

**SYNTHESIS AND CHARACTERISATION OF
CARBON QUANTUM DOTS AND THERMAL
DIFFUSIVITY AND ANTI-BACTERIAL STUDIES**

Submitted

By

APARNA.K.S

Reg No: CCAWMPH019



**Department of Physics
Christ College (Autonomous), Irinjalakuda**

**CALICUT UNIVERSITY
APRIL 2024**

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

**MASTER OF SCIENCE
IN PHYSICS**

Verified
Dilisha
5/4/24.
5/4/24

CERTIFICATE

This is to certify that the work reported in this project report entitled "SYNTHESIS AND CHARACTERISATION OF CARBON QUANTUM DOTS AND THERMAL DIFFUSIVITY AND ANTI-BACTERIAL STUDIES" which is submitted for the partial fulfillment of the requirements for the award of the degree, Master of Science in Physics, to the Department of Physics, Christ College (Autonomous), Irinjalakuda, University of Calicut, is the result of original work carried out by APARNA.K.S (Reg No. CCAWMPH019), under my guidance and supervision. To the best of my knowledge and belief, the work embodied in this project has not formed earlier basis of any degree or similar title of this thesis or any other university or examining body.

Date: 4/ 4/ 2024

Place: Eranakulam



Dr.Santhi.A

Supervising Guide

Department of Physics

St.Teresa's College (AUTONOMOUS)

Eranakulam

Dr. Santhi A.
Assistant Professor and Research Guide
Department of Physics
St. Teresa's College (Autonomous)
Ernakulam - 682 035

CERTIFICATE

This is to certify that the thesis entitled "SYNTHESIS AND CHARACTERISATION OF CARBON QUANTUM DOTS AND THERMAL DIFFUSIVITY AND ANTI-BACTERIAL STUDIES" is a bona fide record of the research work carried out by ^{APARNA.K.S} name under my supervision in the Department of Physics, Christ College (Autonomous), Irinjalakuda.



Prof.V.P.JOSEPH
PROFESSOR
DEPARTMENT OF PHYSICS
CHRIST COLLEGE (AUTONOMOUS)
IRINJALAKUDA



**SYNTHESIS AND CHARACTERISATION OF COPPER
NANO PARTICLE AND ITS THERMAL DIFFUSIVITY
MEASUREMENT AND ANTIBACTERIAL STUDY**

submitted

By

ARYA SUNIL

Reg No:CCAWMPPH021



Department of Physics
Christ college Irinjalakuda

CALICUT UNIVERSITY

APRIL 2024

In partial fulfillment of the requirements for the Degree of

MASTER OF SCIENCE IN PHYSICS

Verified
Silva
5/4/24
5/4/24

CERTIFICATE

This is to certify that the work reported in this project report entitled "SYNTHESIS AND CHARACTERISATION OF COPPER NANOPARTICLES AND ITS THERMAL DIFFUSIVITY MEASUREMENT AND ANTIBACTERIAL STUDY " which is submitted for the partial fulfillment of the requirements for the award of the degree, Master of Science in Physics, to the Department of Physics, Christ College (Autonomous), Irinjalakuda, University of Calicut, is the result of original work carried out by ARYA SUNIL (Reg No. CCAWMPH021), under my guidance and supervision. To the best of my knowledge and belief, the work embodied in this project has not formed earlier basis of any degree or similar title of this thesis or any other university or examining body.

Date: 4/ 4/ 2024

Place: Eranakulam



Dr.Santhi.A

Supervising Guide

Department of Physics

St.Teresa's College (AUTONOMOUS)

Eranakulam

Dr. Santhi A.
Assistant Professor and Research Guide
Department of Physics
St. Teresa's College (Autonomous)
Ernakulam - 682 035

CERTIFICATE

This is to certify that the thesis entitled "SYNTHESIS AND CHARACTERISATION OF COPPER NANO PARTICLE AND ITS THERMAL DIFFUSIVITY MEASUREMENT AND ANTIBACTERIAL STUDY" which is a bona fide record of the research work carried out by ARYA SUNIL under my supervision in the Department of physics, St Teresa's college (autonomous) Ernakulam.



Prof. Dr V P Joseph
Department Of Physics
Christ college (Autonomous)
Irinjalakuda



**SYNTHESIS AND CHARACTERISATION OF
COPPER FERRITE NANOPARTICLES AND ITS
PHOTOCATALYSIS AND ANTIBACTERIAL STUDIES**

Submitted By

AFNAN

Reg No:CCAWMPH017



Department of Physics

Christ College (AUTONOMOUS), Irinjalakuda

CALICUT UNIVERSITY

APRIL 2024

**In Partial Fulfillment of the requirements for the Degree
of**

MASTER OF SCIENCE IN PHYSICS

Verified
[Signature]
2/4/24
5/4/24

CERTIFICATE

This is to certify that the work reported in this project report entitled "SYNTHESIS AND CHARACTERISATION OF COPPER FERRITE NANOPARTICLES AND ITS PHOTOCATALYSIS AND ANTIBACTERIAL STUDIES " which is submitted for the partial fulfillment of the requirements for the award of the degree, Master of Science in Physics, to the Department of Physics, Christ College (Autonomous), Irinjalakuda, University of Calicut, is the result of original work carried out by AFNAN (Reg No. CCAWMPH017), under my guidance and supervision. To the best of my knowledge and belief, the work embodied in this project has not formed earlier basis of any degree or similar title of this thesis or any other university or examining body.

Date: 4/ 4/ 2024

Place: Eranakulam



Dr.Santhi.A

Supervising Guide

Department of Physics

St.Teresa's College (AUTONOMOUS)

Eranakulam

Dr. Santhi A.
Assistant Professor and Research Guide
Department of Physics
St. Teresa's College (Autonomous)
Eranakulam - 682 035

CERTIFICATE

This is to certify that the thesis entitled "SYNTHESIS AND CHARACTERIZATION OF COPPER FERRITE NANOPARTICLES AND ITS PHOTOCATALYSIS AND ANTIBACTERIAL STUDIES " is a bonafide record of the research work carried out by Afnan under my supervision in the Department of Physics, Christ College (Autonomous), Irinjalakuda



Prof. Dr V P Joseph

Professor

Department of Physics

Coordinator Msc Program

Christ College (Autonomous)

Irinjalakuda



SYNTHESIS AND CHARACTERISATION OF
CALCIUM TUNGSTATE NANO PARTICLE AND ITS
PHOTOCATALYSIS AND ANTIBACTERIAL STUDY

Submitted

By

LAKSHMI V S

Reg No: CCAWMPHO25



Department of Physics

Christ College(Autonomous), Irinjalakuda

CALICUT UNIVERSITY

APRIL 2024

In partial fulfillment of
the requirements for the Degree of

MASTER OF SCIENCE IN PHYSICS

V. S. Lakshmi

S. K. S.
5/4/24

S. K. S.
5/4/24

CERTIFICATE

This is to certify that the work reported in this project report entitled "SYNTHESIS AND CHARACTERISATION OF CALCIUM TUNGSTATE NANOPARTICLE AND ITS PHOTOCATALYSIS AND ANTIBACTERIAL STUDY" which is submitted for the partial fulfillment of the requirements for the award of the degree, Master of Science in Physics, to the Department of Physics, Christ College (Autonomous), Irinjalakuda, University of Calicut, is the result of original work carried out by LAKSHMI V S (Reg No. CCAWMPH025), under my guidance and supervision. To the best of my knowledge and belief, the work embodied in this project has not formed earlier basis of any degree or similar title of this thesis or any other university or examining body.

Date: 4/ 4/ 2024

Place: Eranakulam



Dr.Santhi.A

Supervising Guide

Department of Physics

St.Teresa's College (AUTONOMOUS)

Eranakulam

Dr. Santhi A.

Assistant Professor and Research Guide

Department of Physics

St. Teresa's College (Autonomous)

Ernakulam - 682 035

CERTIFICATE

This is to certify that the thesis entitled "SYNTHESIS AND CHARACTERISATION OF CALCIUM TUNGSTATE NANO PARTICLE AND ITS PHOTOCATALYSIS AND ANTIBACTERIAL STUDY" being submitted by LAKSHMI V S, Department of Physics, Christ College(Autonomous), Irinjalakuda, Thrissur is based on the investigation carried out by her under the guidance and supervision of Dr. Santhi A, Assistant professor, Department of Physics, St. Teresa's college (Autonomous), Ernakulam.

Place:

Date



Prof. V P Joseph

Professor

Department of Physics

Coordinator Msc Program

Christ College(Autonomous)

Irinjalakuda, Thrissur

