

**PERFORMANCE STUDY OF SELF POWERED n-ZnO/p-Si
HETEROJUNCTION PHOTODETECTORS FOR THE ZINC
NITRATE DEPOSITION TIME OF 1.5 hrs, 2 hrs AND 2.5 hrs**

Submitted to Kongunadu Arts and Science College (Autonomous)
affiliated to Bharathiar University, Coimbatore
in partial fulfilment of the requirement for the Award for the Degree of
MASTER OF SCIENCE IN PHYSICS

Submitted by

AKSHATHA R
(Reg. No.222PH001)

Under the guidance of

Dr. K. SARAVANA KUMAR, M.Sc.,Ph.D.



DEPARTMENT OF PHYSICS

KONGUNADU ARTS AND SCIENCE COLLEGE (AUTONOMOUS)

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

COLLEGE OF EXCELLENCE (UGC)

29th RANK AMONG COLLEGES IN NIRF 2023

COIMBATORE-641029

APRIL-2024

CERTIFICATE

This is to certify that the project entitled " **PERFORMANCE STUDY OF SELF POWERED n-ZnO/p-Si HETEROJUNCTION PHOTODETECTORS FOR THE ZINC NITRATE DEPOSITION TIME OF 1.5 hrs, 2 hrs AND 2.5 hrs** " submitted to Kongunadu Arts and Science College (Autonomous), Coimbatore affiliated to Bharathiar University in partial fulfilment of the requirements for the award of the degree of **MASTER OF SCIENCE IN PHYSICS** is a record of original work done by **AKSHATHA R** during the period 2022-2024 of her study in the Department of Physics at Kongunadu Arts and Science College, Coimbatore under my supervision.

PLACE: COIMBATORE

DATE: 2/4/2024

SIGNATURE OF THE GUIDE

(Dr.K.Saravana kumar)
Dr. K. SARAVANAKUMAR
Associate Professor of Physics
Kongunadu Arts Science College,
Coimbatore - 641 029.

COUNTER SIGNED

A. Anu Kaliani
2/4/24
HEAD OF THE DEPARTMENT

Dr. A. ANU KALIANI
Associate Professor & Head
Department of Physics
Kongunadu Arts and Science College,
Coimbatore - 641 029.



2/4/24
PRINCIPAL
Principal

Kongunadu Arts and Science College
Coimbatore - 641 029

Submitted for the Viva-voice Examination held on 23/4/24 at Kongunadu Arts and Science College (Autonomous), Coimbatore.

EXAMINER

INTERNAL

EXTERNAL

**CHARACTERIZATION AND STRUCTURAL ANALYSIS OF 2-AMINO 4-METHYL,
PYRIDINIUM FUMARATE SINGLE CRYSTAL**

PROJECT REPORT

Submitted to Kongunadu arts and Science College (Autonomous) affiliated to
Bharathiyar University Coimbatore in partial Fulfilment of the Requirements for the Award
of the Degree of

MASTER OF SCIENCE IN PHYSICS

Submitted by

SOUNDARYA.R

(Reg No:222PH002)

Under the guidance of

Mr. K. KARUPPUSWAMY M.Sc., M.Phil., B.Ed., PGDCA., (SLST)



DEPARTMENT OF PHYSICS

KONGUNADU ARTS AND SCIENCE COLLEGE (AUTONOMOUS)

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

29th NIRF RANKING (2023)

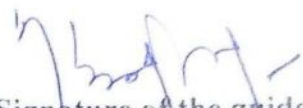
COLLEGE OF EXCELLENCE(UGC)

COIMBATORE-641029

APRIL 2024

CERTIFICATE

This is to certify that the project entitled "CHARACTERIZATION AND STRUCTURAL ANALYSIS OF 2 AMINO 4 METHYL PYRIDINIUM FUMARATE SINGLE CRYSTAL" submitted to Kongunadu Arts and Science College (Autonomous), affiliated to Bharathiyar University, in partial fulfilment of the requirements for the award of the Degree of **MASTER OF SCIENCE IN PHYSICS** is a record of original work done by **SOUNDARYA.R** during the period 2022 to 2024 of her study in the Department of Physics at Kongunadu Arts and Science College (Autonomous), Coimbatore - 641 029 under my supervision and the project has not formed the basis for the award of any Degree / Diploma / Associateship / Fellowship or other similar title to any candidate of any University.


Signature of the guide

(Mr. K. KARUPPUSWAMY)

K. KARUPPUSWAMY, M.Sc., M.Phil., B.Ed., PGDCA, SLST.
Associate Professor
Department of Physics
Kongunadu Arts and Science College
G.N. Mills Post, Coimbatore - 641 029.

Place: Coimbatore

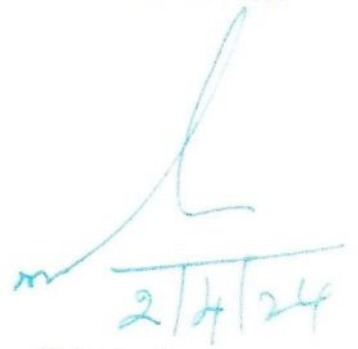
Date: 02.04.2024



Counter Signed


2/4/24

Head of the Department
Associate Professor & Head
Department of Physics
Kongunadu Arts and Science College
G.N. Mills (P.O), Coimbatore - 641 029.


2/4/24

Principal
PRINCIPAL
Kongunadu Arts & Science College
COIMBATORE-641 029

Submitted for the viva-voce examination held 23/4/24 at Kongunadu arts and Science College (Autonomous), Coimbatore - 29.

Examiners

1. 

2. 

SYNTHESIS OF $\text{Ni}_3\text{V}_2\text{O}_8$ NANOPARTICLES BY CO-PRECIIPITATION METHOD FOR SUPERCAPACITORS

Submitted to Kongunadu Arts and Science College (Autonomous) affiliated to Bharathiar
University, Coimbatore in partial fulfilment of the requirement for the

Award for the Degree of

MASTER OF SCIENCE IN PHYSICS

Submitted by

SAI CHARANYA.B

(Reg.No.222PH003)

Under the guidance of

Dr. V. D. NITHYA., M.Sc., Ph.D.



DEPARTMENT OF PHYSICS

KONGUNADU ARTS AND SCIENCE COLLEGE (AUTONOMOUS)

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

COLLEGE OF EXCELLENCE (UGC)

29th RANK AMONG COLLEGES IN NIRF 2023

COIMBATORE-641029

APRIL-2024

CERTIFICATE

This is to certify that the project entitled "SYNTHESIS OF $\text{Ni}_3\text{V}_2\text{O}_8$ NANOPARTICLES BY CO-PRECIPITATION METHOD FOR SUPERCAPACITORS" submitted to Kongunadu Arts and Science College (Autonomous), Coimbatore affiliated to Bharathiar University in partial fulfilment of the requirements for the award of the degree of **MASTER OF SCIENCE IN PHYSICS** is a record of original work done by **SAI CHARANYA.B** during the period 2022-2024 of her study in the Department of Physics at Kongunadu Arts and Science College, Coimbatore under my supervision and the project has not formed the basis for the award of any Degree/Diploma/Fellowship or other similar title to any candidate of any university.

Place: Coimbatore

Date: 01.04.24



Counter signed

V. D. Nithya
Signature of the guide
(Dr. V. D. NITHYA)

[Signature]
11/4/24

A. Anu Kaliani
11/4/24
Head of the Department
Dr. A. ANU KALIANI
Associate Professor & Head
Department of Physics
Kongunadu Arts and Science College
G.H. Mills Post, Coimbatore - 641 029.

Principal
PRINCIPAL
Kongunadu Arts & Science College
COIMBATORE-641 029

Submitted for the Viva-voice Examination held on at 03/4/24 Kongunadu Arts and Science College (Autonomous), Coimbatore.

Examiners

V. D. Nithya
1. INTERNAL

[Signature]
2. EXTERNAL

**PREPARATION OF CHITOSAN- ZINC OXIDE (CS-ZnO)
NANOPARTICLES BY GREEN ROUTE APPROACH :
CHARACTERIZATION AND APPLICATIONS
PROJECT REPORT**

Submitted to Kongunadu arts and science college(Autonomous) affiliated to
Bharathiar University, Coimbatore in partial fulfillment of the requirements for the

Award of the degree of

MASTER OF SCIENCE IN PHYSICS

Submitted by

S.SHREE LAKSHMI

(Register Number :222PH004)

Under the guidance of

Dr .B.CHANDAR SHEKAR ,M.Sc.,M.Phil., Ph.D.,

Associate Professor



DEPARTMENT OF PHYSICS

KONGUNADU ARTS AND SCIENCE COLLEGE(AUTONOMOUS

[RE-ACCREDITED BY NAAC WITH 'A+' GRADE (4th cycle)]

COLLEGE OF EXCELLENCE (UGC)

29th RANK AMONG COLLEGES IN NIRF 2023

COIMBATORE-641029

APRIL-2024

CERTIFICATE

This is to certify that the project entitled "**PREPARATION OF CHITOSAN- ZINC OXIDE (CS-ZnO) NANOPARTICLES BY GREEN ROUTE APPROACH : CHARACTERIZATION AND APPLICATIONS**", submitted to Kongunadu Arts and Science College, Coimbatore (Autonomous) affiliated to Bharathiar University, in partial fulfillment of the requirements for the award of the Degree of **MASTER OF SCIENCE IN PHYSICS** is the record of original work done by **S.SHREE LAKSHMI** during the period 2022 to 2024 of their study in the Department of Physics at Kongunadu Arts and Science College(Autonomous) .Coimbatore-641029 under my supervision and the project has not formed the basis for the award of any Degree/Diploma/Fellowship or other similar title to any candidate of any University.

Place : Coimbatore

Date : 28/3/2024



Dr. B. CHANDAR SHEKAR, M.Sc., M.Phil., Ph.D.
Associate Professor
(Dr. B. CHANDAR SHEKAR)
Department of Physics
Kongunadu Arts and Science College
G.N. Mills Post, Coimbatore - 641 029.

Countersigned

Dr. A. ANU KALIANI
Associate Professor & Head
Department of Physics
Kongunadu Arts and Science College
Head of the department
G.N. Mills Post, Coimbatore - 641 029.




21/4/24
Principal

Principal

Kongunadu Arts and Science College
Coimbatore - 641 029

Submitted for the viva-voce examination held on 23/4/24 at Kongunadu Arts and Science College (Autonomous), Coimbatore- 641029.

Examiners



1. INTERNAL



2. EXTERNAL

**STUDY OF SELF POWERED n-ZnO/p-Si HETEROJUNCTION
PHOTODETECTOR FOR THE ZINC NITRATE CONCENTRATION
OF 0.01M, 0.025M, 0.05M AND 0.1M**

**Submitted to Kongunadu arts and Science College (Autonomous)
affiliated to Bharathiar University Coimbatore in partial fulfillment of
the requirements for the award of the Degree of
MASTER OF SCIENCE IN PHYSICS**

**Submitted by
SHANJANA S
(Reg No:222PH005)
Under the guidance of**

Dr. K.SARAVANAKUMAR M.Sc., Ph.D.



DEPARTMENT OF PHYSICS

KONGUNADU ARTS AND SCIENCE COLLEGE (AUTONOMOUS)

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

COLLEGE OF EXCELLENCE(UGC)

29th NIRF RANKING - 2023

COIMBATORE-641029

APRIL 2024

CERTIFICATE

This is to certify that the project entitled "STUDY OF SELF POWERED n-ZnO/p-Si HETEROJUNCTION PHOTODETECTOR FOR THE ZINC NITRATE CONCENTRATION OF 0.01M, 0.025M, 0.05M AND 0.1M" submitted to Kongunadu Arts and Science College, affiliated to Bharathiar University, in partial fulfillment of the requirements for the award of the Degree of **MASTER OF SCIENCE IN PHYSICS** is a record of original work done by **SHANJANA S** during the period 2022-2024 of her study in the Department of Physics at Kongunadu Arts and Science College, Coimbatore - 641 029 under my supervision and the project has not formed the basis for the award of any Degree / Diploma / Associateship / Fellowship or other similar title to any candidate of any University.

Place : COIMBATORE

Date : 02/04/2024

Signature of the Guide

(Dr. K. SARAVANAKUMAR)

Dr. K. SARAVANAKUMAR
Associate Professor of Physics
Kongunadu Arts Science College,
Coimbatore - 641 029.

Countersigned



Head of the Department

Dr. A. ANU KALIANI
Associate Professor & Head
Department of Physics
Kongunadu Arts and Science College
G.N.Mills (P.O), Coimbatore - 641 029

Submitted for the viva-voce examination held on

23/4/24

Arts and Science College (Autonomous), Coimbatore-29.

Principal

Principal

Kongunadu Arts and Science College
Coimbatore - 641 029
at Kongunadu

Examiners

1.

2.

GROWTH AND CHARACTERIZATION STUDIES OF 2-AMINO 4-METHYL PYRIDINE NITROPHENOL SINGLE CRYSTAL

Submitted to

Kongunadu arts and Science College (Autonomous)

Affiliated to Bharathiar University Coimbatore in partial fulfilment
of the requirements for the award of the Degree of

MASTER OF SCIENCE IN PHYSICS

Submitted by

PRIYADHARSHINI B

(Reg No:222PH006)

Under the guidance of

Dr. V. MOHANKUMAR, M.Sc., B.Ed., Ph.D.



DEPARTMENT OF PHYSICS

KONGUNADU ARTS AND SICIENCE COLLEGE (AUTONOMOUS)

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

COLLEGE OF EXCELLENCE(UGC)

29th NIRF RANKING AMONG COLLEGES IN NIRF 2023

COIMBATORE-641029

APRIL -2024

CERTIFICATE

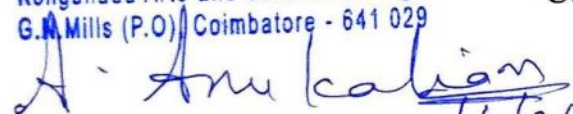
This is to certify that the project entitled, "**GROWTH AND CHARACTERIZATION STUDIES OF 2-AMINO 4-METHYL PYRIDINE NITROPHENOL SINGLE CRYSTAL**", submitted to Kongunadu Arts and Science College, affiliated to Bharathiar University, in partial fulfilment of the requirements for the award of the Degree of **Master of Science in Physics** is a record of original work done by **PRIYADHARSHINI B** during the period 2022 to 2024 of his study in the Department of Physics at Kongunadu Arts and Science College (Autonomous), Coimbatore - 641 029 under my supervision and the project has not formed the basis for the award of any Degree / Diploma / Associateship/Fellowship or other similar title to any candidate of any University.

Place: Coimbatore

Date: 02-04-2024

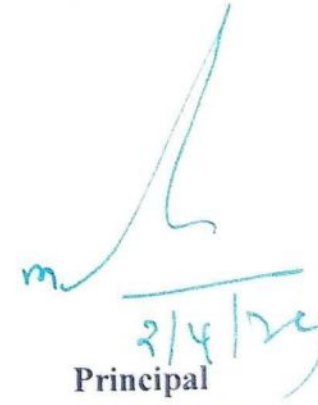

Signature of the Guide
(Dr. V. Mohankumar)

Dr. A. ANU KALIANI
Associate Professor & Head
Department of Physics
Kongunadu Arts and Science College
G.M. Mills (P.O.) Coimbatore - 641 029


Head of the Department

Countersigned




Principal

Kongunadu Arts and Science College
Coimbatore - 641 029

Submitted for the viva-voce examination held on 23/04/2024 at Kongunadu arts and Science College, Coimbatore - 29.

Examiners

1. 

2. 

**SYNTHESIS AND CHARACTERIZATION OF PURE AND COPPER
DOPED ZIRCONIUM OXIDE NANOPARTICLES BY
CO PRECIPITATION METHOD**

PROJECT REPORT

Submitted to Kongunadu Arts and Science College (Autonomous)
affiliated to Bharathiar University Coimbatore in partial fulfillment of the
requirements for the Award of the Degree of
MASTER OF SCIENCE IN PHYSICS

Submitted by
PAVITHRA M (222PH007)

Under the guidance of
Dr.S.SELVI M.Sc., B.Ed., Ph.D.,
Assistant Professor



DEPARTMENT OF PHYSICS

KONGUNADU ARTS AND SCIENCE COLLEGE (AUTONOMOUS)

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

COLLEGE OF EXCELLENCE (UGC)

29th RANK AMONG COLLEGES IN NIRF-2023

COIMBATORE-641029

APRIL 2024

CERTIFICATE

This is to certify that the project entitled "SYNTHESIS OF PURE AND COPPER DOPED ZIRCONIUM OXIDE NANOPARTICLES BY CO PRECIPITATION METHOD" submitted to Kongunadu Arts and Science College (Autonomous), affiliated to Bharathiar University, in partial fulfillment of the requirements for the award of the Degree of MASTER OF SCIENCE IN PHYSICS is a record of original work done by PAVITHRA M during the period 2023-2024 of her study in the Department of Physics at Kongunadu Arts and Science College (Autonomous), Coimbatore - 641029 under my supervision and the project has not formed the basis for the award of any Degree / Diploma / Associateship / Fellowship or other similar title to any candidate of any University.

Place: Coimbatore

Date : 02.04.2024.

Signature of the guide

(Dr.S.SELVI)

Dr. S. SELVI, M.Sc., B.Ed., Ph.D.,
Assistant Professor,
Department of Physics,
Kongunadu Arts & Science College (Autonomous)
COIMBATORE - 641 029.

Countersigned



Dr. A. Anu Kalyani
Associate Professor & Head
Department of Physics
Kongunadu Arts and Science College
G.N.Mills (P.O), Coimbatore - 641 029

Principal

Principal

Kongunadu Arts and Science College
Coimbatore - 641 029

Submitted for the viva-voce examination held on 23/4/24 at Kongunadu Arts and Science College (Autonomous), Coimbatore - 29.

Examiners

1. INTERNAL

2. EXTERNAL

SYNTHESIS AND PHOTOCATALYTIC ACTIVITY OF TiO₂ NANOPARTICLES BY CHEMICAL PRECIPITATION METHOD

PROJECT REPORT

Submitted to

Kongunadu Arts and Science College (Autonomous)

Affiliated to Bharathiar University, Coimbatore

in partial fulfilment of the requirements for the Award of the Degree of

MASTER OF SCIENCE IN PHYSICS

Submitted by

KEERTANA S

(Reg. No. 222PH008)

Under the guidance of

Dr. M. MOHAMED IBRAHIM M.Sc., Ph.D.



DEPARTMENT OF PHYSICS

KONGUNADU ARTS AND SCIENCE COLLEGE (AUTONOMOUS)

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

COLLEGE OF EXCELLENCE (UGC)

29th RANK AMONG COLLEGES IN NIRF 2023

COIMBATORE-641029

APRIL 2024

CERTIFICATE

This is to certify that the project entitled "SYNTHESIS AND PHOTOCATALYTIC ACTIVITY OF TiO_2 NANOPARTICLES BY CHEMICAL PRECIPITATION METHOD" submitted to Kongunadu Arts and Science College (Autonomous), affiliated to Bharathiar University, in partial fulfilment of the requirements for the award of the Degree of MASTER OF SCIENCE IN PHYSICS is a record of original work done by KEERTANA S during the period of 2022-2024 of her study in the Department of Physics at Kongunadu Arts and Science College (Autonomous), Coimbatore - 641029 under my supervision and the project has not formed the basis for the award of any Degree/Diploma/Fellowship or other similar title to any candidate of any University.

M. M. Zuhair 2/4/24
Signature of the guide

(Dr. M. MOHAMED IBRAHIM)
Dr. M. Mohamed Ibrahim, M.Sc., Ph.D.,
Assistant Professor in Physics
Kongunadu Arts and Science College
G.N. Mills Post, Coimbatore - 641 029.
Tamilnadu

Place: Coimbatore

Date: 02.04.2024

Countersigned

A. Anukaliam
2/4/24

Head of the Department
Dr. A. ANUKALIANI
Associate Professor & Head
Department of Physics
Kongunadu Arts and Science College
G.N. Mills (P.O.), Coimbatore - 641 029



Principal
PRINCIPAL
Kongunadu Arts & Science College
COIMBATORE-641 029

Submitted for the viva-voce examination held on 29/4/24 at Kongunadu Arts and Science College (Autonomous), Coimbatore - 29.

Examiners

M. M. Zuhair 23/4/24
Signature of the Internal

Signature of the External

**PREPERATION AND CHARACTERISATION OF DOPED TiO₂
THIN FILMS**

PROJECT REPORT

Submitted to Kongunadu arts and Science College (Autonomous)

affiliated to Bharathiar University Coimbatore in partial fulfilment of

the requirements for the award of the Degree of

MASTER OF SCIENCE IN PHYSICS

Submitted by

NICKISHWARAN K

(Reg No:222PH009)

Under the guidance of

Dr. A. RANJITHA M.Sc., M.Tech., Ph.D.



DEPARTMENT OF PHYSICS

KONGUNADU ARTS AND SICIENCE COLLEGE (AUTONOMOUS)

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

COLLEGE OF EXCELLENCE(UGC)

29th NIRF RANKING - 2023

COIMBATORE-641029

APRIL 2024

CERTIFICATE

This is to certify that the project entitled "**PREPERATION AND CHARACTERIZATION OF DOPED TiO₂ THIN FILMS**", submitted to Kongunadu Arts and Science College, affiliated to Bharathiar University, in partial fulfilment of the requirements for the award of the Degree of **Master of Science in Physics** is a record of original work done by **NICKISHWARAN K** during the period 2022 to 2024 of his study in the Department of Physics at Kongunadu Arts and Science College (Autonomous), Coimbatore - 641 029 under my supervision and the project has not formed the basis for the award of any Degree / Diploma / Associateship/Fellowship or other similar title to any candidate of any University.

Place: Coimbatore

Date: 01-04-2024

Signature of the Guide

[Signature]

(Dr. A. Ranjitha)

Dr. A. RANJITHA.M.Sc.,M.Tech,Ph.D.,
Assistant Professor
Department of Physics
Kongunadu Arts & Science College,
Coimbatore - 641 029.

Countersigned

A. Anukaliam

Head of the Department

Dr. A. ANU KALIANE
Associate Professor & Head
Department of Physics
Kongunadu Arts and Science College
G.N. Mills Post, Coimbatore - 641 029.



Principal

PRINCIPAL
Kongunadu Arts & Science College
COIMBATORE.

Submitted for the viva-voce examination held on 23/4/24 at Kongunadu arts and Science College, Coimbatore - 29.

Examiners

1. Las

2. U-nur

**STUDY OF SELF POWERED n-ZnO/p-Si HETEROJUNCTION
PHOTODETECTOR FOR THE ZINC NITRATE DEPOSITION TIME
OF 1.5 hrs, 2 hrs AND 2.5 hrs**

**Submitted to Kongunadu arts and Science College (Autonomous)
affiliated to Bharathiar University Coimbatore in partial fulfillment of
the requirements for the award of the Degree of
MASTER OF SCIENCE IN PHYSICS**

**Submitted by
JANANI M
(Reg No:222PH010)**

**Under the guidance of
Dr. K.SARAVANAKUMAR M.Sc., Ph.D.**

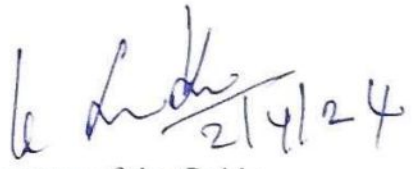


**DEPARTMENT OF PHYSICS
KONGUNADU ARTS AND SCIENCE COLLEGE (AUTONOMOUS)
RE-ACCREDITED BY NAAC WITH 'A+' GRADE (4th Cycle)
COLLEGE OF EXCELLENCE(UGC)
29th NIRF RANKING - 2023
COIMBATORE-641029
APRIL 2024**

CERTIFICATE

This is to certify that the project entitled "STUDY OF SELF POWERED n-ZnO/p-Si HETEROJUNCTION PHOTODETECTOR FOR THE ZINC NITRATE DEPOSITION TIME OF 1.5hrs, 2 hrs AND 2.5 hrs" submitted to Kongunadu Arts and Science College, affiliated to Bharathiar University, in partial fulfillment of the requirements for the award of the Degree of MASTER OF SCIENCE IN PHYSICS is a record of original work done by JANANI M during the period 2022-2024 of her study in the Department of Physics at Kongunadu Arts and Science College, Coimbatore - 641 029 under my supervision and the project has not formed the basis for the award of any Degree / Diploma / Associateship / Fellowship or other similar title to any candidate of any University.

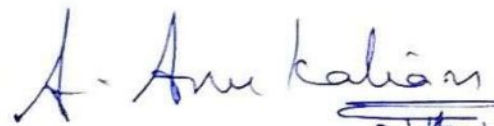
Place : COIMBATORE


Signature of the Guide

Date : 02/04/2024

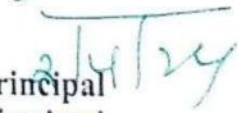
(Dr. K. SARAVANAKUMAR)
Dr. K. SARAVANAKUMAR
Associate Professor of Physics
Kongunadu Arts and Science College,
Coimbatore - 641 029.

Countersigned


Head of the Department 24/4/24

Dr. A. ANU KALIANI
Associate Professor & Head
Department of Physics
Kongunadu Arts and Science College
Coimbatore - 641 029




Principal
Kongunadu Arts and Science College
Coimbatore - 641 029

Submitted For the Viva-voce Examination held on 23/4/24 at Kongunadu Arts and Science College (Autonomous), Coimbatore-29.

Examiners

1. 
(Dr. K. Saravanan Kumar)

2. 

**CRYSTAL GROWTH AND STRUCTURAL CHARACTERIZATION OF
PIPERAZINE p-NITROPHENOL**

Submitted to

Kongunadu Arts and Science College (Autonomous)
Affiliated to Bharathiar University Coimbatore in partial fulfilment
of the requirements for the Award of the Degree of
MASTER OF SCIENCE IN PHYSICS

Submitted by

SARUMATHI M

(Reg.No.222PH011)

Under the Guidance of

Dr. V.MOHANKUMAR, M.Sc., B.Ed., Ph.D.



DEPARTMENT OF PHYSICS

**KONGUNADU ARTS AND SCIENCE COLLEGE
(AUTONOMOUS)**

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

COLLEGE OF EXCELLENCE (UGC)

29th RANK AMONG COLLEGES IN NIRF 2023

COIMBATORE-641029

APRIL-2024

CERTIFICATE

This is to certify that project entitled "CRYSTAL GROWTH AND STRUCTURAL CHARACTERIZATION OF PIPERAZINE p-NITROPHENOL" submitted to Kongunadu Arts and Science College (Autonomous) affiliated to Bharathiar University, in partial fulfilment of the requirements for the award of the degree of MASTER OF SCIENCE IN PHYSICS is a record of original work done by SARUMATHI M (222PH011) during the period 2023-2024 of her study in the Department of Physics in Kongunadu Arts and Science College (Autonomous), Coimbatore-641029 under my supervision and the project has not formed the basis for the award of any Degree /Diploma /Fellowship or other similar title to any candidate of any university.

Place: Coimbatore

Date: 02-04-2024

Signature of the Guide

(Dr.V. MOHANKUMAR)

Countersigned

Head of the Department

Dr. A. ANU KALIANI
Associate Professor & Head
Department of Physics
Kongunadu Arts and Science College
G.N.Mills (P.O), Coimbatore - 641 029



Principal

Principal

Kongunadu Arts and Science College
Coimbatore - 641 029

Submitted for the Viva-voce Examination held on 23-4-2024 at Kongunadu Arts and Science College (Autonomous), Coimbatore-29.

Examiners

1. INTERNAL EXAMINER

2. EXTERNAL EXAMINER

AI - ASSISTED AGRICULTURAL CULTIVATION

Submitted to Kongunadu arts and science college (Autonomous)

**Affiliated to Bharathiar University, Coimbatore In partial fulfillment of the
requirement for the Award of the Degree of**

MASTER OF SCIENCE IN PHYSICS

Submitted by

ANANDHA KUMAR. M

(Reg.No.222PH012)

Under the guidance of

Dr. B. CHANDAR SHEKAR M.Sc. M.Phil., Ph.D.

Associate Professor



DEPARTMENT OF PHYSICS

KONGUNADU ARTS AND SICIENCE COLLEGE (AUTONOMOUS)

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

COLLEGE OF EXCELLENCE (UGC)

COIMBATORE-641029

APRIL 2024

CERTIFICATE

This is to certify that the project entitled "AI – ASSISTED AGRICULTURAL CULTIVATION" submitted to Kongunadu Arts and Science College (Autonomous) affiliated to Bharathiar University, in partial fulfillment of the requirements for the award of the Degree of **MASTER OF SCIENCE IN PHYSICS** is a record of original work done by **ANANDHA KUMAR.M** during the period 2022 to 2024 of his study in the Department of Physics at Kongunadu Arts and Science College (Autonomous), Coimbatore- 641029 under my supervision and the project has not formed the basis for the award of any Degree / Diploma / Associate ship / Fellowship or other similar title to any candidate of any University.

Place: Coimbatore

Date: 28/3/2024

Signature of the Guide


Dr. B. CHANDAR SHEKAR, M.Sc., M.Phil., Ph.D.
(**Dr. B. CHANDAR SHEKAR**)
Department of Physics
Kongunadu Arts and Science College
G.N. Mills Post, Coimbatore - 641 029.

Countersigned


Head of the Department
Dr. A. ANUKALIAM
Associate Professor & Head
Department of Physics
Kongunadu Arts and Science College
G.N. Mills Post, Coimbatore - 641 029.




24/4/24
Principal

Principal
Kongunadu Arts and Science College
Coimbatore - 641 029

Submitted for the viva- voice examination held on 23/4/24 at Kongunadu Arts and Science College (Autonomous), Coimbatore-29.

Examiners

1. 

2. 

**SYNTHESIS OF NICKEL DOPED CHROMIUM OXIDE NANO PARTICLES
THROUGH CO PRECIPITATION METHOD
PROJECT REPORT**

Submitted to Kongunadu Arts and Science College (Autonomous)
affiliated to Bharathiar University Coimbatore in partial fulfilment of
the requirements for the award of the Degree of

MASTER OF SCIENCE IN PHYSICS

Submitted by

SHANMUGAVEL V
(Reg No: 222PH013)

Under the guidance of

Dr. S. SELVI M.Sc., B.Ed., Ph.D.,



DEPARTMENT OF PHYSICS

KONGUNADU ARTS AND SCIENCE COLLEGE (AUTONOMOUS)

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

COLLEGE OF EXCELLENCE (UGC)

29th RANK AMONG COLLEGES IN NIRF-2023

COIMBATORE - 641029

APRIL 2024

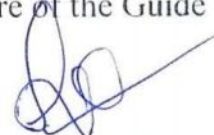
CERTIFICATE

This is to certify that the project entitled "SYNTHESIS OF NICKEL DOPED CHROMIUM OXIDE NANO PARTICLES THROUGH CO PRECIPITATION METHOD," submitted to Kongunadu Arts and Science College, affiliated to Bharathiar University, in partial fulfilment of the requirements for the award of the Degree of MASTER OF SCIENCE IN PHYSICS is a record of original work done by SHANMUGAVEL V during the period 2023 to 2024 of his study in the Department of Physics at Kongunadu Arts and Science College (Autonomous), Coimbatore - 641 029 under my supervision and the project has not formed the basis for the award of any Degree / Diploma / Associateship/Fellowship or other similar title to any candidate of any University.

Place: Coimbatore

Date: 3.4.2024

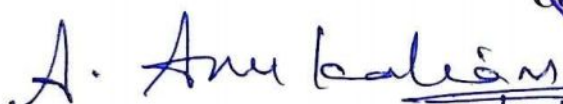
Signature of the Guide



(Dr. S. SELVI)

Dr. S. SELVI, M.Sc., B.Ed., Ph.D.,
Assistant Professor,
Department of Physics,
Kongunadu Arts & Science College (Autonomous)
COIMBATORE - 641 029.




Head of the Department 3/4/24

Dr. A. ANU KALIANI
Associate Professor & Head
Department of Physics
Kongunadu Arts and Science College
G.N.Mills (P.O), Coimbatore - 641 029

Principal

Principal 3/4/24

Kongunadu Arts and Science College
Coimbatore - 641 029

Submitted for the viva-voce examination held on 23/4/24 at Kongunadu Arts and Science College, Coimbatore - 641 029.

Examiners


1. INTERNAL


2. EXTERNAL

**PERFORMANCE STUDY OF SELF POWERED n-ZnO/p-Si
HETEROJUNCTION PHOTODETECTORS FOR THE ZINC
NITRATE DEPOSITION TIME OF 1.5 hrs, 2 hrs ,2.5 hrs AND 3 HRS**

Submitted to Kongunadu Arts and Science College (Autonomous)

Affiliated to Bharathiar University, Coimbatore

in partial fulfilment of the requirement for the Award for the Degree of

MASTER OF SCIENCE IN PHYSICS

Submitted by

ROSHAN J

(Reg. No.222PH014)

Under the guidance of

Dr. K. SARAVANAKUMAR, M.Sc., Ph.D.



DEPARTMENT OF PHYSICS

KONGUNADU ARTS AND SCIENCE COLLEGE (AUTONOMOUS)

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

COLLEGE OF EXCELLENCE (UGC)

29th RANK AMONG COLLEGES IN NIRF 2023

COIMBATORE-641029

APRIL-2024

CERTIFICATE

This is to certify that the project entitled "PERFORMANCE STUDY OF SELF POWERED n-ZnO/p-Si HETEROJUNCTION PHOTODETECTORS FOR THE ZINC NITRATE DEPOSITION TIME OF 1.5 hrs, 2 hrs AND 2.5 hrs" submitted to Kongunadu Arts and Science College (Autonomous), Coimbatore affiliated to Bharathiar University in partial fulfilment of the requirements for the award of the degree of **MASTER OF SCIENCE IN PHYSICS** is a record of original work done by **ROSHAN J** during the period 2022-2024 of her study in the Department of Physics at Kongunadu Arts and Science College, Coimbatore-641029 under my supervision and the project has not formed the basis for the award of any Degree /Diploma/ Associateship /Fellowship or other similar title to any candidate of any University.

PLACE: COIMBATORE

SIGNATURE OF THE GUIDE



(Dr. K. SARAVANA KUMAR)

DATE: 3.4.2024



Dr. K. SARAVANAKUMAR
Associate Professor of Physics
Kongunadu Arts Science College,
Coimbatore - 641 029.


HEAD OF THE DEPARTMENT 3/4/24

Dr. A. ANU KALIANI
Associate Professor & Head
Department of Physics

Kongunadu Arts and Science College
G.N.Mills (P.O), Coimbatore - 641 029

Submitted for the Viva-voice Examination held on 23/4/24 at Kongunadu Arts and Science College (Autonomous), Coimbatore.

PRINCIPAL

Principal 3/4/24
Kongunadu Arts and Science College
Coimbatore - 641 029

EXAMINER



INTERNAL

(K. Saravanakumar)



EXTERNAL

**ELECTROCATALYTIC APPLICATIONS OF (NiO/C₀₃O₄)
NANOPARTICLES SYNTHESIZED USING HYDROTHERMAL
METHOD**

PROJECT REPORT

Submitted to Kongunadu arts and Science College (Autonomous) affiliated
to Bharathiar University Coimbatore in partial fulfillment of the
Requirements for the Award of the Degree of

MASTER OF SCIENCE IN PHYSICS

Submitted by

ANURAMAN G

(Reg No:222PH016)

Under the guidance of

Dr. M. SEETHA M.Sc., PhD., M.A., HDIP.



DEPARTMENT OF PHYSICS

KONGUNADU ARTS AND SCIENCE COLLEGE (AUTONOMOUS)

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

29th RANK AMONG COLLEGES IN NIRF-2023

COIMBATORE-641029

APRIL 2024

CERTIFICATE

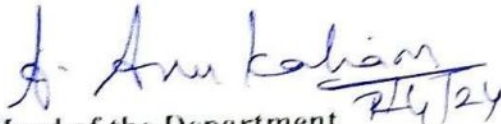
This is to certify that the project entitled "ELECTROCATALYTIC APPLICATIONS OF (NiO/Co₃O₄) NANOPARTICLES SYNTHESIZED USING HYDROTHERMAL METHOD" submitted to Kongunadu Arts and Science College (Autonomous), affiliated to Bharathiar University, in partial fulfillment of the requirements for the award of the Degree of MASTER OF SCIENCE IN PHYSICS is a record of original work done by ANURAMAN G during the period 2022 to 2024 of his study in the Department of Physics at Kongunadu Arts and Science College (Autonomous), Coimbatore - 641 029 under my supervision and the project has not formed the basis for the award of any Degree / Diploma / Associateship / Fellowship or other similar title to any candidate of any University.

Place: Coimbatore

Date: 02.04.2024



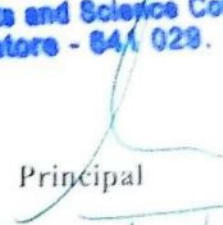
Countersigned


Head of the Department
Dr. A. ANU KALIANI
Associate Professor & Head
Department of Physics
Kongunadu Arts and Science College
G.N.Mille (P.O), Coimbatore - 641 029


Signature of the guide

(Dr. M. SEETHA)

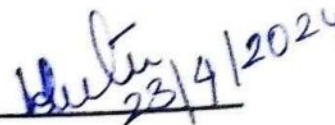
Dr. M. SEETHA, M.Sc., Ph.D., M.A., HDIP.,
Assistant Professor,
Department of Physics,
Kongunadu Arts and Science College,
Coimbatore - 641 029.


Principal


Principal
Kongunadu Arts and Science College
Coimbatore - 641 029

Submitted for the viva-voce examination held 23/4/24 at Kongunadu arts and Science College (Autonomous), Coimbatore - 29.

Examiners

1. 
23/4/2024

2. 

**STRUCTURAL PROPERTIES OF Sr-DOPED TiO₂ THIN FILMS
PREPARED BY SOL-GEL METHOD**

PROJECT REPORT

Submitted to Kongunadu arts and Science College (Autonomous)
affiliated to Bharathiar University Coimbatore in partial fulfilment of
the requirements for the award of the Degree of

MASTER OF SCIENCE IN PHYSICS

Submitted by

RAMKUMAR M

(Reg No:222PH017)

Under the guidance of

Dr. A. RANJITHA M.Sc., M.Tech., Ph.D.



DEPARTMENT OF PHYSICS

KONGUNADU ARTS AND SCIENCE COLLEGE (AUTONOMOUS)

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

COLLEGE OF EXCELLENCE(UGC)

29th NIRF RANKING - 2023

COIMBATORE-641029

APRIL 2024

CERTIFICATE

This is to certify that the project entitled " **STRUCTURAL PROPERTIES OF Sr-DOPED TiO₂ THIN FILMS PREPARED BY SOL-GEL METHOD**", submitted to Kongunadu Arts and Science College, affiliated to Bharathiar University, in partial fulfilment of the requirements for the award of the Degree of **Master of Science in Physics** is a record of original work done by **RAMKUMAR M** during the period 2022 to 2024 of his study in the Department of Physics at Kongunadu Arts and Science College (Autonomous), Coimbatore - 641 029 under my supervision and the project has not formed the basis for the award of any Degree / Diploma / Associateship/Fellowship or other similar title to any candidate of any University.

Place: Coimbatore

Date: 03.04.2024.

Signature of the Guide

(Dr. A. Ranjitha)
Dr. A. RANJITHA, M.Sc., M.Tech, Ph.D.,
Assistant Professor
Department of Physics
Kongunadu Arts & Science College,
Coimbatore - 641 029.

Countersigned

3/4/24

Head of the Department
Dr. A. ANU KALIANI
Associate Professor & Head
Department of Physics
Kongunadu Arts and Science College
G.N.Mills (P.O), Coimbatore



Principal
3/4/24

Principal
Kongunadu Arts and Science College
Coimbatore - 641 029

Submitted for the viva-voce examination held on 23.4.24 at Kongunadu arts and Science College, Coimbatore - 29.

Examiners

1.

2.

**STRUCTURAL AND SURFACE MORPHOLOGY PROPERTIES OF
METAL CHALCOGENIDE THIN FILMS**

PROJECT REPORT

Submitted to Kongunadu arts and Science College (Autonomous) affiliated to
Bharathiar University Coimbatore in partial fulfillment of the Requirements
for the Award of the Degree of

MASTER OF SCIENCE IN PHYSICS

Submitted by

PUVILAN S

(Reg No:222PH018)

Under the guidance of

Dr. P. MATHESWARAN M.Sc., Ph.D.



DEPARTMENT OF PHYSICS

KONGUNADU ARTS AND SICIENCE COLLEGE (AUTONOMOUS)

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

COLLEGE OF EXCELLENCE(UGC)

COIMBATORE-641029

APRIL 2024

CERTIFICATE

This is to certify that the project entitled "STRUCTURAL AND SURFACE MORPHOLOGY PROPERTIES OF METAL CHALCOGENIDE THIN FILMS" submitted to Kongunadu Arts and Science College (Autonomous), affiliated to Bharathiar University, in partial fulfillment of the requirements for the award of the Degree of MASTER OF SCIENCE IN PHYSICS is a record of original work done by PUVILAN S during the period 2022 to 2024 of his study in the Department of Physics at Kongunadu Arts and Science College (Autonomous), Coimbatore - 641 029 under my supervision and the project has not formed the basis for the award of any Degree / Diploma / Associateship / Fellowship or other similar title to any candidate of any University.

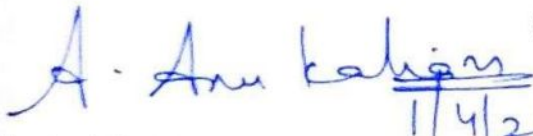

Signature of the guide.

Dr. P. MOTHESWARAN (M.Sc., Ph.D.)

Assistant Professor,
Department of Physics,
Kongunadu Arts & Science College,
Coimbatore - 641 029.

Place: Coimbatore

Date: 01.04.2024


Head of the Department
A. ANUKALIANI
Associate Professor & Head
Department of Physics
Kongunadu Arts and Science College
G.N.Mills (P.O), Coimbatore - 641 029

Countersigned

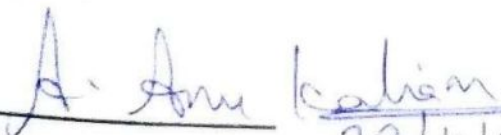


Submitted for the viva-voce examination held 23/4/24 at Kongunadu arts and Science College (Autonomous), Coimbatore - 29.


Principal

Principal
Kongunadu Arts and Science College
Coimbatore - 641 029

Examiners

1. 
23/4/24

2. 

**SYNTHESIS, CHARACTERIZATION AND MORPHOLOGICAL
CONTROL OF La DOPED V₂O₅ NANOPARTICLES THROUGH
CO-PRECIIPITATION METHOD**

Submitted to Kongunadu Arts and Science College (Autonomous) affiliated to
Bharathiar University Coimbatore in Partial fulfilments of the Requirement for
the Award of the Degree of

MASTER OF SCIENCE IN PHYSICS

Submitted by

V.S.PREETHI

(Reg.No.222PH019)

Under the guidance of

Dr. A. ANU KALIANI., M.Sc., M.Phil., Ph.D.



DEPARTMENT OF PHYSICS

KONGUNADU ARTS AND SCIENCE COLLEGE (AUTONOMOUS)

COLLEGE OF EXCELLENCE (UGC)

[RE-ACCREDITED BY NAAC 'A' GRADE (4th Cycle)]

29th RANK AMONG COLLEGES NIRF-2023

COIMBATORE-641029

APRIL-2024

CERTIFICATE

This is to certify that the project entitled " SYNTHESIS, CHARACTERIZATION AND MORPHOLOGICAL CONTROL OF La DOPED V_2O_5 NANOPARTICLES" submitted to Kongunadu Arts and Science College (Autonomous), Coimbatore affiliated to Bharathiar University in partial fulfilment of the requirements for the award of the degree of **MASTER OF SCIENCE IN PHYSICS** is a record of original work done by **V.S.PREETHI (222PH019)** during the period 2022-2024 of her study in the Department of Physics at Kongunadu Arts and Science College, Coimbatore under my supervision and the Project has not formed the basis for the award of any Degree/Diploma/Fellowship or other similar title to any candidate of any university.

Place: Coimbatore

Date: 2-4-2024



Countersigned

A. Anu Kaliani
2/4/24
Signature of the guide

(Dr. A.ANU KALIANI)

Dr. A. ANU KALIANI
Associate Professor & Head
Department of Physics
Kongunadu Arts and Science College
G.H. Mills Post, Coimbatore - 641 029.

A. Anu Kaliani
2/4/24

Head of the Department

Dr. A. ANU KALIANI
Associate Professor & Head
Department of Physics
Kongunadu Arts and Science College
G.H. Mills Post, Coimbatore - 641 029.

2/4/24
Principal

Principal
Kongunadu Arts and Science College
Coimbatore - 641 029

Submitted for the viva-voice Examination held on 23/4/24 at Kongunadu Arts and Science College (Autonomous), Coimbatore

Examiner

A. Anu Kaliani
23/4/24
1. INTERNAL

U. ...
2. EXTERNAL

SYNTHESIS AND CHARACTERIZATION Of SrFe₁₂O₁₉/MnFe₂O₄ NANOCOMPOSITE

Submitted to Kongunadu Arts and Science College (Autonomous) affiliated to
Bharathiar University Coimbatore In Partial fulfillment
Of the Requirement for the Award of the Degree of
MASTER OF SCIENCE IN PHYSICS

Submitted by
S. RAJARAJESWARI
(REG NO. 222PH020)

Under the guidance of
Dr. B. GOKUL, M.Sc., M.Phil., Ph.D.



DEPARTMENT OF PHYSICS
KONGUNADU ARTS AND SCIENCE COLLEGE (AUTONOMOUS)
COLLEGE OF EXCELLENCE (UGC)
[Re-accredited by NAAC with 'A+' GRADE (4th Cycle)]
29th RANK AMONG COLLEGES IN NIRF-2023
COIMBATORE – 641 029

APRIL 2024

CERTIFICATE

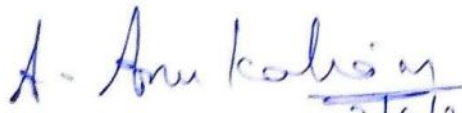
This is to certify that the project entitled "SYNTHESIS AND CHARACTERIZATION OF $\text{SrFe}_{12}\text{O}_{19}/\text{MnFe}_2\text{O}_4$ NANOCOMPOSITE" submitted to Kongunadu Arts and Science College (Autonomous), Coimbatore affiliated to Bharathiar University in partial fulfilment of the requirements for the award of the Degree of **MASTER OF SCIENCE IN PHYSICS** is a record of original work done by S. **RAJARAJESWARI** during the period 2022-2024 of her study in the Department of Physics at Kongunadu Arts and Science (Autonomous) College, Coimbatore under my supervision and the Project has not formed the basis for the award of any Degree/Diploma/Fellowship or other similar title to any candidate of any university.

Place: Coimbatore

Date: 02/04/2024


Signature of the guide
(B. GOKUL)

Countersigned


Head of the Department 2/4/24



Dr. A. ANU KALIANI
Associate Professor & Head
Department of Physics
Kongunadu Arts and Science College
S.N. Hills (P.O.), Coimbatore - 641 029

Submitted for the viva-voce held on 23/4/24 at Kongunadu Arts and Science College (Autonomous) Coimbatore.


2/4/24
Principal

Principal
Kongunadu Arts and Science College
Coimbatore - 641 029

Examiners


1. Internal


2. External

SYNTHESIS AND CHARACTERIZATION OF PURE AND NICKEL DOPED ZIRCONIUM OXIDE NANOPARTICLES BY CO PRECIPITATION METHOD

PROJECT REPORT

Submitted to Kongunadu Arts and Science College (Autonomous)
affiliated to Bharathiar University Coimbatore in Partial fulfillment of the
requirements for the Award of the Degree of
MASTER OF SCIENCE IN PHYSICS

Submitted by

ABISHA G (222PH021)

Under the guidance of

Dr. S. SELVI M.Sc., B.Ed., Ph.D.,

Assistant Professor



DEPARTMENT OF PHYSICS

KONGUNADU ARTS AND SCIENCE COLLEGE (AUTONOMOUS)

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

COLLEGE OF EXCELLENCE (UGC)

29th RANK AMONG COLLEGES IN NIRF 2023

COIMBATORE-641029

APRIL 2024

CERTIFICATE

This is to certify that the project entitled "SYNTHESIS AND CHARACTERIZATION OF PURE AND NICKEL DOPED ZIRCONIUM OXIDE NANOPARTICLES BY CO PRECIPITATION METHOD" submitted to Kongunadu Arts and Science College (Autonomous), affiliated to Bharathiar University, in partial fulfillment of the requirements for the award of the Degree of **MASTER OF SCIENCE IN PHYSICS** is a record of original work done by **ABISHA G** during the period of 2023-2024 of her study in the Department of Physics at Kongunadu Arts and Science College (Autonomous), Coimbatore – 641029 under my supervision and the project has not formed the basis for the award of any Degree / Diploma / Associateship / Fellowship or other similar title to any candidate of any University.

Place: Coimbatore

Date: 2.4.2024


Signature of the guide

(Dr. S. SELVI)

Dr. S. SELVI, M.Sc., B.Ed., Ph.D.,
Assistant Professor,
Department of Physics,
Kongunadu Arts & Science College (Autonomous)
COIMBATORE - 641 029.

Countersigned


Head of the Department




Principal

Principal

Kongunadu Arts and Science College
Coimbatore - 641 029

Dr. A. ANU KALIANI
Associate Professor & Head
Department of Physics
Kongunadu Arts and Science College
G.N.Mills (P.O), Coimbatore - 641 029

Submitted for the viva-voce examination held on 22/4/24 at Kongunadu Arts and Science College (Autonomous), Coimbatore - 29.

Examiners


1. INTERNAL


2. EXTERNAL

**PERFORMANCE STUDY OF SELF POWERED n-ZnO/p-Si
HETEROJUNCTION PHOTODETECTORS FOR THE ZINC
NITRATE DEPOSITION TIME OF 1.5 hrs, 2 hrs 2.5hrs AND 3hrs**

Submitted to Kongunadu Arts and Science College (Autonomous)

Affiliated to Bharathiar University, Coimbatore

in partial fulfilment of the requirement for the Award for the Degree of

MASTER OF SCIENCE IN PHYSICS

Submitted by

VISHNU DAN N
(Reg. No.222PH022)

Under the guidance of

Dr. V. MOHANKUMAR, M.Sc., B.Ed., Ph.D.



DEPARTMENT OF PHYSICS

KONGUNADU ARTS AND SCIENCE COLLEGE (AUTONOMOUS)

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

COLLEGE OF EXCELLENCE (UGC)

29th RANK AMONG COLLEGES IN NIRF 2023

COIMBATORE-641029

APRIL-2024

CERTIFICATE

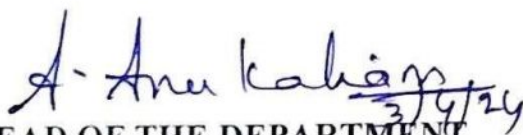
This is to certify that the project entitled " PERFORMANCE STUDY OF SELF POWERED n-ZnO/p-Si HETEROJUNCTION PHOTODETECTORS FOR THE ZINC NITRATE DEPOSITION TIME OF 1.5 hrs, 2 hrs, 2.5 hrs AND 3 hrs " submitted to Kongunadu Arts and Science College (Autonomous), Coimbatore affiliated to Bharathiar University in partial fulfilment of the requirements for the award of the degree of MASTER OF SCIENCE IN PHYSICS is a record of original work done by VISHNU DAN N during the period 2022-2024 of her study in the Department of Physics at Kongunadu Arts and Science College (Autonomous), Coimbatore-641029 under my supervision and the project has not formed the basis for the award of any Degree / Diploma / Associateship/Fellowship or other similar title to any candidate of any University.

PLACE: COIMBATORE

SIGNATURE OF THE GUIDE

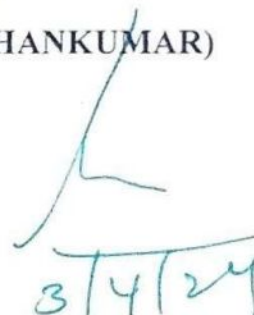
DATE: 03-04-2024

(Dr. V. MOHANKUMAR)


HEAD OF THE DEPARTMENT
Dr. A. ANU KALIANI
Associate Professor & Head
Department of Physics
Kongunadu Arts and Science College
G.N.Mills (P.O), Coimbatore - 641 029

COUNTER SIGNED




3/4/24
PRINCIPAL
Principal
Kongunadu Arts and Science College
Coimbatore - 641 029

Submitted for the Viva-voice Examination held on 22/4/24 at Kongunadu Arts and Science College (Autonomous), Coimbatore.

EXAMINER


INTERNAL


EXTERNAL

SYNTHESIS AND CHARACTERIZATION OF ZINC FERRITE (ZnFe_2O_4) NANOPARTICLES

Submitted to Kongunadu Arts and Science College (Autonomous) affiliated to
Bharathiar University, Coimbatore in Partial fulfillments of the Requirement for
the Award of the Degree of

MASTER OF SCIENCE IN PHYSICS

Submitted by

R. HARSHAVARDHINI
(Reg.No.222PH023)

Under the guidance of

Dr. B. GOKUL, M.Sc., M.Phil., Ph.D.



DEPARTMENT OF PHYSICS
KONGUNADU ARTS AND SCIENCE COLLEGE
(AUTONOMOUS)
COLLEGE OF EXCELLENCE (UGC)
[RE-ACCREDITED BY NAAC 'A+' GRADE (4th Cycle)]
29th RANK AMONG COLLEGES IN NIRF-2023
COIMBATORE-641029

APRIL-2024

CERTIFICATE

This is to certify that the project entitled "SYNTHESIS AND CHARACTERIZATION OF ZINC FERRITE (ZnFe_2O_4) NANOPARTICLES " submitted to Kongunadu Arts and Science College (Autonomous), Coimbatore affiliated to Bharathiar University in partial fulfilment of the requirements for the award of the degree of **MASTER OF SCIENCE IN PHYSICS** is a record of original work done by **R. HARSHAVARDHINI** during the period 2022-2024 of her study in the Department of Physics at Kongunadu Arts and Science College, Coimbatore under my supervision and the Project has not formed the basis for the award of any Degree/Diploma/Fellowship or other similar title to any candidate of any university.

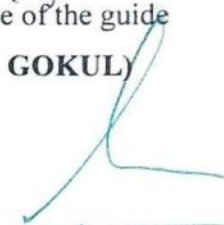
Place: Coimbatore

Date: 01/04/2024


Head of the Department
A. ANU KALIANI
Associate Professor & Head
Department of Physics
Kongunadu Arts and Science College
G.N.Mills (P.O), Coimbatore - 641 029



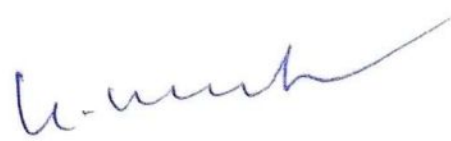

Signature of the guide
(B. GOKUL)


Principal
PRINCIPAL
Kongunadu Arts & Science College
COIMBATORE-641 029

Submitted for the viva-voice Examination held on 22/04/2024 at Kongunadu Arts and Science College (Autonomous), Coimbatore

Examiner


1. INTERNAL


2. EXTERNAL

**SYNTHESIS OF TITANIUM DIOXIDE NANOPARTICLES USING
CHEMICAL PRECIPITATION METHOD**

PROJECT REPORT

Submitted to Kongunadu arts and Science College (Autonomous) affiliated to
Bharathiar University Coimbatore in partial fulfilment of the Requirements for
the Award of the Degree of

MASTER OF SCIENCE IN PHYSICS

Submitted by

HEMA T

(Reg No: 222PH024)

Under the guidance of

Dr. M.MOHAMED IBRAHIM M.Sc., Ph.D.



DEPARTMENT OF PHYSICS

KONGUNADU ARTS AND SCIENCE COLLEGE (AUTONOMOUS)

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

COLLEGE OF EXCELLENCE (UGC)

COIMBATORE-641029

APRIL 2024

CERTIFICATE

This is to certify that the project entitled "SYNTHESIS OF TITANIUM DIOXIDE NANOPARTICLES USING CHEMICAL PRECIPITATION METHOD" submitted to Kongunadu Arts and Science College (Autonomous), affiliated to Bharathiar University, in partial fulfilment of the requirements for the award of the Degree of MASTER OF SCIENCE IN PHYSICS is a record of original work done by HEMA T during the period 2022-2024 of her study in the Department of Physics at Kongunadu Arts and Science College (Autonomous), Coimbatore - 641 029 under my supervision and the project has not formed the basis for the award of any Degree / Diploma / Associateship / Fellowship or other similar title to any candidate of any University.

M. M. Mohamed Ibrahim 21/4/24
Signature of the guide

Dr. M. Mohamed Ibrahim M.Sc., Ph.D.
(Dr. MOHAMED IBRAHIM)
Assistant Professor in Physics
Kongunadu Arts and Science College
G.N. Mills Post, Coimbatore - 641 029,
Tamilnadu

Place: Coimbatore

Date: 02-04-2024



Dr. Anu Kaliani 21/4/24
Head of the Department
Dr. A. ANU KALIANI
Associate Professor & Head
Department of Physics
Kongunadu Arts and Science College
G.N. Mills Post, Coimbatore - 641 029

Principal
21/4/24
Kongunadu Arts & Science College
COIMBATORE-641 029

Submitted for the Viva-voce examination held on 22/4/24 at Kongunadu arts and Science College (Autonomous), Coimbatore - 641 029.

Examiners

1. M. M. Mohamed Ibrahim
22/4/24

2. H. M. Mohamed Ibrahim

**STRUCTURAL AND SURFACE MORPHOLOGY PROPERTIES
OF METAL CHALCOGENIDE THIN FILMS**

PROJECT REPORT

Submitted to Kongunadu arts and Science College (Autonomous) affiliated to
Bharathiar University Coimbatore in partial fulfillment of the Requirements for
the Award of the Degree of

MASTER OF SCIENCE IN PHYSICS

Submitted by

BRUNDHA G.

(Reg No:222PH025)

Under the guidance of

Dr. P. MATHESWARAN M.Sc., Ph.D.

Assistant professor



DEPARTMENT OF PHYSICS

KONGUNADU ARTS AND SCIENCE COLLEGE (AUTONOMOUS)

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

COLLEGE OF EXCELLENCE(UGC)

29th RANK AMONG COLLEGES IN NIRF 2023

COIMBATORE-641029

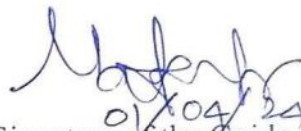
APRIL- 2024

CERTIFICATE

This is to certify that the project entitled " STRUCTURAL AND SURFACE MORPHOLOGY PROPERTIES OF METAL CHALCOGENIDE THIN FILMS." submitted to Kongunadu Arts and Science College (Autonomous) Coimbatore, affiliated to Bharathiar University, in partial fulfillment of the requirements for the award of the Degree of Master of Science in Physics is a record of original work done by **BRUNDHA G.** during the period 2022 to 2024 of her study in the Department of Physics at Kongunadu Arts and Science College (Autonomous), Coimbatore under my supervision and the project has not formed the basis for the award of any Degree / Diploma / Associateship /Fellowship or other similar title to any candidate of any University.

Place: Coimbatore

Date: 01.04.2024.


Signature of the Guide

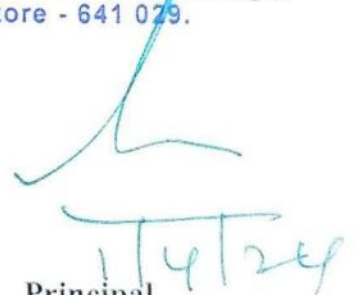
(Dr. P. MATHESWARAN)
Dr. P. MATHESWARAN, Ph.D.,
Assistant Professor,
Department of Physics,
Kongunadu Arts & Science College,
Coimbatore - 641 029.



Countersigned


A - Anu Kalishan

Dr. A. ANU KALIANI
Associate Professor & Head
Department of Physics
Kongunadu Arts and Science College
G.N. Mills (P.O), Coimbatore - 641 029


Principal

PRINCIPAL
Kongunadu Arts & Science College
COIMBATORE-641 029

Submitted for the viva-voce examination held 22/4/24 at Kongunadu arts and science college (Autonomous) , Coimbatore - 29

Examiners

1. 
22/4/24

2. 

**SYNTHESIS AND CHARACTERIZATION OF NICKEL OXIDE AND COBALT OXIDE
PARTICLES PREPARED BY HYDROTHERMAL**

METHOD

PROJECT REPORT

Submitted to Kongunadu Arts and Science College (Autonomous) affiliated to Bharathiar
University Coimbatore in partial fulfilment of the
Requirements for the Award of the Degree of

MASTER OF SCIENCE IN PHYSICS

Submitted by

THANGAMANI.K

(Reg No:222PH026)

Under the guidance of

Dr. M. SEETHA M.Sc., Ph.D., M.A., HDIP.

Assistant professor



DEPARTMENT OF PHYSICS

KONGUNADU ARTS AND SCIENCE COLLEGE (AUTONOMOUS)

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

29th RANK AMONG COLLEGES IN NIRF-2023

COIMBATORE-641029

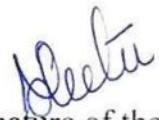
APRIL 2024

CERTIFICATE

This is to certify that the project entitled "**SYNTHESIS AND CHARACTERIZATION OF NICKEL OXIDE AND COBALT OXIDE NANOPARTICLES BY HYDROTHERMAL METHOD.**" submitted to Kongunadu Arts and Science College (Autonomous), affiliated to Bharathiar University, in partial fulfilment of the requirements for the award of the Degree of **MASTER OF SCIENCE IN PHYSICS** is a record of original work done by **THANGAMANI K.** during the period 2022 to 2024 of her study in the Department of Physics at Kongunadu Arts and Science College (Autonomous), Coimbatore under my supervision and the project has not formed the basis for the award of any Degree / Diploma / Fellowship or other similar title to any candidate of any University.

Place: Coimbatore

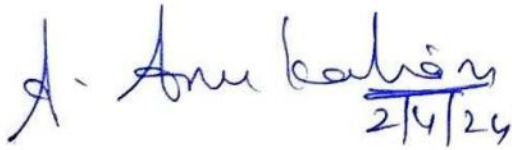
Date: 02/04/24


Signature of the Guide

Dr.M.SEETHA, M.Sc., Ph.D., M.A., HDIP.,
Assistant Professor,
Department of Physics,
(Dr. SEETHA)
Kongunadu Arts and Science College,
Coimbatore - 641 029.

Countersigned



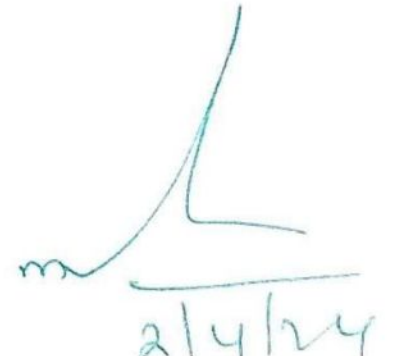

2/4/24

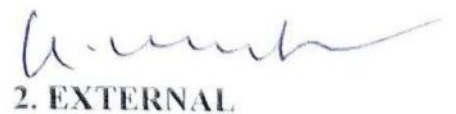
Head of the Department

Submitted for the viva-voce examination held 22/4/24
Dr. A. ANU KALLANI
Associate Professor & Head
(Autonomous), Coimbatore - 29.
Department of Physics,
Kongunadu Arts and Science College
G.H.M. Road, Coimbatore - 641 029
Examiner

1. INTERNAL


22/4/24


2/4/24
Principal
Kongunadu Arts and Science College
Coimbatore - 641 029


2. EXTERNAL

**CHARACTERIZATION AND APPLICATIONS OF CHITOSAN-COPPER
OXIDE NANOPARTICLES PREPARED BY GREEN-ROUTE METHOD
(CS-CuO)
PROJECT REPORT**

Submitted to Kongunadu Arts and Science College (Autonomous) affiliated to
Bharathiar University Coimbatore in partial fulfilment of the Requirement for the
Award of the Degree of

MASTER OF SCIENCE IN PHYSICS

submitted by

LYDIA JOE DANISCA.M
(Reg No:222PH027)

Under the guidance of

DR. B. CHANDAR SHEKAR, M.Sc., M.Phil., Ph.D.

Associate Professor



DEPARTMENT OF PHYSICS

KONGUNADU ARTS AND SICIENCE COLLEGE (AUTONOMOUS)

[RE-ACCREDITED BY NAAC WITH 'A⁺' GRADE (4th Cycle)]

COLLEGE OF EXCELLENCE (UGC)

29th RANK AMONG COLLEGES IN NIRF 2023

COIMBATORE-641029

APRIL-2024

CERTIFICATE

This is to certify that the project entitled "**CHARACTERIZATION AND APPLICATION OF CHITOSAN-COPPER OXIDE NANOPARTICLES PREPARED BY GREEN-ROUTE METHOD (CS-CuO)**" submitted to Kongunadu Arts and Science College (Autonomous), Coimbatore affiliated to Bharathiar University, in partial fulfilment of the requirements for the award of the Degree of **MASTER OF SCIENCE IN PHYSICS** is a record of original work done by **LYDIA JOE DANISCA.M**, during the period 2022-2024 of her study in the Department of Physics at Kongunadu Arts and Science College (Autonomous), Coimbatore - 641 029 under my supervision and the project has not formed the basis for the award of any Degree / Diploma / Associateship /Fellowship or other similar title to any candidate of any University.

Place: Coimbatore

Date: 28/3/2024

B. C.

Signature of the Guide

Dr. B. CHANDAR SHEKAR, M.Sc., M.Phil., Ph.D.
(DR. B. CHANDAR SHEKAR)
Associate Professor
Department of Physics
Kongunadu Arts and Science College
G.N. Mills Post, Coimbatore - 641 029.

Countersigned



A. Anu Kaliani
Dr. A. ANU KALIANI
Associate Professor & Head
Department of Physics
Kongunadu Arts and Science College
G.N. Mills Post, Coimbatore - 641 029.

m
2/4/24

Principal
Principal

Kongunadu Arts and Science Coll
Coimbatore - 641 029

Submitted for the viva-voce examination held on 22/04/2024 at Kongunadu arts and Science College (Autonomous), Coimbatore - 29.

Examiners

B. C. 22/4/24

1. INTERNAL

h. m. m.

2. EXTERNAL

**CHARACTERIZATION AND STRUCTURAL ANALYSIS OF 2 AMINO 4 METHYL
PYRIDINIUM PHTHALATE SINGLE CRYSTAL**

PROJECT REPORT

Submitted to Kongunadu arts and Science College (Autonomous) affiliated to
Bharathiyar University Coimbatore in partial Fulfillment of the Requirements for the Award
of the Degree of

MASTER OF SCIENCE IN PHYSICS

Submitted by

SHANGEETHA G

(Reg No:222PH028)

Under the guidance of

Mr. K. KARUPPUSWAMY M.Sc., M.Phil., B.Ed., PGDCA., (SLST)



DEPARTMENT OF PHYSICS

KONGUNADU ARTS AND SCIENCE COLLEGE (AUTONOMOUS)

**RE-ACCREDITED BY NAAC WITH 'A +' GRADE (4th Cycle) 29th NIRF RANKING
(2023)**

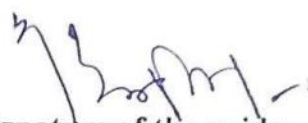
COLLEGE OF EXCELLENCE(UGC)

COIMBATORE-641029

APRIL 2024

CERTIFICATE

This is to certify that the project entitled "CHARACTERIZATION AND STRUCTURAL ANALYSIS OF 2 AMINO 4 METHYL PYRIDINE PHTHALATE SINGLE CRYSTAL" submitted to Kongunadu Arts and Science College (Autonomous), affiliated to Bharathiar University, in partial fulfillment of the requirements for the award of the Degree of **MASTER OF SCIENCE IN PHYSICS** is a record of original work done by **SHANGEETHA G** during the period 2022 to 2024 of her study in the Department of Physics at Kongunadu Arts and Science College (Autonomous), Coimbatore - 641 029 under my supervision and the project has not formed the basis for the award of any Degree / Diploma / Associateship / Fellowship or other similar title to any candidate of any University.


Signature of the guide

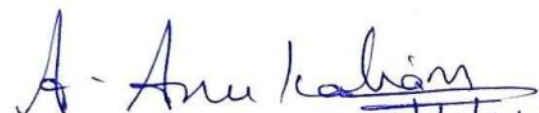
(Mr. K. KARUPPUSWAMY)

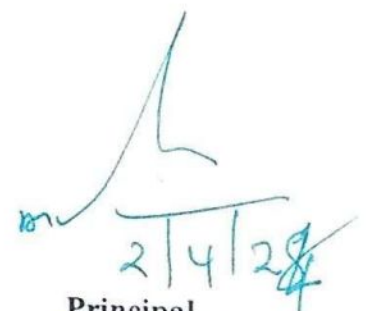
Place: Coimbatore

Date: 02.04.2024



K. KARUPPUSWAMY, M.Sc., M.Phil., B.Ed., P.D.C., S.L.
Associate Professor
Department of Physics
Kongunadu Arts and Science College
G.N. Mills Post, Coimbatore - 641 029


Head of the Department
A. ANUKALIAM
Associate Professor & Head
Department of Physics
Kongunadu Arts and Science College
G.N. Mills (P.O), Coimbatore - 641 029


Principal
PRINCIPAL
Kongunadu Arts & Science College
COIMBATORE-641 029

Submitted for the viva-voce examination held 22/4/24 at Kongunadu arts and Science College (Autonomous), Coimbatore - 29.

Examiners

1. 

2. 

CHARACTERIZATION AND STRUCTURAL ANALYSIS OF PIPERAZINE SUCCINATE SINGLE CRYSTAL

PROJECT REPORT

Submitted to Kongunadu arts and Science College (Autonomous) affiliated to
Bharathiar University Coimbatore in partial fulfillment of the Requirements for the Award of
the Degree of

MASTER OF SCIENCE IN PHYSICS

Submitted by

NISHA K K

(Reg No:222PH029)

Under the guidance of

Mr. K. KARUPPUSWAMY M.Sc., M.Phil., B.Ed., PGDCA., (SLST)



DEPARTMENT OF PHYSICS

KONGUNADU ARTS AND SCIENCE COLLEGE (AUTONOMOUS)
RE-ACCREDITED BY NAAC WITH 'A +' GRADE (4th Cycle) 29th NIRF
RANKING (2023)
COLLEGE OF EXCELLENCE(UGC)
COIMBATORE-641029

APRIL 2024

CERTIFICATE

This is to certify that the project entitled "CHARACTERIZATION AND STRUCTURAL ANALYSIS OF PIPERAZINE SUCCINATE" submitted to Kongunadu Arts and Science College (Autonomous), affiliated to Bharathiar University, in partial fulfillment of the requirements for the award of the Degree of **MASTER OF SCIENCE IN PHYSICS** is a record of original work done by **NISHA K K** during the period 2022 to 2024 of her study in the Department of Physics at Kongunadu Arts and Science College (Autonomous), Coimbatore - 641 029 under my supervision and the project has not formed the basis for the award of any Degree / Diploma / Associateship / Fellowship or other similar title to any candidate of any University.


Signature of the guide

(M. K. KARUPPUSWAMY)
K. KARUPPUSWAMY, M.Sc., M.Phil., B.Ed., PGDCA, S.T.
Associate Professor
Department of Physics
Kongunadu Arts and Science College
G.N. Mills Post, Coimbatore - 641 029

Place: Coimbatore

Date: 02.04.2024



Countersigned

Dr. A. ANU KALIANI
Associate Professor & Head
Department of Physics
Kongunadu Arts and Science College
G.N. Mills (P.O.) Coimbatore - 641 029

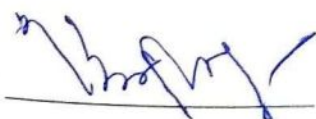
Head of the Department

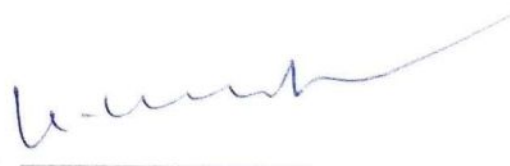

2/4/24
Principal

Kongunadu Arts & Science College
COIMBATORE-641 029

Submitted for the viva-voce examination held 22/4/24 at Kongunadu arts and Science College (Autonomous), Coimbatore - 29.

Examiners

1. 

2. 

**SYNTHESIS AND CHARACTERIZATION OF
STRONTIUM FERRITE ($\text{SrFe}_{12}\text{O}_{19}$)**

Submitted to Kongunadu Arts and Science College (Autonomous) affiliated to
Bharathiar University Coimbatore in Partial fulfilments of the Requirement for
the Award of the Degree of

MASTER OF SCIENCE IN PHYSICS

Submitted by

N.SUREKA
(Reg.No.222PH030)

Under the guidance of

Dr. B. GOKUL., M.Sc., M.Phil., Ph.D.



DEPARTMENT OF PHYSICS
KONGUNADU ARTS AND SCIENCE COLLEGE (AUTONOMOUS)
COLLEGE OF EXCELLENCE (UGC)
[RE-ACCREDITED BY NAAC 'A+' GRADE (4th Cycle)]
29th RANK AMONG COLLEGES IN NIRF-2023

COIMBATORE-641029

APRIL-2024

CERTIFICATE

This is to certify that the project entitled "**SYNTHESIS AND CHARACTERIZATION OF STRONTIUM FERRITE ($\text{SrFe}_{12}\text{O}_{19}$)**" submitted to Kongunadu Arts and Science College (Autonomous), Coimbatore affiliated to Bharathiar University in partial fulfilment of the requirements for the award of the degree of **MASTER OF SCIENCE IN PHYSICS** is a record of original work done by **N.SUREKA(222PH030)** during the period 2022-2024 of her study in the Department of Physics at Kongunadu Arts and Science College, Coimbatore under my supervision.

Place: Coimbatore

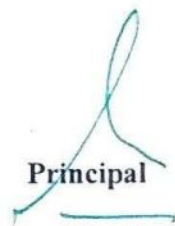
Date: 02.04.2024


Signature of the guide
(Dr. B. GOKUL)


Head of the Department 2/4/24.



Dr. A. ANU KALIANI
Associate Professor & Head
Department of Physics
Kongunadu Arts and Science College
G.N.Mills (P.O), Coimbatore - 641 029


Principal
2/4/24
Principal
Kongunadu Arts and Science College
Coimbatore - 641 029

Submitted for the viva-voice Examination held on 22/4/24 at Kongunadu Arts and Science College (Autonomous), Coimbatore.

Examiners


1. INTERNAL


2. EXTERNAL

**PHOTOCATALYTIC ACTIVITY ENHANCEMENT OF ZINC
TELLURIDE NANOPARTICLES SYNTHESIZED BY
HYDROTHERMAL METHOD**

PROJECT REPORT

Submitted to Kongunadu arts and Science College (Autonomous) affiliated to
Bharathiar University Coimbatore in partial fulfilment of the Requirements for
the Award of the Degree of

MASTER OF SCIENCE IN PHYSICS

Submitted by

ABITHA D

(Reg No: 222PH031)

Under the guidance of

Dr. M.MOHAMED IBRAHIM M.Sc., Ph.D.



DEPARTMENT OF PHYSICS

KONGUNADU ARTS AND SCIENCE COLLEGE (AUTONOMOUS)

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

COLLEGE OF EXCELLENCE (UGC)

COIMBATORE-641029

APRIL 2024

CERTIFICATE

This is to certify that the project entitled "PHOTOCATALYTIC ACTIVITY ENHANCEMENT OF ZINC TELLURIDE NANOPARTICLES SYNTHESIZED BY HYDROTHERMAL METHOD" submitted to Kongunadu Arts and Science College (Autonomous), affiliated to Bharathiar University, in partial fulfilment of the requirements for the award of the Degree of **MASTER OF SCIENCE IN PHYSICS** is a record of original work done by **ABITHA D** during the period 2022-2024 of her study in the Department of Physics at Kongunadu Arts and Science College (Autonomous), Coimbatore - 641 029 under my supervision and the project has not formed the basis for the award of any Degree / Diploma / Associateship / Fellowship or other similar title to any candidate of any University.

M. M. Mohamed Ibrahim 21/4/24
Signature of the guide
Dr. M. Mohamed Ibrahim M.Sc., Ph.D.,
(Dr. M. MOHAMED IBRAHIM)
Assistant Professor in Physics
Kongunadu Arts and Science College
G.N. Mills Post, Coimbatore - 641 029,
Tamilnadu

Place: Coimbatore

Date: 02/04/24



A. Anu Kaliani 21/4/24
Head of the Department
Dr. A. ANU KALIANI
Associate Professor & Head
Department of Physics
Kongunadu Arts and Science College
G.N. Mills (P.O), Coimbatore - 641 029

Principal 21/4/24
Principal
PRINCIPAL
Kongunadu Arts & Science College
COIMBATORE-641 029

Submitted for the viva-voce examination held on 22/4/24 at Kongunadu arts and Science College (Autonomous), Coimbatore - 29.

Examiners

1. M. M. Mohamed Ibrahim 22/4/24

2. _____

**SYNTHESIS AND CHARACTERIZATION OF SILVER DOPED V_2O_5
NANOPARTICLES BY CO-PRECIIPITATION METHOD.**

Submitted to Kongunadu Arts and Science College (Autonomous) affiliated to
Bharathiar University Coimbatore in Partial fulfilments of the Requirement for
the Award of the Degree of

MASTER OF SCIENCE IN PHYSICS

Submitted by

PRAHASITHA S

(Reg.No.222PH032)

Under the guidance of

Dr. N. SENTHILKUMAR., M.Sc., M.Phil., Ph.D.



DEPARTMENT OF PHYSICS

KONGUNADU ARTS AND SCIENCE COLLEGE (AUTONOMOUS)

[RE-ACCREDITED BY NAAC WITH "A⁺" GRADE (4th CYCLE)]

[COLLEGE OF EXCELLENCE (UGC)]

29th RANK AMONG COLLEGES IN NIRF 2023

COIMBATORE – 641 029

APRIL-2024

CERTIFICATE

This is to certify that the project entitled "SYNTHESIS AND CHARACTERIZATION OF SILVER DOPED V_2O_5 NANOPARTICLES BY CO-PRECIIPITATION METHOD" submitted to Kongunadu Arts and Science College (Autonomous), Coimbatore affiliated to Bharathiar University in partial fulfilment of the requirements for the award of the degree of **MASTER OF SCIENCE IN PHYSICS** is a record of original work done by **PRAHASITHA S** during the period 2022-2024 of her study in the Department of Physics at Kongunadu Arts and Science College, Coimbatore under my supervision and the project has not formed on the basis for the award of any Degree/Diploma/Fellowship or other similar title to any candidate of any university.

Place: Coimbatore

Date: 02/04/2024

Signature of the Guide

Comm

(Dr. N. SENTHIL KUMAR)

Dr. N. SENTHIL KUMAR

M.Sc., M.Phil., Ph.D.,

Assistant Professor

Department of Physics

Kongunadu Arts & Science College

G.N. Mills Post., Coimbatore - 641 029



A - Anu Kalia
Head of the Department 2/4/24

Dr. A. ANU KALIANI
Associate Professor & Head
Department of Physics
Kongunadu Arts and Science College
G.N. Mills (P.O), Coimbatore - 641 029

Principal *2/4/24*

PRINCIPAL
Kongunadu Arts & Science College
COIMBATORE-641 029

Submitted for the Viva- Voce Examination held on 22/4/24 at Kongunadu Arts and Science College (Autonomous), Coimbatore.

Examiners

Comm
22/4/24

1. INTERNAL

u-mmm

2. EXTERNAL

STUDY OF STRUCTURAL AND SURFACE MORPHOLOGY OF DOPED TiO₂ THIN FILMS

PROJECT REPORT

Submitted to Kongunadu Arts and Science College (Autonomous) affiliated to
Bharathiar University Coimbatore in partial fulfilment of the Requirements for
the Award of the Degree of

MASTER OF SCIENCE IN PHYSICS

Submitted by

DEEPIKA G

(Reg.No.222PH033)

Under the guidance of

Dr. A.RANJITHA M.Sc.,M.Tech., Ph.D.



DEPARTMENT OF PHYSICS

KONGUNADU ARTS AND SCIENCE COLLEGE (AUTONOMOUS)

COLLEGE OF EXCELLENCE (UGC)

[RE-ACCREDITED BY NAAC 'A+' GRADE (4th Cycle)]

29th RANK AMONG COLLEGES IN NIRF-2023

COLLEGE OF EXCELLENCE (UGC)

COIMBATORE-641029

APRIL-2024

CERTIFICATE

This is to certify that the project entitled "STUDY OF STRUCTURAL AND SURFACE MORPHOLOGY OF DOPED TiO_2 THIN FILMS" submitted to Kongunadu Arts and Science College (Autonomous), Coimbatore affiliated to Bharathiar University in partial fulfilment of the requirements for the award of the degree of **MASTER OF SCIENCE IN PHYSICS** is a record of original work done by **DEEPIKA G**, during the period 2023-2024 of her study in the Department of Physics at Kongunadu Arts and Science College, (Autonomous), Coimbatore-641029 under my supervision and the Project has not formed the basis for the award of any Degree/Diploma/Fellowship or other similar title to any candidate of any university.

Place: Coimbatore

Date : 02/04/2024



Countersigned

Signature of the Guide

(Dr.A.RANJITHA)
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Head of the Department

Principal

Principal
Kongunadu Arts and Science College
Coimbatore - 641 029

Submitted for the Viva-voce Examination held on 22/04/24 at Kongunadu Arts and Science College (Autonomous), Coimbatore-29.

Examiners

1. INTERNAL

2. EXTERNAL

SYNTHESIS AND CHARACTERIZATION OF BiFeO_3 NANOPARTICLES FOR SUPERCAPACITORS

Submitted to Kongunadu Arts and Science College (Autonomous) affiliated to Bharathiar
University, Coimbatore in partial fulfilment of the requirement for the

Award for the Degree of

MASTER OF SCIENCE IN PHYSICS

Submitted by

SANJAY S NAIR

(Reg. No.222PH034)

Under the guidance of

Dr. V. D. NITHYA., M.Sc., Ph.D.



DEPARTMENT OF PHYSICS

KONGUNADU ARTS AND SCIENCE COLLEGE (AUTONOMOUS)

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

COLLEGE OF EXCELLENCE (UGC)

29th RANK AMONG COLLEGES IN NIRF 2023

COIMBATORE-641029

APRIL-2024

CERTIFICATE

This is to certify that the project entitled "SYNTHESIS AND CHARACTERIZATION OF BiFeO_3 NANOPARTICLES FOR SUPERCAPACITORS" submitted to Kongunadu Arts and Science College (Autonomous), Coimbatore affiliated to Bharathiar University in partial fulfilment of the requirements for the award of the degree of **MASTER OF SCIENCE IN PHYSICS** is a record of original work done by **SANJAY S NAIR** during the period 2022-2024 of his study in the Department of Physics at Kongunadu Arts and Science College, Coimbatore under my supervision and the project has not formed the basis for the award of any Degree/Diploma/Fellowship or other similar title to any candidate of any university.

Place: Coimbatore

Date: 28.03.24



V. D. Nithya
Signature of the guide
(Dr. V. D. NITHYA)

A. Anurkham
Head of the Department
Associate Professor & Head
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PRINCIPAL
Kongunadu Arts & Science College
COIMBATORE-641 029

Submitted for the Viva-voice Examination held on 22/4/24 at Kongunadu Arts and Science College (Autonomous), Coimbatore.

Examiners

V. D. Nithya
1. INTERNAL

2. EXTERNAL

STRUCTURAL AND SURFACE MORPHOLOGY PROPERTIES OF METAL CHALCOGENIDE THIN FILMS

PROJECT REPORT

Submitted to Kongunadu arts and Science College (Autonomous) affiliated to
Bharathiar University Coimbatore in partial fulfillment of the Requirements for
the Award of the Degree of

MASTER OF SCIENCE IN PHYSICS

Submitted by DEEPAK S

(Reg No:222PH036)

Under the guidance of

Dr. P. MATHESWARAN M.Sc., Ph.D.



DEPARTMENT OF PHYSICS

KONGUNADU ARTS AND SICIENCE COLLEGE (AUTONOMOUS)

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

COLLEGE OF EXCELLENCE(UGC)

COIMBATORE-641029

APRIL 2024

CERTIFICATE

This is to certify that the project entitled "STRUCTURAL AND SURFACE MORPHOLOGY PROPERTIES OF METAL CHALCOGENIDE THIN FILMS," submitted to Kongunadu Arts and Science College (Autonomous), affiliated to Bharathiar University, in partial fulfillment of the requirements for the award of the Degree of Master of Science in Physics is a record of original work done by DEEPAK S during the period 2022 to 2024 of his study in the Department of Physics at Kongunadu Arts and Science College (Autonomous), Coimbatore - 641 029 under my supervision and the project has not formed the basis for the award of any Degree / Diploma / Associateship/Fellowship or other similar title to any candidate of any University.

Place: Coimbatore

Date: 1/4/2024

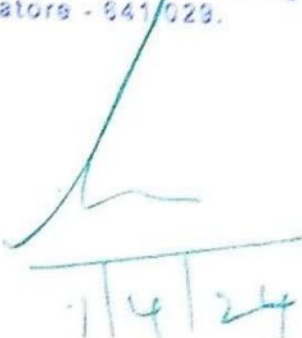

Signature of the Guide

Dr. P. MATHESWARAN, Ph.D.,
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Countersigned


Head of the Department
A. ANUKALANY
Associate Professor & Head
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Principal
PRINCIPAL
Kongunadu Arts & Science College
COIMBATORE-641 029

Submitted for the viva-voce examination held 22/4/24 at Kongunadu arts and Science College (Autonomous), Coimbatore - 29.

Examiners

1. 

2. 

**SYNTHESIS, CHARACTERIZATION AND
MORPHOLOGICAL CONTROL OF Nd DOPED V₂O₅
NANOPARTICLES**

Submitted to Kongunadu Arts and Science College (Autonomous) affiliated to
Bharathiar University Coimbatore in Partial fulfilments of the Requirement for
the Award of the Degree of

MASTER OF SCIENCE IN PHYSICS

Submitted by

ARDRA JAYARAJ

(Reg.No.222PH037)

Under the guidance of

Dr. A. ANU KALIANI., M.Sc., M.Phil., Ph.D.



**DEPARTMENT OF PHYSICS
KONGUNADU ARTS AND SCIENCE COLLEGE
(AUTONOMOUS)
COLLEGE OF EXCELLENCE (UGC)
[RE-ACCREDITED BY NAAC 'A+' GRADE (4th Cycle)]
29th RANK AMONG COLLEGES IN NIRF-2023
COIMBATORE-641029**

APRIL-2024

CERTIFICATE

This is to certify that the project entitled " **SYNTHESIS, CHARACTERIZATION AND MORPHOLOGICAL CONTROL OF Nd DOPED V_2O_5 NANOPARTICLES**" submitted to Kongunadu Arts and Science College (Autonomous), Coimbatore affiliated to Bharathiar University in partial fulfilment of the requirements for the award of the degree of **MASTER OF SCIENCE IN PHYSICS** is a record of original work done by **ARDRA JAYARAJ** during the period 2022-2024 of her study in the Department of Physics at Kongunadu Arts and Science College, Coimbatore under my supervision and the project has not formed the basis for the award of any Degree/Diploma/Fellowship or other similar title to any candidate of any university.

Place: Coimbatore

Date: 28/3/24



A. Anu Kaliani
Head of the Department
Dr. A. ANU KALIANI 28/3/24
Associate Professor & Head
Department of Physics
Kongunadu Arts and Science College
G.N.Mills (P.O), Coimbatore - 641 029

A. Anu Kaliani
Signature of the guide 28/3/24
Dr. A. ANU KALIANI
Associate Professor & Head
Department of Physics
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Principal
28/3/24
PRINCIPAL
Kongunadu Arts & Science College
COIMBATORE-641 029

Submitted for the viva-voice Examination held on 22/4/24 at Kongunadu Arts and Science College (Autonomous), Coimbatore.

Examiner

A. Anu Kaliani
22/4/24
1. INTERNAL

[Signature]

2. EXTERNAL

FACILE PREPARATION AND CHARACTERIZATION OF $Zn_3V_2O_8$ NANOPARTICLES FOR SUPERCAPACITORS

Submitted to Kongunadu Arts and Science College (Autonomous) affiliated to Bharathiar
University, Coimbatore in partial fulfilment of the requirement for the

Award for the Degree of

MASTER OF SCIENCE IN PHYSICS

Submitted by

MINNU PETER

(Reg. No.222PH038)

Under the guidance of

Dr. V. D. NITHYA., M.Sc., Ph.D.



DEPARTMENT OF PHYSICS

KONGUNADU ARTS AND SCIENCE COLLEGE (AUTONOMOUS)

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

COLLEGE OF EXCELLENCE (UGC)

29th RANK AMONG COLLEGES IN NIRF 2023

COIMBATORE-641029

APRIL-2024

CERTIFICATE

This is to certify that the project entitled "EACILE PREPARATION AND CHARACTERIZATION OF $Zn_3V_2O_8$ NANOPARTICLES FOR SUPERCAPACITORS" submitted to Kongunadu Arts and Science College (Autonomous), Coimbatore affiliated to Bharathiar University in partial fulfilment of the requirements for the award of the degree of MASTER OF SCIENCE IN PHYSICS is a record of original work done by MINNU PETER during the period 2022-2024 of her study in the Department of Physics at Kongunadu Arts and Science College, Coimbatore under my supervision and the project has not formed the basis for the award of any Degree/Diploma/Fellowship or other similar title to any candidate of any university.

Place: Coimbatore

Date: 22-03-24

Signature of the guide

(Dr. V. D. NITHYA)



A. Anukaliam
DR. A. ANUKALIAM
Associate Professor & Head
Head of the Department
Department of Physics
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28/3/24
Principal
PRINCIPAL
Kongunadu Arts & Science College
COIMBATORE-641 029

Submitted for the Viva-voice Examination held on 22/9/24 at Kongunadu Arts and Science College (Autonomous), Coimbatore.

Examiners

V. D. Nithya
1. INTERNAL

U. Nithya
2. EXTERNAL

SYNTHESIS OF PURE AND Ce DOPED V₂O₅ NANOPARTICLE BY CO-PRECIIPITATION METHOD

Submitted to Kongunadu arts and science college(Autonomous) affiliated to
bharathiar university in partial fulfillment of the requirement for the Award of the
degree of

MASTER OF SCIENCE IN PHYSICS

Submitted by

SWETHA. K

(Reg.No.222PH039)

Under the guidance of

Dr. N. SENTHILKUMAR, M.Sc., M.Phil., Ph.D.



DEPARTMENT OF PHYSICS

**KONGUNADU ARTS AND SICIENCE COLLEGE
(AUTONOMOUS)**

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

COLLEGE OF EXCELLENCE (UGC)

COIMBATORE-641029

APRIL 2024

CERTIFICATE

This is to certify that the project entitled "SYNTHESIS OF PURE AND Ce DOPED V_2O_5 NANOPARTICLE BY CO-PRECIIPITATION METHOD" submitted to Kongunadu Arts and Science College (Autonomous) affiliated to Bharathiar University, in partial fulfillment of the requirements for the award of the Degree of MASTER OF SCIENCE IN PHYSICS is a record of original work done by SWETHA. K during the period 2022 to 2024 of her study in the Department of Physics at Kongunadu Arts and Science College (Autonomous), Coimbatore- 641029 under my supervision and the project has not formed the basis for the award of any Degree / Diploma / Associateship / Fellowship or other similar title to any candidate of any University.

Place : Coimbatore

Date : 2.4.24

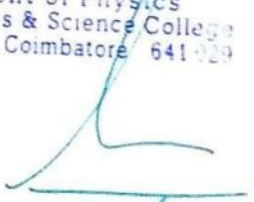

Signature of the Guide

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Dr. N. SENTHIL KUMAR
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Countersigned

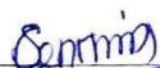

Dr. A. ANUKALIAM
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Principal
Kongunadu Arts and Science College
Coimbatore - 641 029

Submitted for the viva- voice examination held on 22/4/24 at Kongunadu Arts and Science College (Autonomous), Coimbatore-29.

Examiners

1. 
22/04/24

2. 

**CO-PRECIPIRATION SYNTHESIS OF V_2O_5 NANOPARTICLES AND
ITS STRUCTURAL, MORPHOLOGICAL AND FTIR
CHARACTERISTICS**

Submitted to Kongunadu Arts and Science College (Autonomous) affiliated to
Bharathiar University, Coimbatore in partial fulfillment of the requirement for the
Award for the Degree of

MASTER OF SCIENCE IN PHYSICS

Submitted by

MOORTHY. K

(Reg.No.222PH040)

Under the guidance of

Dr.N.SENTHILKUMAR, M.Sc.,Ph.D.



DEPARTMENT OF PHYSICS

KONGUNADU ARTS AND SCIENCE COLLEGE (AUTONOMOUS)

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

COLLEGE OF EXCELLENCE (UGC)

29th RANK AMONG COLLEGES IN NIRF 2023

COIMBATORE-641029

APRIL-2024

CERTIFICATE

This is to certify that the project entitled "CO-PRECIIPITATION SYNTHESIS OF V_2O_5 NANOPARTICLES AND ITS STRUCTURAL, MORPHOLOGICAL AND FTIR CHARACTERISTICS" submitted to Kongunadu Arts and Science College (Autonomous), Coimbatore affiliated to Bharathiar University in partial fulfillment of the requirements for the award of the degree of **MASTER OF SCIENCE IN PHYSICS** is a record of original work done by **MOORTHILK** during the period 2022-2024 of her study in the Department of Physics at Kongunadu Arts and Science College, Coimbatore under my supervision and the project has not formed the basis for the award of any Degree/Diploma/Fellowship or other similar title to any candidate of any university.

Place: Coimbatore

Date: 02/04/2024

A. Anu Kaliani
21/4/24

Countersigned



Signature of the guide

(Dr. N. SENTHIL KUMAR)
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21/4/24

Principal
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Submitted for the Viva-voce Examination held on 22/4/24
Science College (Autonomous), Coimbatore.

Examiners

1. INTERNAL
22/04/24

2. EXTERNAL