of Physics, Fatima College, Madurai, for her constant support and encouragement in the successful completion of this internship work.

I would like to express my special thanks of gratitude to the principal **Prof. V. E. ANNAMALAI** as well as our vice principal **Prof. S. RADHA** who gave me the golden opportunity to do this wonderful project in Sri Sivasubramaniya Nadar College of Engineering (Autonomous), Chennai-603110.

I would like to express my sincere thanks to **Prof. S.M.M. Kennedy**, Head, Department of Physics, Sri Sivasubramaniya Nadar College of Engineering (Autonomous), for his valuable guidance and support in completing my internship project.

I am greatly indebted to **Dr. A. CHANDRASEKARAN**, Assistant Professor, Department of Physics, Department of Physics, Sri Sivasubramaniya Nadar College of Engineering (Autonomous), Kalavakkam-603110 for his constant support and supervision throughout the internship work and for initiating my interest in research.

I thank, **Mr. V. SATHISH**, **Ms. A. TAMILARASI**, **Ms. S. KARTHIKAYINI**, **Ms. G. POONGODI** Research Scholars, Department of Physics, Sri Sivasubramaniya Nadar College of Engineering (Autonomous), for their constant support throughout this internship work.

I thank my beloved parents **Mr. A. SYED MUTHU MEERA** and **Mrs. S. MEHRAJ BEGAM** for their motivation during this internship and friends for their valuable support.

(S. FAZUL FATHIMA)

RADIATION PHYSICS LABORATORY

RUN BY

**SRI SIVASUBRAMANIYA NADAR COLLEGE OF ENGINEERING
(AUTONOMOUS)**

Dr. A. Chandrasekaran

Date: 01.08.2024

Assistant Professor

CERTIFICATE

This is to certify that **S. Fazul Fathima (2023MSCP06)**, Research Centre of Physics, Fatima College (Affiliated to Madurai Kamaraj University), Madurai has successfully completed her Internship under the guidance of **Dr. A. CHANDRASEKARAN**, Assistant Professor, Department of Physics, Sri Sivasubramaniya Nadar College of Engineering (Autonomous), Kalavakkam. She worked on the title "**HEAVY METAL ANALYSIS IN KOVALAM SEDIMENT SAMPLES BY X-RAY FLUORESCENCE TECHNIQUE**" in Radiation Physics Laboratory, Sri Sivasubramaniya Nadar college of engineering (Chennai) during the period of 06-05-2024 to 24-05-2024.

MARKS OBTAINED: 57/60


Supervisor

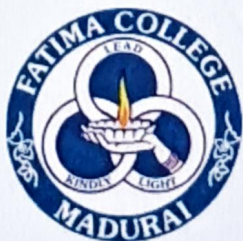
**Dr.A.ChandraSekaran, M.Sc., M.Phil., Ph.D., PGDCA,
Assistant Professor
Department of Physics
SSN College of Eng.
Kalavakkam - 603 106.**

**FABRICATION OF PRIMARY ALUMINIUM ION
CONDUCTING BATTERY
USING *KAPPA CARRAGEENAN (RED SEA WEEDS)* BASED
BIOPOYMER MEMBRANE AS SOLID ELECTROLYTE**

Internship Report

Submitted by

Ms. G. JASMIN FATIMA
(Register No: 2023MSCP08)



**RESEARCH CENTRE OF PHYSICS
FATIMA COLLEGE (AUTONOMOUS)
(Re-Accredited With A++ by NAAC)
MARY LAND, MADURAI – 625 018.**

**FABRICATION OF PRIMARY ALUMINIUM ION
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USING *KAPPA CARRAGEENAN (RED SEA WEEDS)* BASED
BIOPOLYMER MEMBRANE AS SOLID ELECTROLYTE**

An internship report submitted to

FATIMA COLLEGE (AUTONOMOUS)

(Affiliated to **MADURAI KAMARAJ UNIVERSITY**, Madurai)

To partial fulfillment of the requirement for the award of the degree

MASTER OF SCIENCE IN PHYSICS

Submitted by

Ms. G. JASMIN FATIMA

(Register No: 2023MSCP08)

S. Selvasekarapandian

Dr. S. Selvasekarapandian

Director,

Materials Research Center,

Coimbatore-641045 &

Emeritus Professor,

Bharathiar University,

Coimbatore – 641046.

A. Sheela Vimala Rani

Dr. A. Sheela Vimala Rani

Head and Associate Professor,

Research centre of Physics,

Fatima College,

Madurai-625018.



**RESEARCH CENTRE OF PHYSICS
FATIMA COLLEGE (AUTONOMOUS)**

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MARY LAND, MADURAI – 625 018.

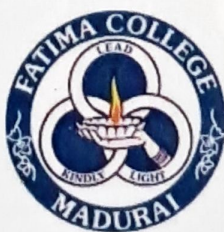
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Internship Report

Submitted by

Ms. J. JEFFRINA

(Register No: 2023MSCP09)



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Submitted by
Ms. J. JEFFRINA
(Register No: 2023MSCP09)

S. Selva Sekarapandian
Dr. S. Selvasekarapandian

Director,
Materials Research Center,
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Bharathiar University,
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A. Sheela Vimala Rani
Dr. A. Sheela Vimala Rani

Head and Associate Professor,
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**RESEARCH CENTRE OF PHYSICS
FATIMA COLLEGE (AUTONOMOUS)**
(Re-Accredited With A++ by NAAC)
MARY LAND, MADURAI – 625 018.

Internship Report
GROWTH OF ORGANIC SINGLE CRYSTALS

Submitted by
Ms. B. JEYASHREE
Ms. J. ABARNA
Under the guidance of
Dr. M. Tamil Elakkiya,
Assistant professor,
Department of Physics,
Thiagarajar college of Engineering, Madurai.



DEPARTMENT OF PHYSICS
THIAGARAJAR COLLEGE OF ENGINEERING
(Affiliated to Anna University)
MADURAI - 625015

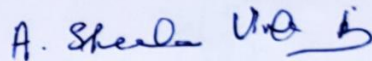
&



THE RESEARCH CENTRE OF PHYSICS
FATIMA COLLEGE (AUTONOMOUS)
MADURAI - 625018

Certificate

This is to certify that the Internship work on **GROWTH OF ORGANIC SINGLE CRYSTALS** submitted by JEYASHREE B (2023MSCP10), ABARNA J (2023MSCP01) under the guidance of Dr.M.Tamil Elakkiya, Assistant Professor, Department of Physics has been submitted as an internship report on 07.06.2024 at Thiagarajar college of engineering, Madurai.



Dr. A. Sheela Vimala Rani,

Head of the Department,

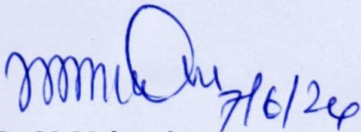
The Research Centre of Physics,

Fatima college (Autonomous),

Madurai - 625 018.

Certificate

This is to certify that the Internship work on **GROWTH OF ORGANIC SINGLE CRYSTALS** done by Abarna J (2023MSCP01), Jeyashree B (2023MSCP10) under the guidance of Dr.M.Tamil Elakkiya, Assistant professor, Department of Physics has been submitted as an internship report on 07.06.2024 at Thiagarajar college of engineering, Madurai.



Dr. M. Mahendran,

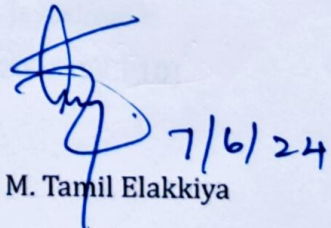
Professor & Head,

Department of Physics,

Thiagarajar college of Engineering,

Madurai - 625015.

Dr. M. MAHENDRAN, Ph.D., PASCH.
Professor and Head
Department of Physics
Thiagarajar College of Engineering
Madurai - 625 015



Dr. M. Tamil Elakkiya

Assistant professor,

Department of Physics,

Thiagarajar college of Engineering,

Madurai - 625015.

DECLARATION

We hereby declare that the dissertation titled on "GROWTH OF ORGANIC SINGLE CRYSTALS ", submitted to Fatima college (Autonomous), Madurai – 625018 to the award of degree of Master of Science in physics is a record of original internship report carried out under the supervision of Dr.M. Tamil Elakkiya, Assistant professor, Department of Physics, Thiagarajar college of engineering, Madurai.

J. Abarna

Abarna J

(2023MSCP01)

B. Jeyashree

Jeyashree B

(2023MSCP10)

Place: Madurai.

Date: 07. 06. 2024

Acknowledgement

I am grateful to mention the people whose constant inspiration, guidance and blessings made my internship work a successful one.

I thank God for his substantial blessings and mercy at all stages of the completion of my internship work. Taking this opportunity, I thank my parents and friends for their sacrifices in supporting me.

I feel honoured to place a warm salutation to the management of **THIAGARAJAR COLLEGE OF ENGINEERING, MADURAI** which gave me the opportunity to have a strong base in physics and practical and theoretical knowledge.

I express my sincere thanks to **THE PRINCIPAL, THIAGARAJAR COLLEGE OF ENGINEERING, MADURAI** for giving me a comfortable environment and extensive support rendered to carry out this Internship work successfully.

It is my immense pleasure to express my heartfelt thanks to **DR.M.MAHENDRAN, PROFESSOR & HEAD, DEPARTMENT OF PHYSICS, THIAGARAJAR COLLEGE OF ENGINEERING, MADURAI** for his valuable guidance and encouragement.

It is my immense pleasure to express my sincere gratitude to **DR.M.TAMIL ELAKKIYA, ASSISTANT PROFESSOR, DEPARTMENT OF PHYSICS, THIAGARAJAR COLLEGE OF ENGINEERING, MADURAI**. I owe my deep sense of gratitude and I feel extremely fortunate to have worked under her.

I like to thank all Faculties and Lab assistants in Department of Physics of Thiagarajar College of engineering Madurai, for their support and valuable suggestions at different stages of this internship work.

**FABRICATION OF PRIMARY ALUMINIUM ION
CONDUCTING BATTERY
USING *KAPPA CARRAGEENAN (RED SEA WEEDS)* BASED
BIOPOLYMER MEMBRANE AS SOLID ELECTROLYTE**

Internship Report

Submitted by

Mrs. A. KIRUTHIKA

(Register No: 2023MSCP11)



**RESEARCH CENTRE OF PHYSICS
FATIMA COLLEGE (AUTONOMOUS)
(Re-Accredited With A++ by NAAC)
MARY LAND, MADURAI – 625 018.**

**FABRICATION OF PRIMARY ALUMINIUM ION
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An internship report submitted to
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To partial fulfillment of the requirement for the award of the degree
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Submitted by
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(Register No: 2023MSCP11)

S. Selva Selvarapandian.

Dr. S. Selvasekarapandian
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Coimbatore – 641046.

A. Sheela Vimala Rani

Dr. A. Sheela Vimala Rani
Head and Associate Professor,
Research centre of Physics,
Fatima College,
Madurai-625018.



**RESEARCH CENTRE OF PHYSICS
FATIMA COLLEGE (AUTONOMOUS)**
(Re-Accredited With A++ by NAAC)
MARY LAND, MADURAI – 625 018.

PHOTOLUMINESCENCE

INTERNSHIP REPORT

Submitted by

Ms.P.LAVANYA

(Register No: 2023MSCP12)



DEPARTMENT OF PHYSICS

FATIMA COLLEGE

(AUTONOMOUS)

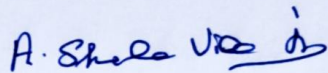
RE-ACCREDITED WITH 'A''' GRADE BY NACC (4th Cycle)

(CGPA: 3.61) in the fourth cycle

MADURAI-625 018.

BONAFIDE CERTIFICATE

This is to certify that this internship project report entitled
"PHOTOLUMINESCENCE" was submitted to Department of Physics, Fatima College
(Autonomous), Madurai, is a bonafide record of work done by "Ms.P.LAVANYA"
under my supervision from 06-05-2024 to 24-05-2024.



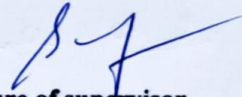
Dr. A. Sheela Vimala Rani

Head and Associate Professor,
Research Centre of Physics,
Fatima College,
Madurai-625018.



BONAFIDE CERTIFICATE

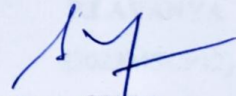
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Signature of supervisor

(Dr.S.Masilla Moses Kennedy)

Dr. S. MASILLA MOSES KENNEDY
Professor and Head
Department of Physics
SSN College of Engineering
Kalavakkam-603 110



Signature of HOD

(Dr. S. Masilla Moses Kennedy)

Dr. S. MASILLA MOSES KENNEDY
Professor and Head
Department of Physics
SSN College of Engineering
Kalavakkam-603 110

DECLARATION

I do hereby declare that this dissertation entitled "**PHOTOLUMINESCENCE**" was carried out by Ms.P.LAVANYA (Register Number: 2023MSCP12) submitted to the Department of Physics, Fatima College, Madurai in partial fulfillment of the requirements for the award of **MASTER OF SCIENCE in PHYSICS**, during the academic year, 2024-2025.

Place:Madurai

Date: 24/05/24

P. Lavanya

P.LAVANYA

(2023MSCP12)

ACKNOWLEDGEMENT

"GLORY TO GOD ALMIGHTY WHO GIVES US THE VICTORY"

We are grateful to **Dr. Sr. G. CELINE SAHAYA MARY**, Principal, Fatima College, Madurai, for permitting us to carry out our internship at Department of Physics, Sri Sivasubramaniya Nadar College of Engineering (Autonomous), Kalavakkam-603110 and also, I would like to thank **Dr. Sr. M. FRANCISCA FLORA**, Secretary, Fatima College, Madurai for her prayers and blessings.

I thank **Dr. A. SHEELA VIMALA RANI**, Head, Research Centre of Physics, Fatima College, Madurai, for her constant support and encouragement in the successful completion of this internship work.

I would like to express my special thanks of gratitude to the principal **Prof. V.E. ANNAMALAI** as well as our vice principal **Prof. S. RADHA** who gave me the golden opportunity to do this wonderful project in Sri Sivasubramaniya Nadar College of Engineering (Autonomous), Chennai-603110.

I would like to express my sincere thanks to **Prof. S.M.M. KENNEDY**, Head, Department of Physics, Sri Sivasubramaniya Nadar College of Engineering (Autonomous), for his valuable guidance and support in completing my internship project.

I thank **Research Scholars**, Department of Physics, Sri Sivasubramaniya Nadar College of Engineering (Autonomous), for their constant support throughout this internship work.

I thank my beloved parents **Mr. P. PANDIAN** and **Mrs. M. MARISELVI** for their motivation during this internship and friends for their valuable support.

P. Lavanya
(P.LAVANYA)



Sri Sivasubramaniya Nadar College of Engineering, Kalavakkam-603 110
(An Autonomous Institution, Affiliated to Anna University, Chennai)

Department of Physics

PREPARATION OF PECTIN BASED BIO-POLYMER ELECTROLYTES FOR MAGNESIUM ION BATTERIES.

Internship report

Submitted by

Ms. J. LEKASRI

Ms. T. RAGAPRIYA

Under the guidance of

Dr. S. Karthickprabhu,

Assistant Professor,

Department of Physics,

Thiagarajar college of Engineering, Madurai.



Department of Physics
Thiagarajar College of Engineering
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The Research Centre of Physics
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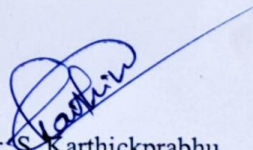
Certificate

Certified that this Internship work entitled "Preparation of Pectin Based Bio-Polymer Electrolytes for Magnesium Ion Batteries" is the bonafide work of Ms.LekaSri J (2023MSCP13) and Ms.Ragapriya T (2023MSCP16), under the guidance of Dr. S, Karthickprabhu, Assistant professor, Department of Physics has been submitted as an Internship report on 11.06.2024 at Thiagarajar college of engineering, Madurai.



Dr. M. Mahendran
Professor & Head
Department of Physics
Thiagarajar college of Engineering
Madurai – 625015.

Dr. M. MAHENDRAN, Ph.D., FASCh..
Professor and Head
Department of Physics
Thiagarajar College of Engineering
Madurai - 625 015

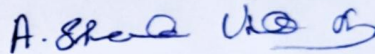


Dr. S. Karthickprabhu
Assistant professor
Department of Physics
Thiagarajar college of
Engineering, Madurai - 625015

Dr. S.KARTHICKPRABHU
Assistant Professor of Physics
Thiagarajar College of Engineering
Madurai - 625 015

Certificate

This is to certify that the Internship work on PREPARATION OF PECTIN BASED BIO-POLYMER ELECTROLYTES FOR MAGNESIUM ION BATTERIES Submitted by Lekasri J (2023MSCP13), Ragapriya T (2023MSCP16), under the guidance of Dr. S.KarthickPrabhu, Assistant Professor, Department of Physics has been submitted as an internship report on 06.06.2024 at Thiagarajar college of engineering, Madurai.



Dr. A. Sheela Vimala Rani,

Head of the Department,

The Research Centre of physics,

Fatima college,

Madurai-625218.

DECLARATION

We hereby declare that the Internship report entitled on “Preparation of Pectin Based Bio-Polymer Electrolytes for Magnesium Ion Batteries” submitted to Fatima college (Autonomous), Madurai – 625018 to the award of degree of Master of Science in physics is a record of original internship report carried out under the supervision of Dr.S.Karthickprabhu, Assistant professor, Department of Physics, Thiagarajar college of engineering, Madurai.

J. Lekasri
J.Lekasri

(2023MSCP13)

T. Ragapriya
T. Ragapriya

(2023MSCP16)

Place: Madurai

Date: 11/06/2024

Acknowledgement

I am grateful to mention the people whose constant inspiration, guidance and Blessings made my internship work a successful one.

I thank God for his substantial blessings and mercy at all stages of the completion of my internship work. Taking this opportunity, I thank my parents and friends for their sacrifices in supporting me.

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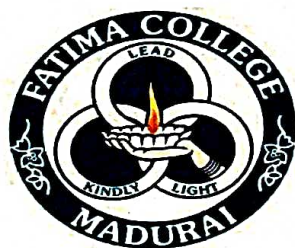
PHOTOLUMINESCENCE

INTERNSHIP REPORT

Submitted by

Ms.R.MATHUMITHA

(RegisterNo: 2023MSCP14)



DEPARTMENT OF PHYSICS

FATIMA COLLEGE

(AUTONOMOUS)

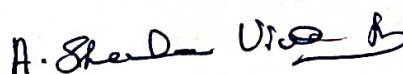
RE-ACCREDITED WITH 'A++' GRADE BY NACC (4th Cycle)

(CGPA: 3.61) in the fourth cycle

MADURAI-625 018.

BONAFIDE CERTIFICATE

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(Autonomous), Madurai, is a bonafide record of work done by
“Ms.R.MATHUMITHA” under my supervision from 06-05-2024 to 24-05-2024.




Dr. A. Sheela Vimala Rani

**Head and Associate Professor,
Research Centre of Physics,
Fatima College,
Madurai-625018.**

BONAFIDE CERTIFICATE

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Signature of supervisor

(Dr.S.Masilla Moses Kennedy)

Dr. S. MASILLA MOSES KENNEDY
Professor and Head
Department of Physics
SSN College of Engineering
Kalavakkam-603 110

59
60



Signature of HOD
(Dr. S. Masilla Moses Kennedy)

Dr. S. MASILLA MOSES KENNEDY
Professor and Head
Department of Physics
SSN College of Engineering
Kalavakkam-603 110

SYNTHESIS OF NANOMATERIALS AND THIN FILM

Internship Report

Submitted by

Ms. G. PRIYADARSHINI
Ms. V. BHUVANESHWARI
Mrs. M. SALIMA SULTHANA
Ms. J. VISHNU VARDHINI

Under the guidance of

Dr. P. Velusamy,
Assistant Professor,
Department of Physics,
Thiagarajar college of Engineering, Madurai.



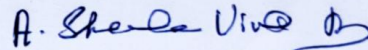
Department of Physics
Thiagarajar College of Engineering
(Affiliated to Anna University)
Madurai - 625015



Research Centre of Physics
Fatima College(Autonomous)
Madurai - 625018

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Head of the Department,


The Research Centre of Physics,

Fatima college (Autonomous),

Madurai – 625 018.

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Professor & Head,
Department of Physics,
Thiagarajar college of Engineering,
Madurai – 625015.

Dr. M. MAHENDRAN Ph.D., FASCh.
Professor and Head
Department of Physics
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Madurai - 625 015



Dr. P. Velusamy

Assistant professor,
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Dr.P.VELUSAMY B.Sc., B.Ed., B.Ph., Ph.D., POF
Assistant Professor
Department of Physics
Thiagarajar College of Engineering
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V. Bhuvaneshwari

Bhuvaneshwari V

(2023MSCP05)

G. Priyadharshini

Priyadharshini G

(2023MSCP15)

M. salima Sulthana

Salima Sulthana M

(2023MSCP19)

J. Vishnu Vardhini

Vishnu Vardhini J

(2023MSCP21)

Place: Madurai.

Date: 06. 06. 2024

Acknowledgement

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PREPARATION OF PECTIN BASED BIO-POLYMER ELECTROLYTES FOR MAGNESIUM ION BATTERIES.

Internship report

Submitted by
Ms.T.RAGAPRIYA
Ms.J.LEKASRI

Under the guidance of
Dr. S.Karthickprabhu,
Assistant Professor,
Department of Physics,
Thiagarajar college of Engineering, Madurai.



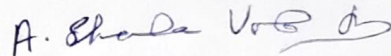
Department of Physics
Thiagarajar College of Engineering
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The Research Centre of Physics
Fatima College(Autonomous)
Madurai - 625018

Certificate

This is to certify that the Internship work on PREPARATION OF PECTIN BASED BIO-POLYMER ELECTROLYTES FOR MAGNESIUM ION BATTERIES Submitted by Lekasri J (2023MSCP13), Ragapriya T (2023MSCP16), under the guidance of Dr. S.KarthickPrabhu, Assistant Professor, Department of Physics has been submitted as an internship report on 06.06.2024 at Thiagarajar college of engineering, Madurai.



Dr. A. Sheela Vimala Rani,

Head of the Department,

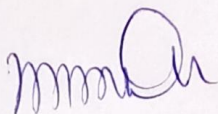
The Research Centre of physics,

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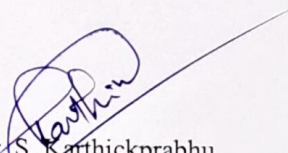
Certificate

Certified that this Internship work entitled "Preparation of Pectin Based Bio-Polymer Electrolytes for Magnesium Ion Batteries" is the bonafide work of Ms.LekaSri J (2023MSCP13) and Ms.Ragapriya T (2023MSCP16), under the guidance of Dr. S, Karthickprabhu, Assistant professor, Department of Physics has been submitted as an Internship report on 11.06.2024 at Thiagarajar college of engineering, Madurai.



Dr. M. Mahendran
Professor & Head
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Dr. M. MAHENDRAN, Ph.D., FASCh.,
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Assistant professor
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Thiagarajar college of
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Dr. S. KARTHICKPRABHU
Assistant Professor of Physics
Thiagarajar College of Engineering
Madurai - 625 015

DECLARATION

We hereby declare that the Internship report entitled on “Preparation of Pectin Based Bio-Polymer Electrolytes for Magnesium Ion Batteries” submitted to Fatima college (Autonomous), Madurai – 625018 to the award of degree of Master of Science in physics is a record of original internship report carried out under the supervision of Dr.S.Karthickprabhu, Assistant professor, Department of Physics, Thiagarajar college of engineering, Madurai.

J. Lekasri

J.Lekasri

(2023MSCP13)

T. Ragapriya

T. Ragapriya

(2023MSCP16)

Place: Madurai

Date: 11/06/2024

Acknowledgement

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PHOTOLUMINESCENCE

INTERNSHIP REPORT

Submitted by

Ms.L.SALETHNISHA

(RegisterNo:2023MSCP18)



DEPARTMENT OF PHYSICS

FATIMA COLLEGE

(AUTONOMOUS)

RE-ACCREDITED WITH 'A++' GRADE BY NACC (4th Cycle)

(CGPA: 3.61) in the fourth cycle

MADURAI-625 018.

BONAFIDE CERTIFICATE

This is to certify that this internship project report entitled "PHOTOLUMINESCENCE" was submitted to Department of Physics, Fatima College (Autonomous), Madurai, is a bonafide record of work done by " Ms.L.SALETHNISHA" under my supervision from 06-05-2024 to 24-05-2024.



Signature of supervisor

(Dr.S.Masilla Moses Kennedy)

Dr. S. MASILLA MOSES KENNEDY
Professor and Head
Department of Physics
SSN College of Engineering
Kalavakkam-603 110



Signature of HOD

(Dr. S. Masilla Moses Kennedy)

Dr. S. MASILLA MOSES KENNEDY
Professor and Head
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Kalavakkam-603 110

DECLARATION

I do hereby declare that this dissertation entitled "**PHOTOLUMINESCENCE**" was carried out by Ms.L.SALETHNISHA (Register Number:2023MSCP18) submitted to the Department of Physics, Fatima College, Madurai in partial fulfillment of the requirements for the award of **MASTER OF SCIENCE in PHYSICS**, during the academic year, 2024–2025.

Place:Madurai

Date:

L.SALETHNISHA

(2023MSCP18)

ACKNOWLEDGEMENT

“GLORY TO GOD ALMIGHTY WHO GIVES US THE VICTORY”

We are grateful to **Dr. Sr. G. CELINE SAHAYA MARY**, Principal, Fatima College, Madurai, for permitting us to carry out our internship at Department of Physics, Sri Sivasubramaniya Nadar College of Engineering (Autonomous), Kalavakkam-603110 and also, I would like to thank **Dr. Sr. M. FRANCISCA FLORA**, Secretary, Fatima College, Madurai for her prayers and blessings.

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I thank my beloved parents **Mr. S.P. LIGORI** and **Mrs. L. ARUL MARY** for their motivation during this internship and friends for their valuable support.

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Department of Physics

SYNTHESIS OF NANOMATERIALS AND THIN FILM

Internship Report

Submitted by

Mrs. M. SALIMA SULTHANA

Ms. V. BHUVANESHWARI

Ms. G. PRIYADHARSHTNI

Ms. J. VISHNU VARDHINI

Under the guidance of

Dr. P. Velusamy,

Assistant Professor,

Department of Physics,

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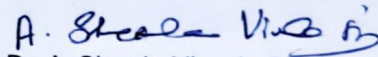
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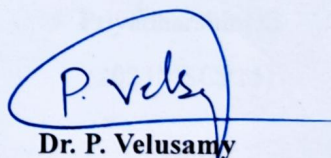
Professor & Head,

Department of Physics,

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Thiagarajar College of Engineering
Madurai - 625 015



Dr. P. Velusamy

Assistant professor,

Department of Physics,

Thiagarajar college of Engineering,

Madurai – 625015.

Dr. P. VELUSAMY, M.Sc., B.Ed., M.Phil., Ph.D., PDF
Assistant Professor
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Madurai - 625015.

DECLARATION

We hereby declare that the dissertation titled on "SYNTHESIS OF NANO MATERIALS AND THIN FILM ", submitted to Fatima college (Autonomous), Madurai – 625018 to the award of degree of Master of Science in physics is a record of original internship report carried out under the supervision of Dr. P. Velusamy, Assistant professor, Department of Physics, Thiagarajar college of engineering, Madurai.

V. Bhuvaneshwari

Bhuvaneshwari V

(2023MSCP05)

Gt. Priyadharshini

Priyadharshini G

(2023MSCP15)

M. Salima Sulthana

Salima Sulthana M

(2023MSCP19)

J. Vishnu Vardhini

Vishnu Vardhini J

(2023MSCP21)

Place: Madurai.

Date: 06. 06. 2024

Acknowledgement

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PHOTOLUMINESCENCE

INTERNSHIP REPORT

Submitted by

Ms.M.SWETHA

(Register No: 2023MSCP20)



DEPARTMENT OF PHYSICS

FATIMA COLLEGE

(AUTONOMOUS)

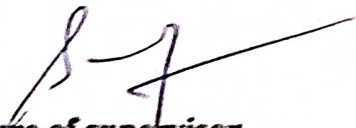
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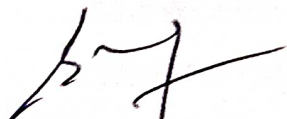


Signature of supervisor

(Dr.S.Masilla Moses Kennedy)

Dr. S. MASILLA MOSES KENNEDY
Professor and Head
Department of Physics
SSN College of Engineering
Kalavakkam-603 110

58
60



Signature of HOD
(Dr. S. Masilla Moses Kennedy)

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Department of Physics
SSN College of Engineering
Kalavakkam -603 110

DECLARATION

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Place:Madurai

Date:

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Department of Physics

SYNTHESIS OF NANOMATERIALS AND THIN FILM

Internship Report

Submitted by

Ms. J. VISHNU VARDHINI
Ms. V. BHUVANESHWARI
Ms. G. PRIYADARSHINI
Mrs. M. SALIMA SULTHANA

Under the guidance of

Dr. P. Velusamy,
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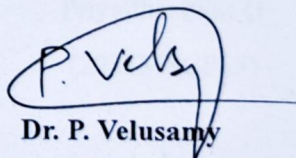
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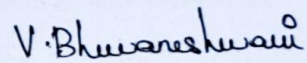
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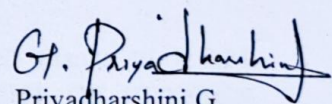
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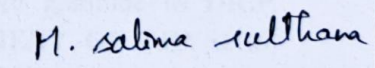
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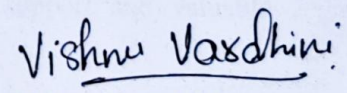
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(2023MSCP05)


Priyadharshini G
(2023MSCP15)


Salima Sulthana M
(2023MSCP19)


Vishnu Vardhini J
(2023MSCP21)

Place: Madurai.

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**FABRICATION OF PRIMARY ALUMINIUM ION
CONDUCTING BATTERY
USING *KAPPA CARRAGEENAN (RED SEA WEEDS)* BASED
BIOPOLYMER MEMBRANE AS SOLID ELECTROLYTE**

Internship Report

Submitted by

Mrs. M. SEDHU LAKSHMI

(Register No: 2023MSCP23)



**RESEARCH CENTRE OF PHYSICS
FATIMA COLLEGE (AUTONOMOUS)
(Re-Accredited With A++ by NAAC)
MARY LAND, MADURAI – 625 018.**

**FABRICATION OF PRIMARY ALUMINIUM ION
CONDUCTING BATTERY
USING KAPPA CARRAGEENAN (RED SEA WEEDS) BASED
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An internship report submitted to

FATIMA COLLEGE (AUTONOMOUS)

(Affiliated to **MADURAI KAMARAJ UNIVERSITY**, Madurai)

To partial fulfillment of the requirement for the award of the degree

MASTER OF SCIENCE IN PHYSICS

Submitted by

Mrs. M. SEDHU LAKSHMI

(Register No: 2023MSCP23)

S. Selva Sekarapandian

Dr. S. Selvasekarapandian

Director,

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Dr. A. Sheela Vimala Rani

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Madurai-625018.



**RESEARCH CENTRE OF PHYSICS
FATIMA COLLEGE (AUTONOMOUS)**

(Re-Accredited With A++ by NAAC)

MARY LAND, MADURAI – 625 018.

**FABRICATION OF PRIMARY ALUMINIUM ION
CONDUCTING BATTERY
USING *KAPPA CARRAGEENAN (RED SEA WEEDS)* BASED
BIOPOLYMER MEMBRANE AS SOLID ELECTROLYTE**

Internship Report

Submitted by

Ms. K. C. BABISHA

(Register No: 2023MSCP25)



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FATIMA COLLEGE (AUTONOMOUS)
(Re-Accredited With A++ by NAAC)
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CONDUCTING BATTERY
USING *KAPPA CARRAGEENAN (RED SEA WEEDS)* BASED
BIOPOLYMER MEMBRANE AS SOLID ELECTROLYTE**

An internship report submitted to

FATIMA COLLEGE (AUTONOMOUS)

(Affiliated to **MADURAI KAMARAJ UNIVERSITY**, Madurai)

To partial fulfillment of the requirement for the award of the degree

MASTER OF SCIENCE IN PHYSICS

Submitted by

Ms. K. C. BABISHA

(Register No: 2023MSCP25)

S. Selva Sekarapandian

Dr. S. Selvasekarapandian

Director,

Materials Research Center,

Coimbatore-641045 &

Emeritus Professor,

Bharathiar University,

Coimbatore – 641046.

A. Sheela Vimala Rani

Dr. A. Sheela Vimala Rani

Head and Associate Professor,

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**RESEARCH CENTRE OF PHYSICS
FATIMA COLLEGE (AUTONOMOUS)**

(Re-Accredited With A++ by NAAC)

MARY LAND, MADURAI – 625 018.

Internship Report
GROWTH OF ORGANIC SINGLE CRYSTALS

Submitted by
Ms. J. ABARNA
Ms. B. JEYASHREE
Under the guidance of
Dr. M. Tamil Elakkiya,
Assistant professor,
Department of Physics,
Thiagarajar college of Engineering, Madurai.



DEPARTMENT OF PHYSICS
THIAGARAJAR COLLEGE OF ENGINEERING
(Affiliated to Anna University)
MADURAI - 625015

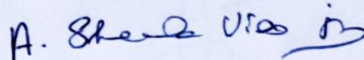
&



THE RESEARCH CENTRE OF PHYSICS
FATIMA COLLEGE (AUTONOMOUS)
MADURAI - 625018

Certificate

This is to certify that the Internship work on **GROWTH OF ORGANIC SINGLE CRYSTALS** submitted by ABARNA J (2023MSCP01), JEYASHREE B (2023MSCP10) under the guidance of Dr.M.Tamil Elakkiya, Assistant Professor, Department of Physics has been submitted as an internship report on 07.06.2024 at Thiagarajar college of engineering, Madurai.



Dr. A. Sheela Vimala Rani,

Head of the Department,

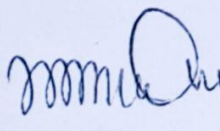
The Research Centre of Physics,

Fatima college (Autonomous),

Madurai - 625 018.

Certificate

This is to certify that the Internship work on **GROWTH OF ORGANIC SINGLE CRYSTALS** done by Abarna J (2023MSCP01), Jeyashree B (2023MSCP10) under the guidance of Dr.M.Tamil Elakkiya, Assistant professor, Department of Physics has been submitted as an internship report on 07.06.2024 at Thiagarajar college of engineering, Madurai.

7/6/24


Dr. M. Mahendran,

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Department of Physics,

Thiagarajar college of Engineering,

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7/6/24

Dr. M. Tamil Elakkiya

Assistant professor,

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Madurai - 625015.

Dr. M. MAHENDRAN, Ph.D., FASCh.

Professor and Head

Department of Physics

Thiagarajar College of Engineering

Madurai - 625 015

DECLARATION

We hereby declare that the dissertation titled on "GROWTH OF ORGANIC SINGLE CRYSTALS ", submitted to Fatima college (Autonomous), Madurai – 625018 to the award of degree of Master of Science in physics is a record of original internship report carried out under the supervision of Dr.M. Tamil Elakkiya, Assistant professor, Department of Physics, Thiagarajar college of engineering, Madurai.

J. Abarna

Abarna J

(2023MSCP01)

B. Jeyashree

Jeyashree B

(2023MSCP10)

Place: Madurai.

Date: 07. 06. 2024

Acknowledgement

I am grateful to mention the people whose constant inspiration, guidance and blessings made my internship work a successful one.

I thank God for his substantial blessings and mercy at all stages of the completion of my internship work. Taking this opportunity, I thank my parents and friends for their sacrifices in supporting me.

I feel honoured to place a warm salutation to the management of **THIAGARAJAR COLLEGE OF ENGINEERING, MADURAI** which gave me the opportunity to have a strong base in physics and practical and theoretical knowledge.

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It is my immense pleasure to express my heartfelt thanks to **DR.M.MAHENDRAN, PROFESSOR & HEAD, DEPARTMENT OF PHYSICS, THIAGARAJAR COLLEGE OF ENGINEERING, MADURAI** for his valuable guidance and encouragement.

It is my immense pleasure to express my sincere gratitude to **DR.M.TAMIL ELAKKIYA, ASSISTANT PROFESSOR, DEPARTMENT OF PHYSICS, THIAGARAJAR COLLEGE OF ENGINEERING, MADURAI**. I owe my deep sense of gratitude and I feel extremely fortunate to have worked under her.

I like to thank all Faculties and Lab assistants in Department of Physics of Thiagarajar College of engineering Madurai, for their support and valuable suggestions at different stages of this internship work.

MEASUREMENT OF NATURAL RADIOACTIVITY IN SEDIMENT SAMPLES COLLECTED FROM THOOTHUKUDI AND ITS RADIATION HAZARDS

Internship Report

Submitted by

Ms. S. ABISHA

(Register No: 2023MSCP02)



DEPARTMENT OF PHYSICS
FATIMA COLLEGE (AUTONOMOUS)
RE-ACCREDITED WITH 'A⁺⁺' GRADE BY NACC (4th Cycle)

(CGPA: 3.61) in the fourth cycle

MADURAI -625018.

BONAFIDE CERTIFICATE

This is to certify that this internship project report entitled "MEASUREMENT OF NATURAL RADIOACTIVITY IN SEDIMENT SAMPLES COLLECTED FROM THOOTHUKUDI AND ITS RADIATION HAZARDS" was submitted to Department of Physics, Fatima College (Autonomous), Madurai, is a bonafide record of work done by **MS. S. ABISHA** " under my supervision from **06-05-2024** to **24-05-2024**.




Dr. A. Sheela Vimala Rani

Head and Associate Professor,

Research Centre of Physics,

Fatima College,

Madurai-625018.



Signature of supervisor

(Dr. A. Chandrasekaran)

Dr.A.ChandraSekaran,M.Sc.,M.Phil.,Ph.D.,PGDCA.,

Assistant Professor

Department of Physics

SSN College of Engineering

Kalavakkam - 603 110.



Signature of HOD

(Dr. S.M.M. Kennedy)

Dr. S. MASILLA MOSES KENNEDY

Professor and Head

Department of Physics

SSN College of Engineering

Kalavakkam-603 110

DECLARATION

I do hereby declare that this dissertation entitled “MEASUREMENT OF NATURAL RADIOACTIVITY IN SEDIMENT SAMPLES COLLECTED FROM THOOTHUKUDI AND ITS RADIATION HAZARDS” was carried out by S. ABISHA (Reg. No: 2023MSCP04) submitted to the Department of Physics, Fatima College, Madurai in partial fulfillment of the requirements for the award of MASTER OF SCIENCE in PHYSICS, during the academic year, 2024 – 2025

Place: Madurai

Date:

S. Abisha.
S. ABISHA

(2023MSCP02)

ACKNOWLEDGEMENT

"GLORY TO GOD ALMIGHTY WHO GIVES US THE VICTORY"

We are grateful to **Dr. Sr. G. CELINE SAHAYA MARY**, Principal, Fatima College, Madurai, for permitting us to carry out our internship at Department of Physics, Sri Sivasubramaniya Nadar College of Engineering (Autonomous), Kalavakkam-603110 and also, I would like to thank **Dr. Sr. M. FRANCISCA FLORA**, Secretary, Fatima College, Madurai for her prayers and blessings.

I thank **Dr. A. SHEELA VIMALA RANI**, Head, Research Centre of Physics, Fatima College, Madurai, for her constant support and encouragement in the successful completion of this internship work.

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I would like to express my sincere thanks to **Prof. S.M.M. Kennedy**, Head, Department of Physics, Sri Sivasubramaniya Nadar College of Engineering (Autonomous), for his valuable guidance and support in completing my internship project.

I am greatly indebted to **Dr. A. CHANDRASEKARAN**, Assistant Professor, Department of Physics, Department of Physics, Sri Sivasubramaniya Nadar College of Engineering (Autonomous), Kalavakkam-603110 for his constant support and supervision throughout the internship work and for initiating my interest in research.

I thank, **Mr. V. SATHISH**, **Ms. A. TAMILARASI**, **Ms. S. KARTHIKAYINI**, **Ms. G. POONGODI** Research Scholars, Department of Physics, Sri Sivasubramaniya Nadar College of Engineering (Autonomous), for their constant support throughout this internship work.

I thank my beloved parents **Mr. B. SORISON** and **Mrs. S. KENCIKA** for their motivation during this internship and friends for their valuable support.

(S. ABISHA)

RADIATION PHYSICS LABORATORY

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**SRI SIVASUBRAMANIYA NADAR COLLEGE OF ENGINEERING
(AUTONOMOUS)**

Dr. A. Chandrasekaran

Date: 01.08.2024

Assistant Professor

CERTIFICATE

This is to certify that **S. Abisha (2023MSCP02)**, Research Centre of Physics, **Fatima College (Affiliated to Madurai Kamaraj University)**, Madurai has successfully completed her Internship under the guidance of **Dr. A. CHANDRASEKARAN**, Assistant Professor, Department of Physics, Sri Siva subramaniya Nadar College of Engineering (Autonomous), Kalavakkam. She worked on the title "**MEASUREMENT OF NATURAL RADIOACTIVITY IN SEDIMENT SAMPLES COLLECTED FROM THOOTHUKUDI AND ITS RADIATION HAZARDS**" in Radiation Physics Laboratory, Sri Sivasubramaniya Nadar college of engineering (Chennai) during the period of 06-05-2024 to 24-05-2024.

MARKS OBTAINED: 57/60


Supervisor

Dr.A.ChandraSekaran, M.Sc. M.Phil. Ph.D. PGCCA
Assistant Professor
Department of Physics
SSN College of Engineering
Kalavakkam - 603 110.

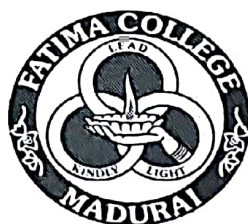
**ELEMENTAL ANALYSIS OF ANCIENT POTTERIES
OF TAMIL NADU BY TOTAL REFLECTION X-RAY
FLUORESCENCE TECHNIQUE**

Internship Report

Submitted by

Ms. B. AKSHA ZEN

(Register No: 2023MSCP03)



DEPARTMENT OF PHYSICS

FATIMA COLLEGE (AUTONOMOUS)

RE-ACCREDITED WITH 'A⁺⁺' GRADE BY NACC (4th Cycle)

(CGPA: 3.61) in the fourth cycle

MADURAI-625018.

BONAFIDE CERTIFICATE

This is to certify that this internship project report entitled “ELEMENTAL ANALYSIS OF ANCIENT POTTERIES OF TAMIL NADU BY TOTAL REFLECTION X-RAY FLUORESCENCE TECHNIQUE” was submitted to Department of Physics, Fatima College (Autonomous), Madurai, is a bonafide record of work done by “ Ms. B. AKSHA ZEN” under my supervision from 06-05-2024 to 24-05-2024.



Dr. A. Sheela Vimala Rani

Head and Associate Professor,

Research Centre of Physics,

Fatima College,

Madurai-625018.


Signature of supervisor

(Dr. A. Chandrasekaran)
Dr.A.ChandraSekaran,M.Sc.,M.Phil.,Ph.D.,PGDCA.,
Assistant Professor
Department of Physics
SSN College of Engineering
Kalavakkam - 603 110.


Signature of HOD

(Dr. S. M. M Kennedy)
Dr. S. MASILLA MOSES KENNEDY
Professor and Head
Department of Physics
SSN College of Engineering
Kalavakkam -603 110

DECLARATION

I do hereby declare that this dissertation entitled "**ELEMENTAL ANALYSIS OF ANCIENT POTTERIES OF TAMIL NADU BY TOTAL REFLECTION X-RAY FLUORESCENCE TECHNIQUE**" was carried out by **B. AKSHA ZEN** (Reg. No: 2023MSCP03) submitted to the Department of Physics, Fatima College, Madurai in partial fulfillment of the requirements for the award of **MASTER OF SCIENCE** in **PHYSICS**, during the academic year, 2024 – 2025.

Place: Madurai

Date:



B. AKSHA ZEN

(2023MSCP03)

ACKNOWLEDGEMENT

“GLORY TO GOD ALMIGHTY WHO GIVES US THE VICTORY”

We are grateful to **Dr. Sr. G. CELINE SAHAYA MARY**, Principal, Fatima College, Madurai, for permitting us to carry out our internship at Department of Physics, Sri Sivasubramaniya Nadar College of Engineering (Autonomous), Kalavakkam-603110 and also, I would like to thank **Dr. Sr. M. FRANCISCA FLORA**, Secretary, Fatima College, Madurai for her prayers and blessings.

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I thank my beloved parents **Mr. R. BENSAM** and **Mrs. B. VIJILA** for their motivation during this internship and friends for their valuable support.

(B. AKSHA ZEN)

RADIATION PHYSICS LABORATORY

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**SRI SIVASUBRAMANIYA NADAR COLLEGE OF ENGINEERING
(AUTONOMOUS)**

Dr. A. Chandrasekaran

Date: 01.08.2024

Assistant Professor

CERTIFICATE

This is to certify that **B. Aksha Zen (2023MSCP03)**, Research Centre of Physics, Fatima College (Affiliated to Madurai Kamaraj University), Madurai has successfully completed her Internship under the guidance of **Dr. A. CHANDRASEKARAN**, Assistant Professor, Department of Physics, Sri Siva Subramaniya Nadar College of Engineering (Autonomous), Kalavakkam. She worked on the title "**ELEMENTAL ANALYSIS OF ANCIENT POTTERIES OF TAMIL NADU BY TOTAL REFLECTION X-RAY FLUORESCENCE TECHNIQUE**" in Radiation Physics Laboratory, Sri Sivasubramaniya Nadar college of engineering (Chennai) during the period of 06-05-2024 to 24-05-2024.

MARKS OBTAINED: 57/60



Supervisor

**Dr.A.ChandraSekaran, M.Sc., M.Phil., Ph.D., PGDCA,
Assistant Professor
Department of Physics
SSN College of Engineering
Kalavakkam - 603 110.**

**MEASUREMENT OF NATURAL RADIOACTIVITY
IN COMMONLY USED WHITE CEMENT
COLLECTED FROM TAMILNADU AND ITS
RADIATION HAZARDS**

Internship Report

Submitted by

Ms. D. ASHIKA SHEERIN

(Register No: 2023MSCP04)



**DEPARTMENT OF PHYSICS
FATIMA COLLEGE (AUTONOMOUS)**

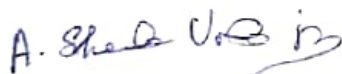
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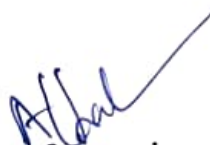
MADURAI - 625018.

BONAFIDECERTIFICATE

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Dr. A. Sheela Vimala Rani
Head and Associate Professor,
Research Centre of Physics,
Fatima College,
Madurai-625018.



Signature of supervisor

(Dr. A. Chandrasekaran)
Dr.A.ChandraSekaran,M.Sc.,M.Phil.,Ph.D.,PGDCA.,
Assistant Professor
Department of Physics
SSN College of Engineering
Kalavakkam - 603 110.



Signature of HOD

(Dr. S.M.M. Kennedy)
Dr. S. MASILLA MOSES KENNEDY
Professor and Head
Department of Physics
SSN College of Engineering
Kalavakkam-603 110

DECLARATION

I do hereby declare that this dissertation entitled "MEASUREMENT OF NATURAL RADIOACTIVITY IN COMMONLY USED WHITE CEMENT COLLECTED FROM TAMILNADU AND ITS RADIATION HAZARDS" was carried out by D. ASHIKA SHEERIN (Reg. No: 2023MSCP04) submitted to the Department of Physics, Fatima College, Madurai in partial fulfillment of the requirements for the award of MASTER OF SCIENCE in PHYSICS. during the academic year, 2024-2025



D.ASHIKA SHEERIN

(2023MSCP04)

Place: Madurai

Date:

ACKNOWLEDGEMENT

"GLORY TO GOD ALMIGHTY WHO GIVES US THE VICTORY"

We are grateful to **Dr. Sr. G. CELINE SAHAYA MARY**, Principal, Fatima College, Madurai, for permitting us to carry out our internship at Department of Physics, Sri Sivasubramaniya Nadar College of Engineering (Autonomous), Kalavakkam-603110 and also, I would like to thank **Dr. Sr. M. FRANCISCA FLORA**, Secretary, Fatima College, Madurai for her prayers and blessings.

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I thank my beloved parents **Mr. M.DIVAN OLI** and **Mrs. D.SYED ALI FATHIMA** for their motivation during this internship and friends for their valuable support.

(D.ASHIKA SHEERIN)

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(AUTONOMOUS)**

Dr. A. Chandrasekaran

Date: 01.08.2024

Assistant Professor

CERTIFICATE

This is to certify that **D. Ashika sheerin (2023MSCP04)**, Research Centre of Physics, Fatima College (Affiliated to Madurai Kamaraj University), Madurai has successfully completed her Internship under the guidance of **Dr. A. CHANDRASEKARAN**, Assistant Professor, Department of Physics, Sri Sivasubramaniya Nadar College of Engineering (Autonomous), Kalavakkam. She worked on the title **"MEASUREMENT OF NATURAL RADIOACTIVITY IN COMMONLY USED WHITE CEMENT COLLECTED FROM TAMILNADU AND ITS RADIATION HAZARDS"** in Radiation Physics Laboratory, Sri Sivasubramaniya Nadar college of engineering (Chennai) during the period of 06-05-2024 to 24-05-2024.

MARKS OBTAINED: 57/60


Supervisor

Dr.A.ChandraSekaran,M.Sc,M.Phil,Ph.D PGDC
Assistant Professor
Department of Physics
SSN College of Engineering
Kalavakkam - 603 110

SYNTHESIS OF NANOMATERIALS AND THIN FILM

Internship Report

Submitted by

Ms. V. BHUVANESHWARI
Ms. G. PRIYADHARSHTNI
Mrs. M. SALIMA SULTHANA
Ms. J. VISHNU VARDHINI

Under the guidance of

Dr. P. Velusamy,
Assistant Professor,
Department of Physics,
Thiagarajar college of Engineering, Madurai.



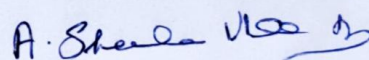
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(Affiliated to Anna University)
Madurai - 625015



Research Centre of Physics
Fatima College(Autonomous)
Madurai - 625018

Certificate

This is to certify that the Internship work on SYNTHESIS OF NANOMATERIALS AND THIN FILM done by Bhuvaneshwari V (2023MSCP05), Priyadharshini G (2023MSCP15), Salima Sulthana M (2023MSCP19), Vishnu Vardhini J (2023MSCP21) under the guidance of Dr. P. Velusamy, Assistant Professor, Department of Physics has been submitted as an internship report on 06.06.2024 at Thiagarajar college of engineering, Madurai.



Dr. A. Sheela Vimala Rani,

Head of the Department,

The Research Centre of Physics,

Fatima college (Autonomous),

Madurai – 625 018.

Certificate

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Dr. M. Mahendran,

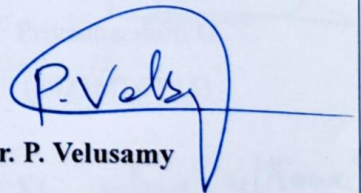
Professor & Head,

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Dr. M. MAHENDRAN, Ph.D., FASCR.,
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Dr. P. Velusamy

Assistant professor,

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Madurai – 625015.

Dr.P.VELUSAMY, M.Sc., B.Ed., M.Phil., Ph.D., PGF
Assistant Professor
Department of Physics
Thiagarajar College of Engineering
Madurai - 625015.

DECLARATION

We hereby declare that the dissertation titled on “SYNTHESIS OF NANO MATERIALS AND THIN FILM “, submitted to Fatima college (Autonomous), Madurai – 625018 to the award of degree of Master of Science in physics is a record of original internship report carried out under the supervision of Dr. P. Velusamy, Assistant professor, Department of Physics, Thiagarajar college of engineering, Madurai.

V. Bhuvaneshwari

Bhuvaneshwari V

(2023MSCP05)

G. Priyadharshini

Priyadharshini G

(2023MSCP15)

M. Salima Sulthana

Salima Sulthana M

(2023MSCP19)

J. Vishnu Vardhini

Vishnu Vardhini J

(2023MSCP21)

Place: Madurai.

Date: 06. 06. 2024

Acknowledgement

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I like to thank to all Facilities and Lab assistants in Department of Physics of Thiagarajar College of engineering Madurai, for their support and valuable suggestions at different stages of this internship work.