

CERTIFICATE

This is to certify that the project entitled "**PREPARATION AND CHARACTERISATION OF MoO_3 DOPED BiVO_4 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 **MASTER OF SCIENCE IN PHYSICS** is a record of original work done by **E.SOWNDHARYA** during the period 2019 to 2020 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 : 18/3/2020



Countersigned

A. Anukalian

Signature of the Guide

(Dr. A. ANU KALIANI)

Dr. A. ANU KALIANI

Associate Professor in Physics

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

[Signature]

Principal

M. Dhanam
Head of the Department

Dr. M. DHANAM, M.Sc., M.Phil., Ph.D.,
Associate Professor & Head,

Department of Physics,
Kongunadu Arts and Science College,
Coimbatore - 641 029.

PRINCIPAL
KONGUNADU ARTS & SCIENCE COLLEGE
COIMBATORE-641 029.

Submitted for the viva-voce examination held on 14.09.2020 at Kongunadu Arts and Science College (Autonomous), Coimbatore - 29.

Examiners

1. A. Anukalian
14/9/2020

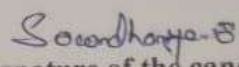
2. M. Dhanam
14/9/2020

DECLARATION

I, **E.SOWNDHARYA** hereby declare that the dissertation, entitled "**PREPARATION AND CHARACTERISATION OF MoO_3 DOPED BiVO_4 NANOPARTICLES**" submitted to the 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 me during 2019-2020 under the supervision and guidance of , **Dr. A. ANU KALIANI M.Sc., M.Phil., Ph.D.**, Associate Professor, Department of Physics, Kongunadu Arts and Science College, Coimbatore – 29 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 : 18-03-2020


Signature of the candidate

(E.SOWNDHARYA)

CERTIFICATE

This is to certify that, this project entitled "Synthesis And Spheroidization Of Plasma Spray Grade Lanthanum Titanium Aluminate By Plasma Process" submitted to Department of Physics, 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" is a record of original work done by C. HARISH BABU (Reg.No.182PH006), during his period of study (2019-2020), in the Department of Physics at Kongunadu Arts and Science College (Autonomous), Coimbatore-641 029, under my supervision and guidance and the dissertation has not formed the basis of award of any Degree/ Diploma/ Associateship/ Fellowship or other similar title to any candidate of any University.

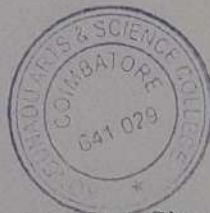
Place: Coimbatore

Date: 16.03.2020

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.

M. Dhanam
16/3/2020
Dr. M. DHANAM, M.Sc., M.Phil., Ph.D.,
Head of the Department,
Associate Professor & Head,
Department of Physics,
Kongunadu Arts and Science College,
Coimbatore - 641 029.



Counter Signed

[Signature]
Principal
PRINCIPAL
KONGUNADU ARTS & SCIENCE COLLEGE
COIMBATORE - 641 029.

Submitted for Viva-Voice examination held on 14/9/2020 at
Kongunadu Arts and Science College (Autonomous), Coimbatore-29.

EXAMINERS:

1) INTERNAL:

For
A. Anubalam
19/10/2020

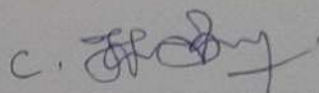
2) EXTERNAL:

DECLARATION

I, **C. HARISH BABU** (Reg.No.182PH006), hereby declare that the project entitled "**Synthesis And Spheroidization Of Plasma Spray Grade Lanthanum Titanium Aluminate By Plasma Process** " that I submitted to Department of Physics, 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**" is a record of original project work done by me during the period of study (2019-2020) under the supervision and guidance of **Dr. S. SELVI, M.Sc., B.Ed., PhD., Assistant Professor** Department of Physics, Kongunadu Arts and Science College (Autonomous), Coimbatore – 29 and the project has not formed on the basis of the award of any Degree/ Diploma/ Associateship/ Fellowship or other similar title to any candidate of any other University.

Place: Coimbatore

Date: 16.03.2020



Signature of the Candidate

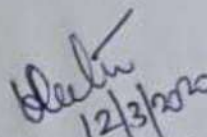
(C. HARISH BABU)

CERTIFICATE

This is to certify that the project entitled "SYNTHESIS OF COPPER (II) SULPHATE AND MANGANESE (II) SULPHATE CRYSTALS BY SLOW EVAPORATION 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 **Ms. P. PRIYADARSHINI** during the period 2019-2020 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 : 12-03-2020

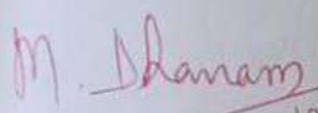

Signature of the Guide

(Dr. M. SEETHA)

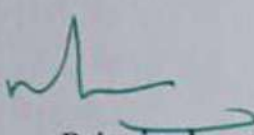
Dr. M. SEETHA, M.Sc., Ph.D., M.A., HDIP.,
Assistant Professor,
Department of Physics,
Kongunadu Arts and Science College,
Coimbatore - 641 029.



Counter signed


Head of the Department

Dr. M. DHANAM, M.Sc., M.Phil., Ph.D.
Associate Professor & Head,
Department of Physics,
Kongunadu Arts and Science College,
Coimbatore - 641 029.

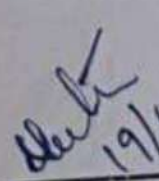

Principal

PRINCIPAL
KONGUNADU ARTS & SCIENCE COLLEGE
COIMBATORE-641 029.

Submitted for the viva-voce examination held on 14-09-2020 at Kongunadu Arts and Science College (Autonomous), Coimbatore -29.

Examiners

For
1. A. Anu Kalan
19/10/2020

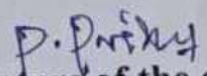
2. 
19/10/2020

DECLARATION

I, **P. PRIYADARSHINI** hereby declare that the dissertation entitled "**SYNTHESIS OF COPPER (II) SULPHATE AND MANGANESE (II) SULPHATE CRYSTALS BY SLOW EVAPORATION 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 me during 2019-2020 under the supervision and guidance, **Dr. M. SEETHA M.Sc., Ph.D., MA., HDIP.,** Assistant Professor, Department of Physics, Kongunadu Arts and Science College, Coimbatore – 641 029 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 : 12.03.2020

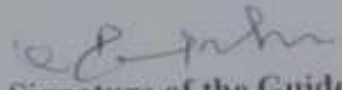

Signature of the candidate
(**P. PRIYADARSHINI**)

CERTIFICATE

This is to certify that the project entitled "ON THE METHOD OF FINDING SOLUTIONS OF NON-LINEAR DIFFERENTIAL EQUATIONS" submitted to the Department of Physics, 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 project work done by **R.SHASHANGAN** during the period of 2019-2020 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.

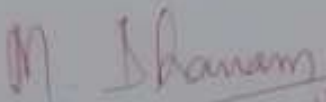
Place: Coimbatore

Date: 17.03.2020


Signature of the Guide

(Dr. K. RAJASEKAR)




Head of the Department

Counter signed

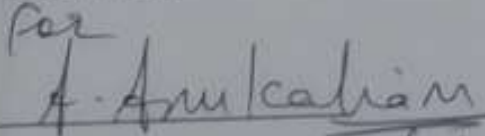

Principal

Dr. M. DHANAM, M.Sc., M.Phil., Ph.D.,
Associate Professor & Head,
Department of Physics,
Kongunadu Arts and Science College,
Coimbatore - 641 029

PRINCIPAL
KONGUNADU ARTS & SCIENCE COLLEGE
COIMBATORE-641 029.

Submitted for Viva Voice examination held on 14/10/2020 at Kongunadu Arts and Science College (Autonomous), Coimbatore -29.

EXAMINERS:

1) 
19/10/2020

2) _____

DECLARATION

I, **R.SHASHANGAN**, hereby declare that the dissertation entitled "**ON THE METHOD OF FINDING SOLUTIONS OF NON-LINEAR DIFFERENTIAL EQUATIONS**" 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 project work done by me during 2019-2020 under the supervision and guidance of **Dr. K. RAJASEKAR** M.Sc., MPhil., B.Ed., Ph.D., Associate Professor, Department of Physics, Kongunadu Arts and Science College, Coimbatore – 641 029 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: 17.03.2020

R. Shashang
Signature of the candidate
(**R.SHASHANGAN**)

CERTIFICATE

This is to certify that the project entitled "IMPACT OF CO²⁺ SUBSTITUTION ON THE STRUCTURAL, MORPHOLOGICAL AND OPTICAL PROPERTIES OF BIVO₄ NANOPARTICLES SYNTHESIZED 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 REHNA P during the period 2019 to 2020 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 : 11.03.2020



Countersigned

Senthil Kumar
Signature of the Guide

(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

M. Dhanam
Dr. M. DHANAM, M.Sc., M.Phil., Ph.D.,
Head of the Department & Head,
Department of Physics,
Kongunadu Arts and Science College,
Coimbatore - 641 029.

[Signature]

Principal

PRINCIPAL
KONGUNADU ARTS & SCIENCE COLLEGE
COIMBATORE-641 029.

Submitted for the viva-voce examination held on 14/09/2020 at Kongunadu Arts and Science College (Autonomous), Coimbatore -29.

Examiners

1. *Senthil Kumar*

Dr. N. SENTHIL KUMAR
M.Sc., M.Phil., Ph.D.,
Assistant Professor
Department of Physics
Kongunadu Arts & Science College
Coimbatore - 641 029

2. *M. Dhanam*
14/9/2021

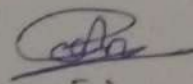
Dr. M. DHANAM, M.Sc., M.Phil., Ph.D.,
Associate Professor & Head,
Department of Physics
Kongunadu Arts & Science College
Coimbatore - 641 029

DECLARATION

I, REHNA P hereby declare that the dissertation, entitled "**IMPACT OF CO² SUBSTITUTION ON THE STRUCTURAL, MORPHOLOGICAL AND OPTICAL PROPERTIES OF BIVO₄ NANOPARTICLES SYNTHESIZED BY CO-PRECIPITATION METHOD**" submitted to the 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 me during 2019-2020 under the supervision and guidance, **Dr. N. SENTHIL KUMAR** Assistant Professor, Department of Physics, Kongunadu Arts and Science College, Coimbatore-29 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 : 11.03.2020



Signature of the candidate

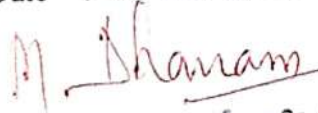
(REHNA P)

CERTIFICATE

This is to certify that the project entitled "**GREEN SYNTHESIS AND CHARACTERIZATION OF IRON DOPED CADMIUM SULPHIDE 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 **MASTER OF SCIENCE IN PHYSICS** is a record of original work done by **K.SANDHIYA (Reg.no.182PH029)** during the period of study (2019-2020) 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 : 18.03.2020


Dr. M. DHANAM, M.Sc., M.Phil., Ph.D.,
Associate Professor & Head,
Department of Physics,
Kongunadu Arts and Science College,
Coimbatore - 641 029.



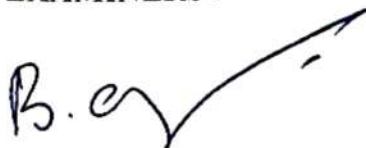
Counter signed


Signature of the Guide
Dr. B. CHANDAR SHEKAR
M.Sc., M.Phil., Ph.D.,
Assistant Professor,
Department of Physics,
Kongunadu Arts & Science College,
G.N Mills Post., Coimbatore - 641 029

Head of the Department

Submitted for the viva-voice examination held on 14-09-2020 at Kongunadu Arts and Science College (Autonomous), Coimbatore - 29.

EXAMINERS :



1) INTERNAL:


2) EXTERNAL:

DECLARATION

I, K.SANDHIYA (Reg. No. 182PH029), hereby declare that the project entitled ***“GREEN SYNTHESIS AND CHARACTERIZATION OF IRON DOPED CADMIUM SULPHIDE NANO PARTICLES”*** 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 me during 2019-2020 under the supervision and guidance of, **Dr. B. CHANDAR SHEKAR M.Sc., M.Phil., Ph.D.**, Assistant Professor, Department of Physics, Kongunadu Arts and Science College, Coimbatore – 29 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 candidate

(K.SANDHIYA)

Place: Coimbatore

Date : 18.03.2020

CERTIFICATE

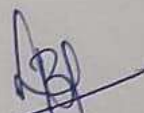
This is to certify that the project entitled "DEVELOPMENT OF RARE EARTH - TRANSITION METAL ($\text{FeCo}_{1-x}\text{Gd}_x$) SOFT MAGNETS" submitted to Kongunadu Arts and Science College (Autonomous), affiliated to Bharathiar University, in partial fulfillment of the requirements for the award of the Degree of MASTER OF SCIENCE IN PHYSICS is a record of original work done by KAVYA M P during the period 2019 to 2020 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 / Associate ship / Fellowship or other similar title to any candidate of any University.

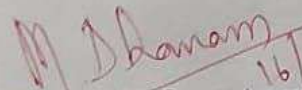
Place : Coimbatore

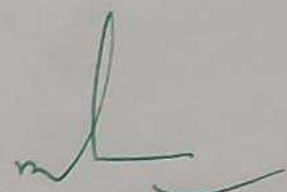
Date : 16/3/20



Countersigned

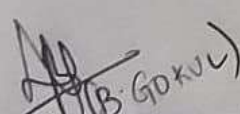

Signature of the Guide
(Dr. B GOKUL)

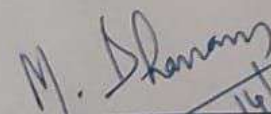

Head of the Department
Dr. M. DHANAM, M.Sc., M.Phil., Ph.D.,
Associate Professor & Head,
Department of Physics,
Kongunadu Arts and Science College,
Coimbatore - 641 029.


Principal
PRINCIPAL
KONGUNADU ARTS & SCIENCE COLLEGE
COIMBATORE-641 029.

Submitted for the viva-voce examination held on 14-09-2020 at Kongunadu Arts and Science College (Autonomous), Coimbatore - 29.

Examiners

1. 
Dr. B GOKUL

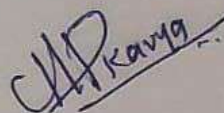
2. 
Dr. M. DHANAM
14/9/2020

DECLARATION

I, KAVYA M P (182PH031) hereby declare that the dissertation, entitled "DEVELOPMENT OF RARE EARTH - TRANSITION METAL ($\text{FeCo}_{1-x}\text{Gd}_x$) SOFT MAGNETS" submitted to the 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 me during 2019-2020 under the supervision and guidance of **Dr. B GOKUL** Assistant Professor, Department of Physics, Kongunadu Arts and Science College, Coimbatore-29 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 : 16/3/2020



Signature of the candidate

(KAVYA M P)

CERTIFICATE

This is to certify that the project entitled **SYNTHESIS OF BiVO_4 NANO PARTICLES** 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 Science** in Physics is a record of original work done by **AVANIR** during the period 2019 to 2020 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 : 17/3/2020



A. Anu kalam
Signature of the Guide

(A. ANU KALIANI)
Associate Professor in Physics
Kongunadu Arts and Science College
G.N.Mills (PO), Coimbatore - 641 029

Counter signed

M. Dhanam
17/3/2020
Head of the Department

Dr. M. DHANAM, M.Sc., M.Phil., Ph.D.,
Associate Professor & Head,
Department of Physics,

Submitted for the viva-voce examination held on _____ at Kongunadu Arts and Science college (Autonomous), Coimbatore - 29.

[Signature]
Principal

PRINCIPAL
KONGUNADU ARTS & SCIENCE COLLEGE
COIMBATORE - 641 029.

Examiners

1. _____

2. _____

DECLARATION

I, AVANIR hereby declare that the dissertation, entitled "**SYNTHESIS OF BiVO_4 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 **Master of Science in Physics** is a record of original work done by me during 2019-2020 under the supervision and guidance of **Dr. A ANU KALIANI M.Sc., M.Phil., Ph.D.,** Associate Professor, Department of Physics, Kongunadu Arts And Science College, Coimbatore - 29 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 : 17/03/2020



Signature of the candidate

(AVANIR)

**PREPARATION OF COPPER OXIDE NANOPARTICLES BY
CO-PRECIIPITATION METHOD AND TO STUDY ITS
ANTIBACTERIAL ACTIVITY**

*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. SHIFANI

(REG NO.182PH038)

Under the guidance of

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



DEPARTMENT OF PHYSICS

KONGUNADU ARTS AND SCIENCE COLLEGE (AUTONOMOUS)

COLLEGE OF EXCELLENCE (UGC)

COIMBATORE – 641 029

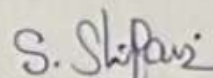
MARCH 2020

DECLARATION

I, S.SHIFANI hereby declare that the dissertation, entitled "PREPARATION OF COPPER OXIDE NANOPARTICLES BY CO-PRECIIPITATION METHOD AND TO STUDY ITS ANTIBACTERIAL ACTIVITY" submitted to the 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 me during 2019-2020 under the supervision and guidance of **Dr. A. RANJITHA**, Assistant Professor, Department of Physics, Kongunadu Arts and Science College, Coimbatore 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 : 17/03/2020



Signature of the candidate

(S.SHIFANI)

CERTIFICATE

This is to certify that the project entitled “ **QUANTUM MECHANICAL INVESTIGATIONS OF 1-(3,4-DICHLOROPHENYL)PIPERAZINE AND 2,3-DICHLORONAPHTHALENE-1,4- DIONE** ” 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 **Ms.ARUNDHATHY.S** during the period 2019-2020 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 / Associate ship / Fellowship or other similar title to any candidate of any University.

Place : Coimbatore

Date : 18-03-2020



Countersigned

M. Shanam
(Signature of the Guide)
(Dr.V.D.NADHIYA)

M. Shanam
Head of the Department, M.Sc., Ph.D.,
Dr. M. DHANAM, Associate Professor & Head,
Department of Physics,
Kongunadu Arts and Science College,
Coimbatore - 641 029.

Principal

PRINCIPAL
KONGUNADU ARTS & SCIENCE COLLEGE
COIMBATORE-641 029.

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

Examiners

1. _____

2. _____

DECLARATION

I, **ARUNDHATHY.S** hereby declare that the project entitled "**QUANTUM MECHANICAL INVESTIGATIONS OF 1-(3,4-DICHLOROPHENYL)PIPERAZINE AND 2,3-DICHLORONAPHTHALENE-1,4-DIONE**" 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 me during 2019-2020 under the supervision and guidance **Dr.V.D.NADHIYA M.Sc., M.Phil., Ph.D.**, Assistant Professor, Department of Physics, Kongunadu Arts and Science College, Coimbatore – 641 029 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 : 18-03-2020


Signature of the candidate
(ARUNDHATHY.S)