

**CONSTRUCTION OF THERMOELECTRIC SETUP FOR THE
MEASUREMENT OF SEEBECK COEFFICIENT FOR THIN FILMS**

Submitted to

**KONGUNADU ARTS AND SCIENCE COLLEGE (AUTONOMOUS)
COIMBATORE-641029**

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

BACHELOR OF SCIENCE IN PHYSICS

GROUP PROJECT

Submitted by

V.Srivelsamyandian (211PH002)

S.Dhanabalan (211PH012)

P.Sanjaykumar (201PH012R)

Under the guidance of

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

Assistant professor



DEPARTMENT OF PHYSICS

(SUPPORTED BY DBT STAR COLLEGE SCHEME)

KONGUNADU ARTS AND SCIENCE COLLEGE (AUTONOMOUS)

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 " CONSTRUCTION OF THERMOELECTRIC SETUP FOR THE MEASUREMENT OF SEEBECK COEFFICIENT FOR 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 Bachelor of Science in Physics is a record of original work done by V.Sri velsamy Pandian, S.Dhanabalan, P.Sanjay Kumar. during the period 2023- 2024 of their 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 / Fellowship or other similar title to any candidate of any University.

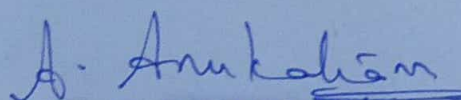
Place: Coimbatore

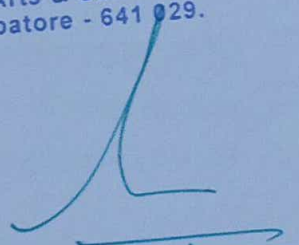
Date: 01/04/2024


Signature of the Guide

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



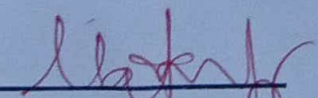

Head of the Department
Associate Professor & Head
Department of Physics
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G.N. Mills Post, Coimbatore - 641 029.

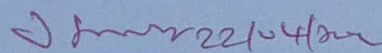

Principal

PRINCIPAL
Kongunadu Arts & Science College
COIMBATORE-641 029

Submitted for the viva-voce examination held 22/04/2024 at Kongunadu arts and science college (Autonomous), Coimbatore - 29

Examiners

1. 
22/04/24

2. 
22/04/24

FSW
S14

**SYNTHESIS AND CHARACTERISATION OF Cr DOPED CeO₂
NANOPARTICLES**

Submitted to

KONGUNADU ARTS AND SCIENCE COLLEGE (AUTONOMOUS)

Affiliated to Bharathiar University

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

BACHELOR OF SCIENCE IN PHYSICS

Submitted by

R. S. SUBHIKSHA (211PH009)

N. BRINDHA (211PH006)

Under the guidance of

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

Assistant professor



DEPARTMENT OF PHYSICS

(SUPPORTED BY DBT STAR COLLEGE SCHEME)

KONGUNADU ARTS AND SCIENCE COLLEGE (AUTONOMOUS)

REACCREDITED 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 CHARACTERISATION OF Cr DOPED CeO₂ NANOPARTICLES" 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 Bachelor of Science in Physics is a record of original work done by, R.S.SUBHIKSHA (211PH009) and N. BRINDHA (211PH006) during the period 2023-2024 of their 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 / Fellowship or other similar title to any candidate of any University.

Place: Coimbatore

Date: 1/4/2024



Signature of the Guide

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

Head of the Department 1/4/24

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

Principal

1/4/24
PRINCIPAL
Kongunadu Arts & Science College
COIMBATORE-641 029

Submitted for the viva-voce examination held on 22.04.2024 at Kongunadu arts and science college (Autonomous), Coimbatore - 29

Examiners

1. INTERNAL

2. EXTERNAL

**SYNTHESIS AND CHARACTERIZATION OF MANGANESE FERRITE BY
AUTO COMBUSTION SOL- GEL METHOD**

Submitted to

KONGUNADU ARTS AND SCIENCE COLLEGE (AUTONOMOUS)

Affiliated to Bharathiar University

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

BACHELOR OF SCIENCE IN PHYSICS

Submitted by

R.A. HEMAVARNA (211PH010)

R. KUMARAVEL (211PH015)

Under the guidance of

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

Assistant professor



DEPARTMENT OF PHYSICS

(SUPPORTED BY DBT STAR COLLEGE SCHEME)

KONGUNADU ARTS AND SCIENCE COLLEGE (AUTONOMOUS)

REACCREDITED 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 MANGANESE FERRITE BY AUTO COMBUSTION SOL- GEL 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 **Bachelor of Science in Physics** is a record of original work done by **R.A.HEMAVARNA** and **R.KUMARAVEL** during the period 2023- 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: 01/04/2024

Signature of the Guide

(Dr. B .GOKUL)

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

Countersigned



Principal

Principal
Kongunadu Arts and Science College
Coimbatore - 641 029

Submitted for the viva-voce examination held on 22/4/2024 at Kongunadu arts and science college (Autonomous) , Coimbatore - 29

Examiners

1.

2.

CRYSTAL GROWTH AND STRUCTURAL CHARACTERIZATION OF 2-AMINO 4- METHYL PYRIDINIUM DIPHENYL ACETATE

Submitted to

KONGUNADU ARTS AND SCIENCE COLLEGE (AUTONOMOUS)

Affiliated to Bharathiar University

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

BACHELOR OF SCIENCE IN PHYSICS

Submitted by

R. Manojkumar (211PH001)

S. Sangavi (211PH004)

Under the guidance of

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

Assistant professor



DEPARTMENT OF PHYSICS

(SUPPORTED BY DBT STAR COLLEGE SCHEME)

KONGUNADU ARTS AND SCIENCE COLLEGE (AUTONOMOUS)

REACCREDITED 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 "CRYSRAL GROWTH AND STRUCTURAL CHARACTERIZATION OF 2-AMINO 4- METHYL PYRIDINIUM DIPHENYL ACETATE" 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 **Bachelor of Science in Physics** is a record of original work done by **R.Manojkumar** and **S.Sangavi** during the period 2023- 2024 of their 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 /Fellowship or other similar title to any candidate of any University.

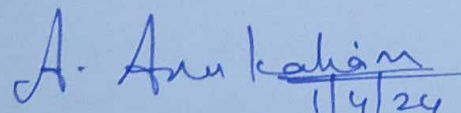
Place: Coimbatore


Signature of the Guide

Date: 01-04-2024



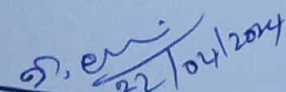
Countersigned

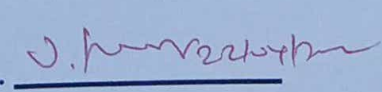

11/4/24
A. ANUKALINI
Head of the Department
Associate Professor & Head
Department of Physics
Kongunadu Arts and Science College
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11/4/24
Principal
PRINCIPAL
Kongunadu Arts & Science College
COIMBATORE-641 029

Submitted for the viva-voce examination held on 22.04.2024 at Kongunadu arts and science college (Autonomous) , Coimbatore - 29

Examiners

1. 
22/04/2024

2. 

**SYNTHESIS AND CHARACTERIZATION OF Nd³⁺
DOPED V₂O₅ 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 Requirement for the Award of the degree of

BACHELOR OF SCIENCE IN PHYSICS

Submitted by

AHILA P (Reg.No.211PH007)

SELVAM D (Reg.No.211PH008)

Under the guidance of

Dr.A. ANU KALIANI , M.Sc.,M.Phil.,Ph.D
Associate Professor and Head



DEPARTMENT OF PHYSICS

(SUPPORTED BY DBT STAR COLLEGE SCHEME)

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 Nd³⁺ DOPED V₂O₅ NANOPARTICLES BY CO - PRECIPITATION METHOD " 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 BACHELOR OF SCIENCE IN PHYSICS is a record of original work done by AHILA P (211PH007), SELVAM D (211PH008) during the period 2021-2024 on their 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: 27/03/2023



Countersigned

A. Anu Kaliani
27/3/24
Signature of the Guide

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

A. Anu Kaliani
27/3/24

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

Head of the **Department** and Science College
G.N.Mills (P.O), Coimbatore - 641 029

[Signature]
27/3/24

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.

Examiners

A. Anu Kaliani
22/4/24

1. INTERNAL

[Signature]
22/4/24

2. EXTERNAL

45
CIT

**EXPLORING THE STRUCTURAL AND ELECTROCHEMICAL
CHARACTERISTICS OF V₂O₅ NANOSTRUCTURES FOR ENHANCED
SUPERCAPACITANCE PERFORMANCE**

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

BACHELOR OF SCIENCE IN PHYSICS

Submitted by

T KANNAN (Reg.No.211PH003)

R SHALINI (Reg.No.211PH005)

Under the guidance of

Dr.N. SENTHIL KUMAR, PhD

ASSISTANT PROFESSOR



DEPARTMENT OF PHYSICS

(SUPPORTED BY DBT STAR COLLEGE SCHEME)

KONGUNADU ARTS AND SCIENCE COLLEGE (AUTONOMOUS)

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

29th RANK AMONG COLLEGES IN NIRF 2023

COLLEGE OF EXCELLENCE (UGC)

COIMBATORE – 641029

APRIL - 2024

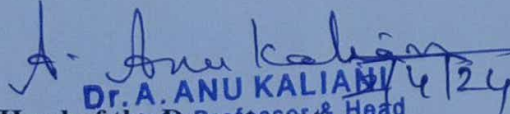
CERTIFICATE

This is to certify that the project entitled “EXPLORING THE STRUCTURAL AND ELECTROCHEMICAL CHARACTERISTICS OF V_2O_5 NANOSTRUCTURES FOR ENHANCED SUPERCAPACITANCE PERFORMANCE” submitted to the Department of Physics, Kongunadu Arts and Science College (Autonomous), Coimbatore affiliated to Bharathiar University in partial fulfilment of the requirements for the award of the degree of **BACHELOR OF SCIENCE IN PHYSICS**, Bharathiar University is a record of original work done by **KANNAN T (211PH003)**, **SHALINI R (211PH005)** during the period 2023-2024 of their study in the Department of Physics at Kongunadu Arts and Science College, Coimbatore under my supervision and guidance and the Project work 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

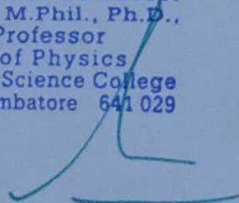



Dr. A. ANU KALIAM
Head of the Department & Head
Department of Physics
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G.N.Mills (P.O), Coimbatore - 641 029


Signature of the Guide

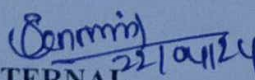
(Dr.N. Senthil Kumar)

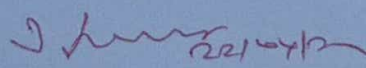
Dr. N. SENTHIL KUMAR
M.Sc., M.Phil., Ph.D.,
Assistant Professor
Department of Physics
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G.N. Mills Post., Coimbatore 641 029


Principal
PRINCIPAL
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COIMBATORE-641 029

Submitted for the Viva-voce Examination held on 22.04.2024 at Kongunadu Arts and Science College (Autonomous), Coimbatore.

Examiners


1. INTERNAL


2. EXTERNAL

STUDY OF STRUCTURAL PROPERTIES OF DOPED TiO₂ THIN FILMS

PROJECT REPORT

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

BACHELOR OF SCIENCE IN PHYSICS

Submitted by

V S KARTHICK RAJA (Reg.No.211PH011)

A POOVARASAN (Reg.No.211PH019)

Under the guidance of

Dr.A.Ranjitha

Assistant professor



DEPARTMENT OF PHYSICS

(SUPPORTED BY DBT STAR COLLEGE SCHEME)

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 STRUCTURAL PROPERTIES OF DOPED TiO_2 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 **BACHELOR OF SCIENCE IN PHYSICS** is a record of original work done by **V S KARTHICK RAJA (211PH011), A POOVARASAN (211PH019)** during the period 2021-2024 on their 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



Signature of the Guide

(Dr. A. RANJITHA)
Dr. A. RANJITHA, M.Sc., M.Tech, Ph.D.,
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Department of Physics
Kongunadu Arts & Science College,
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Dr. A. ANURADHA
Head of the Department
Associate Professor & Head
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Kongunadu Arts & Science College
G.N. Mills Post, Coimbatore - 641 029.

Submitted for the award of the degree held on at Kongunadu Arts & Science College
(Autonomous), Coimbatore.

Principal
PRINCIPAL
Kongunadu Arts & Science College
COIMBATORE - 641 029

Examiners

1. INTERNAL

ACKNOWLEDGEMENT

2. EXTERNAL

KON S-17

AUTOMATIC CAR PARKING SYSTEMS

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

BACHELOR OF SCIENCE IN PHYSICS

Submitted by

A.Suryanarayana (211PH016)

V.Hemadharshini (211PH018)

Under the guidance of

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

Assistant professor



DEPARTMENT OF PHYSICS

(SUPPORTED BY DBT STAR COLLEGE SCHEME)

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 "AUTOMATIC CAR PARKING SYSTEM" 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 Bachelor of Science in Physics is a record of original work done by A.Suryanarayana ,and V.Hemadharshini during the period 2021- 2024 of their 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 /Fellowship or other similar title to any candidate of any University.

Place: Coimbatore

Date: 01/04/24

V.D. withly
Signature of the Guide



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

1/4/24
Principal
PRINCIPAL
Kongunadu Arts & 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. *V.D. withly*
22/04/24

2. *S. Kumar* 22/04/24