

**SYNTHESIS OF CHARACTERIZATION CuO NANOPARTICLES
PREPARED BY CHEMICAL PRECIPITATION METHOD**

A dissertation submitted to

FATIMA COLLEGE (AUTONOMOUS)

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

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

MASTER OF SCIENCE IN PHYSICS

SUBMITTED BY

V.ASHIKA(2019MSCP02)

External Guide & Internal Guide

Dr.R. JOTHIMANI M.Sc,M.Phil.,M.Ed.,PGDCA.,

Assistant professor ,

Research centre of physics,

Madurai.



FATIMA COLLEGE(AUTONOMOUS)

(RE-ACCREDITED WITH 'A' GRADE BY NAAC)

(74th Rank in India Ranking 2020 (NIRF)by MHRD)

Mary Land

MADURAI-625018

MARCH 2021

CERTIFICATE

This is to certify that the project work entitled **"SYNTHESIS AND CHARACTERIZATION OF CuO NANOPARTICLES PREPARED BY CHEMICAL PRECIPITATION METHOD"** submitted by **V.ASHIKA(Reg.No.2019MSCP02)** under the guidance of Dr. this work has been completed successfully towards partial fulfillment of requirements for the award of the degree of Master of Science in Physics DURING THE ACADEMIC YEAR 2020-2021.


(Dr.A.Sheela Vimala Rani),

Head , Research Centre of Physics,
Fatima College,
Madurai.


(Dr.Jothimani)

Assistant Professor,
Fatima college,
Madurai.

EXTERNAL EXAMINER

GROWTH AND CHARACTERIZATION OF MTC SINGLE CRYSTAL DOPED WITH Cu^{2+}

A dissertation Submitted to

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

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

MASTER OF SCIENCE IN PHYSICS

Submitted by

D.DIAS SHARMATHI (Reg.No.2019MSCP05)

Under the Guidance of

Mrs. I. Jeya Sheela, M.Sc., M.Phil., SLET., (Ph.D.)

ASSISTANT PROFESSOR

RESEARCH CENTRE OF PHYSICS

FATIMA COLLEGE, MADURAI.



FATIMA COLLEGE (AUTONOMOUS)

(RE-ACCREDITED WITH 'A' GRADE BY NAAC)

(74th Rank in India Ranking 2020 (NIRF) by MHRD)

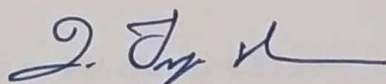
Mary Land

MADURAI – 625 018

MARCH 2021

BONAFIDE CERTIFICATE

This is to certify that the thesis entitled "**GROWTH AND CHARACTERIZATION OF MTC SINGLE CRYSTAL DOPED WITH Cu^{2+}** " submitted to Fatima College, Madurai in partial fulfillment for the award of the degree of **MASTER OF SCIENCE IN PHYSICS**. This is the record of original project work done by **D.DIAS SHARMATHI** at Fatima College, Research Centre of Physics, Madurai under the guidance of **Mrs. I. Jeya Sheela, Assistant Professor, Research Centre of Physics, Fatima College, Madurai** during the period of study at Fatima college, Madurai.

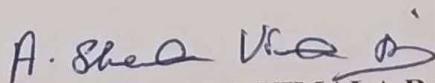


Mrs. I. JEYA SHEELA,

Assistant Professor

Research Centre of Physics

Fatima College, Madurai.



Mrs. Dr. A. SHEELA VIMALA RANI,

Head, Research Centre of Physics,

Fatima College, Madurai.

GROWTH AND CHARACTERIZATION OF MTC SINGLE CRYSTAL DOPED WITH KBr

A dissertation Submitted to

FATIMA COLLEGE (AUTONOMOUS)

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

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

MASTER OF SCIENCE IN PHYSICS

Submitted by

J.FELCY JOSE ROY (Reg.No.2019MSCP06)

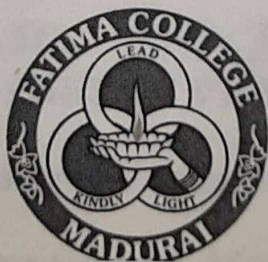
Under the Guidance of

Mrs. I. JeyaSheela, M.Sc., M.Phil., SLET., (Ph.D.)

Assistant Professor

Research Centre of Physics

Fatima College, Madurai.



FATIMA COLLEGE (AUTONOMOUS)

(RE-ACCREDITED WITH 'A' GRADE BY NAAC)

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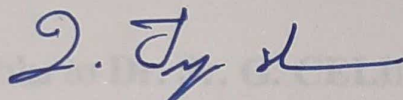
Mary Land

MADURAI – 625 018

MARCH 2021

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Mrs. I. JEYASHEELA,

Assistant Professor

Research Centre of Physics

Fatima College, Madurai.



Mrs. Dr. A. SHEELA VIMALA RANI,

Head, Research Centre of Physics,

Fatima College, Madurai

GROWTH AND CHARACTERIZATION OF MTC SINGLE CRYSTAL DOPED WITH L – ARGININE

A dissertation Submitted to

FATIMA COLLEGE (AUTONOMOUS)

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

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

MASTER OF SCIENCE IN PHYSICS

Submitted by

P. JAMES LINIA (Reg.No.2019MSCP08)

Under the Guidance of

Mrs. I. Jeya Sheela, M.Sc., M.Phil., SLET, (Ph.D.)

Assistant Professor

Research Centre of Physics

Fatima College, Madurai.



FATIMA COLLEGE (AUTONOMOUS)

(RE-ACCREDITED WITH 'A' GRADE BY NAAC)

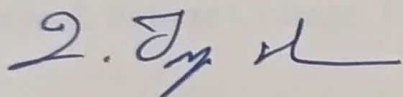
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Mary Land, MADURAI – 625 018

MARCH 2021

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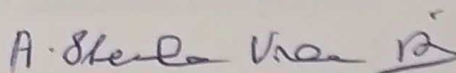


Mrs. I. JEYA SHEELA,

Assistant Professor

Research Centre of Physics,

Fatima College, Madurai.



Mrs. Dr. A. SHEELA VIMALA RANI

Head, Research Centre of Physics

Fatima College, Madurai.

**SELENIUM ENRICHED ROD-LIKE BISMUTH FERRITE
NANOSTRUCTURES FOR ENERGY AND ENVIRONMENT
APPLICATIONS**

A dissertation submitted to

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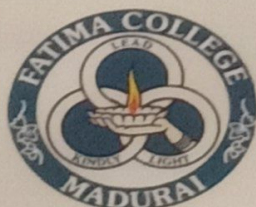
V.M.LOGA NAYAH (Reg.No.2019MSCP14)

External Guide&Internal Guide

Dr.M.RAGAM,M.Sc.,M.Phil.,Ph.D.

AssistantProfessor,Research Centre of Physics,

Fatima College, Madurai.



FATIMA COLLEGE (AUTONOMOUS)

(RE-ACCREDITED WITH 'A' GRADE BY NAAC)

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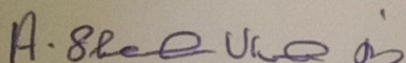
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MADURAI – 625 018

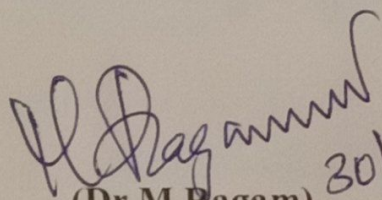
April 2021

CERTIFICATE

This is to certify that the project work entitled “SELENIUM ENRICHED ROD-LIKE BISMUTH FERRITE NANOSTRUCTURE FOR ENERGY AND ENVIRONMENT APPLICATIONS” submitted by V.M.LOGA NAYAH (Reg.No.2019MSCP14), under the guidance of Dr.M.RAGAM, Assistant Professor, Research centre of Physics, Fatima College, Madurai. This work has been completed successfully towards the partial fulfilment of requirements for the award of the Degree of Master of Science in Physics DURING THE ACADEMIC YEAR 2020-2021.


(Dr.A.Sheela Vimala Rani),

Head, Research Centre of Physics,
Fatima College,
Madurai.


(Dr.M.Ragam), 30/03/2021

Assistant Professor,
Fatima College,
Madurai.

**SELENIUM ENRICHED ROD-LIKE BISMUTH FERRITE
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A dissertation submitted to

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

MASTER OF SCIENCE IN PHYSICS

Submitted by

P.MERLIN PREETHI(Reg.No.2019MSCP15)

External Guide&Internal Guide

Dr.M.RAGAM,M.Sc.,M.Phil.,Ph.D.

AssistantProfessor,Research Centre of Physics,

Fatima College,Madurai.



FATIMA COLLEGE (AUTONOMOUS)

(RE-ACCREDITED WITH 'A' GRADE BY NAAC)

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MADURAI – 625 018


April 2021

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Fatima College,
Madurai.


30/03/2021
(Dr.M.Ragam),

Assistant Professor,
Fatima College,
Madurai.

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

MASTER OF SCIENCE IN PHYSICS

SUBMITTED BY

P.MOHANAAMUTHUSELVI(2019MSCP16)

External Guide & Internal Guide

Dr. R. JOTHIMANI, M.Sc., M.Ed., M.Phil., PhD., PGDCA

Assistant professor,

Research centre of physics,

Fatima college,

Madurai.



FATIMA COLLEGE(AUTONOMOUS)

(RE-ACCREDITED WITH 'A' GRADE BY NAAC)

(74th Rank in India Ranking 2020 (NIRF) by MHRD)

Mary Land

MADURAI-625018

MARCH 2021

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P.MOHANAAMUTHUSELVI (Reg.No.2019MSCP16) under the guidance of Dr.R.JOTHIMANI,M.Sc.,M.Ed.,M.Phil.,PhD.,PGDCA., Assistant professor, Research centre of physics of physics, Fatima college this work has been completed successfully towards partial fulfillment of requirements for the award of the degree of Master of Science in Physics DURING THE ACADEMIC YEAR 2020-2021.


(Dr.A.Sheela Vimala Rani),

Head , Research Centre of Physics,
Fatima College,
Madurai.


(Dr.Jothimani)

Assistant Professor,
Fatima college,
Madurai.

EXTERNAL EXAMINER

**GROWTH AND CHARACTERIZATION OF
MAGNESIUM TRIS THIOUREA CHLORIDE SINGLE CRYSTALS
DOPED WITH NaBr**

A dissertation Submitted to

FATIMA COLLEGE (AUTONOMOUS)

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

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

MASTER OF SCIENCE IN PHYSICS

Submitted by

S.SHANMUGHA SOUNDARE

(Reg. No. : 2019MSCP20)



Under the Guidance of

Mrs. I.JEYASHEELA M.Sc., M.Phil., SLET,(Ph.D.)

Assistant Professor,

Research Centre of Physics,


Fatima College (Autonomous),

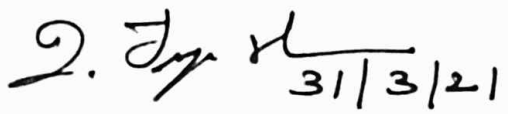
Madurai-625018

MARCH-2021

CERTIFICATE

This is to certify that this project work entitled "GROWTH AND CHARACTERIZATION OF MAGNESIUM TRIS THIOUREA CHLORIDE SINGLE CRYSTALS DOPED WITH NaBr" submitted in partial fulfillment of the requirements for the award of the Degree of Master of Science in Physics is a bonafide record of the work done by S.SHANMUGHA SOUNDARE (Reg. No:2019MSCP20) under the guidance of Mrs. I.JEYASHEELA M.Sc., M.Phil., SLET,(Ph.D.), Assistant Professor, Research Centre of Physics, Fatima College (Autonomous), Madurai during 2020-2021.


(Dr. A. Sheela Vimala Rani),
Head, Research Centre of Physics,
Research Centre of Physics
Fatima College (Autonomous),
Madurai.


(Mrs. I.JEYASHEELA)
Assistant Professor,
Research Centre of Physics,
Fatima College (Autonomous),
Madurai.

SYNTHESIS AND CHARACTERIZATION OF COPPER OXIDE NANOPARTICLE

A dissertation Submitted to

FATIMA COLLEGE (AUTONOMOUS)

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

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

MASTER OF SCIENCE IN PHYSICS

Submitted by

A.SHEELA JENIFER (Reg.No.2019MSCP22)

Under the Guidance of

Mrs. R.Jothi Mani,M.Sc.,M.Ed.,M.Phil.,Ph.D.,PGDCA.,SET.,

Assistant Professor

Research Centre of Physics

Fatima College, Madurai.



FATIMA COLLEGE (AUTONOMOUS)

(RE-ACCREDITED WITH 'A' GRADE BY NAAC)

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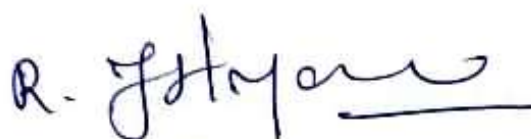
Mary Land

MADURAI – 625 018

MARCH 2021

BONAFIDE CERTIFICATE

This is to certify that the thesis entitled "**SYNTHESIS AND CHARACTERIZATION OF COPPER OXIDE NANOPARTICLE**" submitted to Fatima College, Madurai in atrial fulfilment for the award of the degree of **MASTER OF SCIENCE IN PHYSICS**. This is the record of original project work done by **A.SHEELA JENIFER** at Fatima college, Research Centre Of Physics, Madurai under the guidance of **Mrs. R. Jothi Mani, Assistant professor, Research Centre of Physics, Fatima College, Madurai** during the period of study at Fatima college, Madurai.

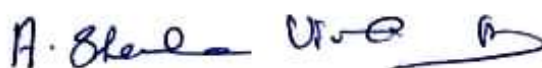


Mrs. R.JOTHI MANI,

Assistant Professor

Research Centre of Physics

Fatima College, Madurai.



Mrs. Dr. A. SHEELA VIMALA RANI,

Head, Research Centre of Physics,

Fatima College, Madurai.

**SYNTHESIS AND CHARACTERIZATION OF SILVER OXIDE
NANO PARTICLE**

A dissertation Submitted to

FATIMA COLLEGE (AUTONOMOUS)

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

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

MASTER OF SCIENCE IN PHYSICS

Submitted by

B. SHOBICA (Reg.No.2019MSCP23)

Under the Guidance of

Dr. R . Jothi Mani, M.Sc., M.Ed., M.Phil., Ph.D.,PGDCA., SET.,

Assistant Professor

Department of Physics

Fatima College, Madurai-625018.



FATIMA COLLEGE (AUTONOMOUS)

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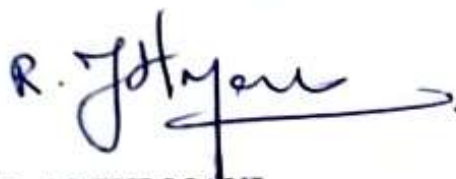
Mary Land

MADURAI – 625 018

MARCH 2021

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Dr. R. JOTHI MANI,
Assistant Professor
Department of Physics
Fatima College, Madurai



Mrs. Dr. A. SHEELA VIMALA RANI,
Head, Research Centre of Physics,
Fatima College, Madurai.

EXTERNAL EXAMINER

**SELENIUM ENRICHED ROD-LIKE BISMUTH FERRITE
NANOSTRUCTURES FOR ENERGY AND ENVIRONMENT
APPLICATIONS**

A dissertation submitted to

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

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

MASTER OF SCIENCE IN PHYSICS

Submitted by

P.SOWMYA(Reg.No.2019MSCP24)

External Guide&Internal Guide

Dr.M.RAGAM,M.Sc.,M.Phil.,Ph.D.

AssistantProfessor,Research Centre of Physics,

Fatima College, Madurai.



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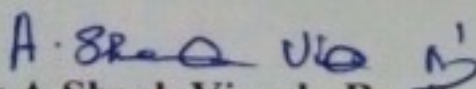
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April 2021

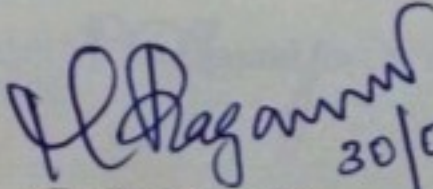
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P.SOWMYA(Reg.No.2019MSCP24) under the guidance of **Dr.M.RAGAM**, Assistant Professor, Research centre of Physics, Fatima College, Madurai. This work has been completed successfully towards the partial fulfilment of requirements for the award of the Degree of Master of Science in Physics DURING THE ACADEMIC YEAR 2020-2021.


(Dr.A.Sheela Vimala Rani),

Head, Research Centre of Physics,
Fatima College,
Madurai.


(Dr.M.Ragam), 30/03/2021

Assistant Professor,
Fatima College,
Madurai.

**SELENIUM ENRICHED ROD-LIKE BISMUTH FERRITE
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To partial fulfilment of the requirements for the award of the degree

MASTER OF SCIENCE IN PHYSICS

Submitted by

P.JENOVA (Reg.No.2019MSCP28)

External Guide & Internal Guide

Dr. M. RAGAM, M.Sc., M.Phil., Ph.D.

Assistant Professor, Research Centre of Physics,

Fatima College, Madurai.



FATIMA COLLEGE (AUTONOMOUS)

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Mary Land

MADURAI – 625 018

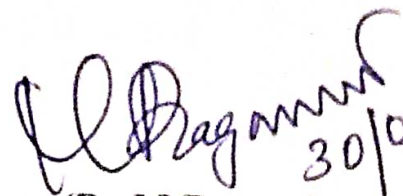
April 2021

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(Dr.A.Sheela Vimala Rani),

Head, Research Centre of Physics,
Fatima College,
Madurai.


(Dr.M.Ragam),

Assistant Professor,
Fatima College,
Madurai.