



CRITERION I - CURRICULAR ASPECTS

1.3 Curriculum Enrichment

1.3.3 Research Projects/ Internships/Field Projects

Research Projects

**Department of Physics
2018-2023**

**1. Details of Research Projects
2. Certificates**

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RESEARCH PROJECT DETAILS
DEPARTMENT OF PHYSICS- 2018-2019

SL.No	ROLL NUMBER	NAME	DETAILS OF ACTIVITY
1	P17PH001	K.ANANTHI	SYNTHESIS OF WASTE EGG SHELL INTO VALUED NANOTRICALCIUM PHOSPHATE FOR BIOMEDICAL APPLICATIONS
2	P17PH002	R.ARULMOZHI	BIOLOGICAL SYNTHESIS OF ZINC OXIDE NANOPARTICLES FROM TERMINALIA ARJUNA LEAVES EXTRACT
3	P17PH003	T.DHARANI	“SYNTHESIS OF PEG ENCAPSULATED NANO HYDROXYAPATITE
4	P17PH004	A.DIVYA	INVESTIGATION ON GROWTH,STRUCTURAL AND OPTICAL PROPERTIES OF BIS L-ALANINE ADMIXED CALCIUM CHLORIDE DIHYDRATE SINGLE CRYSTAL.
5	P17PH005	R. DURGA	CURCUMA LONGA BASED BIOSYNTHESIS OF COPPER NANOPARTICLES AND EVALUATION OF THEIR ANTIBACTERIAL.
6	P17PH006	DURGASRI.T	“SURFACTANT ASSISTED BIOMATERIALS FORM BIOWASTE MATERIALS
7	P17PH007	K.ESWARI	“FTIR,XRD AND SEM ANALYSIS OF MANIHOT ESCULENTA CASSAVA PEEL ASH
8	P17PH008	K. JAYABHARATHI	FACILE BIOSYNTHESIS OF ANTIBACTERIAL COPPER NANOPARTICLES USING LEAF EXTRACTS OF MELIA AZEDARACH
9	P17PH009	R.KALA	SYNTHESIS OF NANO MATERIAL BY CHEMICAL METHODS AND DFT STUDIES
10	P17PH010	K. KANMANI	SINGLE STEP CALCINED TRICALCIUM PHOSPHATE FROM EGG SHELL WASTE
11	P17PH011	R. MARAGATHAVALLI	INVESTIGATION ON GROWTH, STRUCTURAL AND OPTICAL PROPERTIES OF L-ALANINIE MIXED SODIUM NITRATE CRYSTALS
12	P17PH012	D.MUTHULAKSHMI	INVESTIGATION ON GROWTH,STRUCTURAL AND OPTICAL PROPERTIES OF BIS L-ALANINE ADMIXED POTTASSIUM BIFLURIDE SINGLE CRYSTAL.
13	P17PH013	K.NAVEENA	COMPARATIVE STUDY OF BRICK MAKING CLAY AND RED MUD-ASPECTROSCOPIC APPROACH

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14	P17PH014	K. PADMAVATHI	PHYLLOCLADUS LEAF EXTRACT MEDIATED NOVEL ROUTE FOR THE SYNTHESIS OF SILVER NANOPARTICLES.
15	P17PH015	J.PRIYANGA	SYNTHESIS OF NANO MATERIALS BY BIO CHEMICAL METHODS AND DFT STUDIES
16	P17PH016	D.RAJESWARI	SYNTHESIS AND CHARACTERIZATION OF PURE AND ZN DOPED CUO NANOPARTICLES.
17	P17PH017	S.RAJESWARI	SYNTHESIS AND CHARACTERIZATION OF ZINC DOPED NANOTRICALCIUM PHOSPHATE (TCP) FROM WASTE EGG SHELLS
18	P17PH018	P. RAMYA	GREEN SYNTHESIS OF SILVER NANOPARTICLES FROM AQUEOUS ACALYPHA FRUTICOSE LEAF EXTRACT.
19	P17PH019	S.SAVITHA	GROWTH AND CHARACTERIZATION OF L VALINE MALEIC ACID CRYSTALS
20	P17PH020	R. SHANMUGAPRIYA	INVESTIGATION ON GROWTH, STRUCTURAL AND OPTICAL PROPERTIES OF L-ARGININE MIXED POTTASSIUM SULPHATE CRYSTALS
21	P17PH021	T.SIVAPRIYA	SYNTHESIS AND CHARACTERIZATION OF PURE AND CU DOPED ZNO NANOPARTICLES.
22	P17PH022	K. SUMITHRA	BIOSYNTHESIS AND CHARACTERIZATION OF PLANT MEDIATED SILVER NANOPARTICLES USING THESPESIA POPULNEA.
23	P17PH023	R.YAMINI	FTIR,XRD AND SEM ANALYSIS OF CORN COB ASH




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RESEARCH PROJECT DETAILS
DEPARTMENT OF PHYSICS- 2019-2020

SL.No	ROLL NUMBER	NAME	DETAILS OF ACTIVITY
1	P18PH001	AARTHI A	GROWTH, VIBRATIONAL, OPTICAL, X-RAY DIFFRACTION STUDIES OF L-ARGININE MALEATE CRYSTALS
2	P18PH002	AKILANDESWARI S	INVESTIGATIONS ON SYNTHESIS, STRUCTURAL AND OPTICAL PROPERTIES OF MANGANESE OXIDE NANOPARTICLES
3	P18PH003	AKSHAYA T	GREEN SYNTHESIS OF ZNO AND CU-DOPED ZNO NANOPARTICLES FROM LEAVES EXTRACTS OF CANNA INDICA
4	P18PH004	ANITHA N	GREEN SYNTHESIS OF ZNO NANOPARTICLES USING CYNODON DACTYLON LEAVES EXTRACT
5	P18PH005	ANJUKA M	GROWTH AND CHARACTERIZATION OF GLYCINE SUCCINIC ACID CRYSTAL
6	P18PH006	ARUNA C	BIO-SYNTHESIS OF COPPER NANOPARTICLES USING ANDROGRAPHIS PAICULATA (GREEN CHIRETTA) AND THEIR LARVICIDAL ACTIVITY AGAINST ANOPHELES STEPHENSI
7	P18PH007	DHARANI R	CHARACTERISTICS OF WATER AND ESTIMATION OF WATER QUALITY INDEX
8	P18PH008	DHIVYA K	SYNTHESIS AND CHARACTERIZATION OF MNO ₂
9	P18PH009	GOWSALYA S	GROWTH AND CHARACTERIZATION OF L-VALINE MALEIC ACID CRYSTAL
10	P18PH010	HEMANANDHINI K	PHYSICO-CHEMICAL CHARACTERISTICS OF SOIL AND ESTIMATION OF SOIL QUALITY INDEX
11	P18PH011	JANANI H	BIOLOGICAL SYNTHESIS OF ZINC OXIDE NANOPARTICLES FROM TERMINALIA ARJUNA LEAVES EXTRACT
12	P18PH012	JANSI T	SYNTHESIS AND CHARACTERIZATION OF PURE COPPER OXIDE(CUO) NANOPARTICLES
13	P18PH013	KARTHIKA N	SYNTHESIS AND CHARACTERIZATION OF ZINC DOPED (CUO) NANOPARTICLES
14	P18PH014	KASTHOORI V	SYNTHESIS AND CHARACTERIZATION OF CDO NANOPARTICLES USING CO-PRECIPITATION METHOD
15	P18PH015	MATHIVATHANI B	SYNTHESIS, CHARACTERIZATION OF ZNO NANOPARTICLES PREPARED BY BIOLOGICAL METHOD USING AERVA LANATA

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16	P18PH016	NILANI M	THE STRUCTURAL, MORPHOLOGICAL AND FUNCTIONAL GROUP ANALYSIS OF THE CDO NANOPARTICLE BY SIMPLE CHEMICAL PRECIPITATION METHOD
17	P18PH017	PONNI A	RECENT ADVANCES AND EMERGING OPPORTUNITIES IN PONGAMIA PINNATA GREEN SYNTHESIS OF ZNO NANOPARTICLES
18	P18PH018	ROJA M	GROWTH AND CHARACTERIZATION OF L-ARGININE ADIPATE CRYSTALS
19	P18PH019	SINDHU P	VIBRATIONAL, OPTICAL AND X-RAY DIFFRACTION STUDIES OF ADIPIIC ACID CRYSTAL
20	P18PH020	SURYA A	SYNTHESIS OF MANGANESE DIOXIDE NANOPARTICLES BY CO-PRECIPITATION METHOD
21	P18PH021	VANMATHI V	GREEN SYNTHESIS AND CHARACTERIZATION OF ZNO NANOPARTICLES USING CYMBOPOGON CITRATES
22	P18PH022	VIJAYALAKSHMI K	GROWTH AND CHARACTERIZATION GLYCYL L-ALANINE CYSTALS
23	P18PH023	VINODHA K	LARVICIDAL ACTIVITY OF COPPER NANO PARTICLES SYNTHESIZED USING SYZYGIUM AROMATICUM EXTRACT AGAINST ANOPHELES STEPHENSI



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RESEARCH PROJECT DETAILS
DEPARTMENT OF PHYSICS- 2020-2021

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1	P19PH001	P.AKILA	GROWTH AND CHARACTERIZATION OF BORIC ACID WITH MAGNESIUM BROMIDE CRYSTAL.
2	P19PH002	K.ARUNA	GROWTH AND CHARACTERIZATION OF BORIC ACID MIXED MAGNESIUM BROMIDE CRYSTAL.
3	P19PH003	M.CHITHIRAISELVI	GREEN SYNTHESIS OF Fe-DOPED ZnO NANOPARTICLES USING CYNODON DACTYLON LEAVES EXTRACT.
4	P19PH004	N.DEEPAPRIYA	SYNTHESIS AND CHARACTERIZATION OF Fe-DOPED ZnO NANOPARTICLES .
5	P19PH005	E.DHIVANA	MAGNETIC PROPERTIES OF IRON OXIDE NANOPARTICLES SYNTHESIZED BY SOLGEL METHOD USING ANIONIC SURFACTANT (SF).
6	P19PH006	M.DIVYA	CHARACTERISTICS OF WATER AND ESTIMATION OF WATER QUALITY INDEX .
7	P19PH007	M.DURGADEVI	GROWTH AND CHARACTERIZATION OF THIO UREA ZINC SULPHATE OPTICAL CRYSTAL .
8	P19PH008	N.DURGAPRIYA	SYNTHESIS OF IRON OXIDE NANOPARTICLES USING SODIUM DODECYL SULFATE SURFACTANT .
9	P19PH009	S.HEMAVATHI	STRUCTURAL AND MORPHOLOGICAL ANALYSIS OF PURE CDO AND Ti DOPED CDO NANOPARTICLES .
10	P19PH010	M.KARTHIKA	BIOLOGICAL SYNTHESIS OF Fe- DOPED ZnO NANOPARTICLES FROM TERMINALIA ARJUNA LEAVES EXTRACT .
11	P19PH011	S.KAVITHA	CONTROLLABLE SYNTHESIS OF MONODISPERSED IRON OXIDE NANOPARTICLES USING NON-IRONIC SURFACTANT(TWEEN20) WITH SOLGEL PROCESS.
12	P19PH012	M.KAYALVIZHI	FUNCTIONAL GROUP AND MORPHOLOGICAL ANALYSIS OF PURE AND Al DOPED CDO NANOPARTICLES .
13	P19PH013	T.KEERTHIKA	STRUCTURAL AND MORPHOLOGICAL ANALYSIS OF PURE CDO AND Sn DOPED CDO NANOPARTICLES.
14	P19PH014	V.KOKILA	TUNING THE SHAPE,SIZE,PHASE COMPOSITION OF CSI IRON OXIDE NANOPARTICLES ;THE ROLE OF ANIONIC SURFACTANT .
15	P19PH015	R.NANDHINI	STUDY ON IRON OXIDE NANOPARTICLES SYNTHESIZED BY SOLGEL TECHNIQUES USING CTAB

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16	P19PH016	G.PRADEEPA	THE INFLUENCE OF CATIONIC SURFACTANT CTAB ON MAGNETIC PROPERTIES OF IRON OXIDE NANOPARTICLES
17	P19PH017	A.PREETHI	GROWTH AND CHARACTERIZATION OF ZINC ACETATE GLYCINE CRYSTAL
18	P19PH018	R.RAMYA	OPTICAL AND FTIR STUDIES ON THE GROWTH L-THREONINE CRYSTALS MIXED WITH MAGNESIUM BROMIDE
19	P19PH019	S.SAMLA	STUDY OF THE DIFFERENT PROPERTIES OF MAGNETIC NANOPARTICLES IN THE PRESENCE OF NON-IONIC SURFACTANT(TWEEN 10)
20	P19PH020	C.SANGAVI	SYNTHESIS AND CHARACTERIZATION OF Fe-DOPED ZnO NANOPARTICLES PREPARED BY BIOLOGICAL METHOD USING AARVA LANATA
21	P19PH021	S.SEVANTHI	FUNCTIONAL AND MORPHOLOGICAL ANALYSIS OF PURE CdO AND Ti DOPED CdO NANOPARTICLES
22	P19PH022	V.SINDHUSRI	STRUCTURAL AND MORPHOLOGICAL ANALYSIS OF PURE CdO AND Al DOPED CdO NANOPARTICLES
23	P19PH023	T.SUMAIYA	PHYSICO-CHEMICAL ANALYSIS OF WATER USING WATER QUALITY INDEX
24	P19PH024	S.SWATHI	GROWTH AND CHARACTERIZATION OF THIO-UREA MIXED POTASSIUM SULPHATE CRYSTALS
25	P19PH025	S.SWATHI	FUNCTIONAL AND MORPHOLOGICAL ANALYSIS OF Su DOPED CdO NANOPARTICLES



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RESEARCH PROJECT DETAILS
DEPARTMENT OF PHYSICS- 2021-2022

SL.No	ROLL NUMBER	NAME	DETAILS OF ACTIVITY
1	P20PH001	ABARNA R	ROLE OF SURFACTANT IN MODIFYING MAGNETISM FE ₂ O ₃ NANOPARTICLES: RAMAN STUDIES.
2	P20PH002	AMMUDEVI A	CORRELATION BETWEEN RAMAN SPECTRA OF IRON OXIDE NANOPARTICLES AND THEIR MAGNETIC AND ELECTRICAL PROPERTIES
3	P20PH003	APSANA N	SYNTHESIS AND CHARACTERIZATION OF TITANIUM DOPED CADMIUM-OXIDE NANOPARTICLES
4	P20PH004	DURGA DEVI S	SYNTHESIS AND CHARACTERIZATION OF PURE CADMIUM OXIDE NANOPARTICLES
5	P20PH005	ELAYARANI K	TUNING EFFECT OF CATIONIC SURFACTANT (CTAB) DOPING ON STRUCTURAL, MORPHOLOGICAL, OPTICAL, ELECTRICAL AND PHOTOCATALYTIC PROPERTIES OF IRON OXIDE NANOPARTICLE
6	P20PH006	GEETHANSALLI G	SYNTHESIS AND CHARACTERIZATION OF FE-DOPED ZNO NANOPARTICLES USING CANNA INDICA LEAF EXTRACT.
7	P20PH007	INDHUMATHI K	GROWTH, OPTICAL AND STRUCTURAL CHARACTERIZATION OF L-ALANINIUM MALEATE OPTICAL CRYSTAL
8	P20PH008	KALAIVANI A	SYNTHESIS AND CHARACTERIZATION OF TIN DOPED CADMIUM-OXIDE NANOPARTICLES
9	P20PH009	KEERTHANA R	THERMAL STABILITY OF MANGANESE DIOXIDE NONOPARTICLES VIA CHEMICAL METHOD
10	P20PH010	KRITHIKA R	GROWTH AND CHARACTERISATION OF PURE L-LYSINE MONOHYDROCHLORIDE CRYSTALS
11	P20PH011	LATHAPRIYA S	GROWTH, OPTICAL AND STRUCTURAL CHARACTERIZATION OF L- ARGININE MALEATE CRYSTAL.
12	P20PH012	LAVANYA D	HYDROTHERMAL SYNTHESIS OF IRON OXIDE NANO PARTICLES USING ANIONIC SURFACTANT (SDS) : APPLICATION FOR PHOTOCATALYTIC DEGRADATION OF METHYLENE BLUE
13	P20PH013	MAHALAKSHMI T	GROWTH AND CHARACTERISATION OF PURE MALIC ACID CRYSTALS
14	P20PH014	MANOPRIYA S	STRUCTURAL AND CHARACTERIZATION OF MAGANESE DIOXIDE NANOPARTICLES USING CO-PRECIPIATION METHOD

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15	P20PH015	PRABAVATHI G	INFLUENCE OF FE ₂ O ₃ DOPED WITH SURFACTANT ON STRUCTURAL, OPTICAL AND MAGNETIC PROPERTIES
16	P20PH016	SANTHIYA P	SYNTHESIS OF IRON OXIDE NANOPARTICLES USING TWEEN 20 WITH ENHANCED VISIBLE-LIGHT INDUCED PHOTOCATALYTIC ACTIVITY.
17	P20PH017	SARANYA P	SYNTHESIS AND CHARACTERIZATION OF FE DOPED ZNO NANOPARTICLES USING CYMBOPOGAN LEAF EXTRACT
18	P20PH018	SHALINI S	SYNTHESIS AND CHARACTERIZATION OF MANGANESE DIOXIDE NANOPARTICLES USING CO-PRECIPIATION METHOD
19	P20PH019	SNEGAPRIYA V	GROWTH AND CHARACTERISATION OF PURE L-LYSINE MONOHYDROCHLORIDE CRYSTALS
20	P20PH020	SOFIYA G	NOISE POLLUTION STATUS AROUND
21	P20PH021	SUBASHINI S	GROWTH AND VIBRATIONAL, UV-VIS-NIR SPECTROPHOTOMETRY AND HARDNESS ANALYSIS OF L-ARGININE MALEATE CRYSTAL
22	P20PH022	SURYAA R	PROBING NONLINEAR DYNAMICAL SYSTEMS USING PYTHON
23	P20PH023	VARSHA T	GROWTH AND CHARACTERIZATION OF ALANANIUM MALEATE CRYSTAL
24	P20PH024	YUVARANI S	NOISE POLLUTION STATUS AROUND



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RESEARCH PROJECT DETAILS
DEPARTMENT OF PHYSICS- 2022-2023

SL.No	ROLL NUMBER	NAME	DETAILS OF ACTIVITY
1	P21PH001	AARTHI. M	BIOLOGICAL SYNTHESIS OF ZINC OXIDE NANOPARTICLES FROM TERMINALIA ARJUNA LEAVES EXTRACT AND PHOTOCATALYTIC ACTIVITIES
2	P21PH002	AKSHAYA. N	GREEN SYNTHESIS AND CHARACTERIZATION OF ZNO NANOPARTICLES USING THE EXTRACT OF CYMBOPOGAN CITRATES
3	P21PH003	ANITHA. R	INVESTIGATION OF OPTICAL PROPERTIES AND MORPHOLOGY OF HYDROTHERMALLY MANUFACTURED TIO2
4	P21PH004	ASWINI. V	SINGLE XRD DIFFRACTION AND PHOTOLUMINESCENCE ANALYSIS OF DL - SERINE OXALIC ACID CRYSTAL
5	P21PH005	AYEESHA BANU.T	GREEN SYNTHESIS AND CHARACTERIZATION OF CDO NANOPARTICLES
6	P21PH006	DEEPANA. M	CHARACTERISTICS OF WATER AND ESTIMATION OF WATER QUALITY INDEX
7	P21PH007	DIVIYA. S	SYNTHESIS, CHARACTERIZATION OF ELECTROCHEMICAL STUDIES OF TIO2 NANOPARTICLE DOPED WITH ZINC
8	P21PH008	ELAKKIYA	LONG ABSENT
9	P21PH009	HASRIN. T	UV - VISIBLE AND POWDER X-RAY DIFFRACTION ANALYSIS OF L - SERINE SUCCINIC ACID CRYSTAL
10	P21PH010	INDHUMATHI. S	CHARACTERIZATION AND ELECTROCHEMICAL PROPERTIES OF TIO2 NANOPARTICLE DOPED WITH CADMIUM
11	P21PH011	KRISHNAVENI. M	UV - VISIBLE AND POWDER X-RAY DIFFRACTION ANALYSIS OF D L - SERINE SUCCINIC ACID CRYSTAL
12	P21PH012	NANDHINI. G	SYNTHESIS, CHARACTERIZATION OF ELECTROCHEMICAL STUDIES OF TIO2 NANOPARTICLE DOPED WITH ZINC
13	P21PH013	PAPATHI. P	SYNTHESIS AND CHARACTERIZATION OF ZNO NANOPARTICLES USING AERVA LENATA LEAF EXTRACT THEIR PHOTOCATALYTIC ACTIVITY
14	P21PH014	PRIYADHARSHINI. S	PHYSICO - CHEMICAL PARAMETERS OF WATER IN AND AROUND ADUTHURAI AND ASSESSMENT OF WATER QUALITY INDEX
15	P21PH015	PRIYADHARSHINI. S	GREEN SYNTHESIS CHARACTERIZATION AND PHOTOCATALYTIC APPLICATION OF ZNO NANOPARTICLES SYNTHESIZED BY CYNODEN DACTYLON LEAVES EXTRACT
16	P21PH016	RADHA. R	GREEN SYNTHESIS OF ZNO NANOPARTICLES USING PONGAMIA PINNAATA LEAF EXTRACTS WITH DEGRADATION OF PHODAMINE B DYE

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17	P21PH017	RAJALAKSHMI. A	GREEN SYNTHESIS AND CHARACTERIZATION OF TIO ₂ NANOPARTICLES
18	P21PH018	RASIKA. R	SYNTHESIS, CHARACTERIZATION OF CADMIUM DOPED TIO ₂ WITH CHARACTERISTIC AND ITS NANOPARTICLES.
19	P21PH019	SHEELADEVI.R	SINGLE XRD DIFFRACTION AND PHOTOLUMINESCENCE ANALYSIS OF L - SERINE SUCCINIC ACID CRYSTAL
20	P21PH020	SHYMALADEVI. K	GREEN SYNTHESIS AND CHARACTERIZATION OF CDO NANOPARTICLES
21	P21PH021	SHIVANTHI. C	SYNTHESIS AND CHARACTERIZATION OF TIO ₂ DOPED WITH ZINC SULPHIDE
22	P21PH022	SNEHA. B	STRUCTURE AND OPTICAL STUDIES OF CADMIUM DOPED TITANIUM NANOPARTICLES
23	P21PH023	SUBHASHINI. M	SYNTHESIS, GROWTH AND CHARACTERIZATION OF L - SERINE AND SUCCINIC NLO CRYSTALS
24	P21PH024	SUVEDHA. B	GREEN SYNTHESIS, GROWTH AND CHARACTERIZATION OF TIO ₂ NANOPARTICLES.
25	P21PH025	VINITHA. V	FTIR AND FT -RAMAN ANALYSIS OF DL - SERINE OXALIC ACID CRYSTAL



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Dr. S.RENUKA, M.Sc., M.Phil., Ph.D.,
Assistant Professor
Department of Physics.

Date: 01.04.2019

CERTIFICATE

This is to certify that the project report entitled "**SYNTHESIS OF WASTE EGG SHELL INTO VALUED NANO TRICALCIUM PHOSPHATE FOR BIOMEDICAL APPLICATIONS**" is a bonafide record of works done by **K.ANANTHI (Reg. No. P17PH001)** submitted to Government College for Women (Autonomous), Kumbakonam, Affiliated to Bharathidasan University, Thiruchirappalli in partial fulfillment of the requirements for the award of the degree of Master of Science in physics during the year 2017-2019 in the department of physics under my guidance and supervision and the project report has not previously formed the basis for the award of any degree, diploma, fellowship or any other similar titles. I further certify that the project report represents independent work on the part of the candidate.



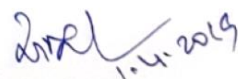
Signature of the Guide



Head of the Department

Examiners

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KUMBAKONAM**

Dr. S.RENUKA, M.Sc., M.Phil., Ph.D.,
Assistant Professor
Department of Physics.

Date: 01.04.2019

CERTIFICATE

This is to certify that the project report entitled " **BIOLOGICAL SYNTHESIS OF ZINC OXIDE NANOPARTICLES FROM TERMINALIA ARJUNA LEAVES EXTRACT** " is a bonafide record of works done by **R.ARULMOZHI (Reg. No. P17PH002)** submitted to Government College for Women (Autonomous), Kumbakonam, Affiliated to Bharathidasan University, Thiruchirappalli in partial fulfillment of the requirements for the award of the degree of Master of Science in physics during the year 2017-2019 in the department of physics under my guidance and supervision and the project report has not previously formed the basis for the award of any degree, diploma, fellowship or any other similar titles. I further certify that the project report represents independent work on the part of the candidate.

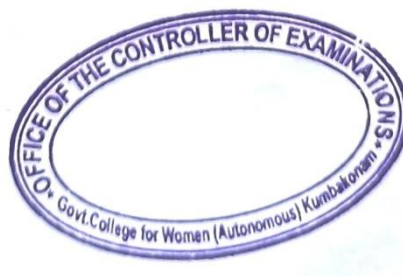
Signature of the Guide

Head of the Department

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Examiners





**GOVERNMENT COLLEGE FOR WOMEN (AUTONOMOUS)
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B.JEEVA M.Sc., M.Phil., B.Ed.,
Lecturer in Physics,
Department of physics,
Government college for women (A),
Kumbakonam,612001

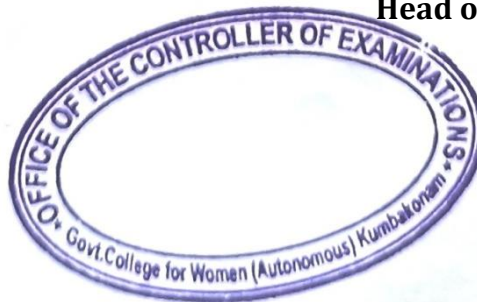
CERTIFICATE

This is to certify that the project report entitled “**synthesis of peg encapsulated nano hydroxyapatite**” is a bonafide record of work done by **DHARANI.T (P17PH003)**, submitted to Government college for women(Autonomous), Kumbakonam, Affiliated to Bharathidasan University, Thiruchirappali in partial fulfillment of the requirements for the award of the degree of **MASTER OF SCIENCE** in physics and supervision and the project report has not previously formed the basis for the award of any degree, diploma, fellowship or any other similar titles. I further certify that the project report represents the independent work on the part of the candidate.

Signature of the guide

Head of the department

1. External Examiner



2. Internal Examiner



**GOVERNMENT COLLEGE FOR WOMEN (AUTONOMOUS)
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Mrs. T.RATHNA, M.Sc., M.Phil.,
Lecturer in Physics,
Department of Physics.

Date: 01.04.2019

CERTIFICATE

This is to certify that the project report “INVESTIGATION ON GROWTH, STRUCTURAL AND OPTICAL PROPERTIES OF BIS L-ALANINE ADMIXED CALCIUM CHLORIDE DIHYDRATE SINGLE CRYSTAL” is a bonafide record of works done by **A.DIVYA (Reg. No. P17PH004)** submitted to Government College for Women (Autonomous), Kumbakonam, Affiliated to Bharathidasan University, Thiruchirappalli in partial fulfillment of the requirements for the award of the degree of Master of Science in physics during the year 2017-2019 in the department of physics under my guidance and supervision and the project report has not previously formed the basis for the award of any degree, diploma, fellowship or any other similar titles. I further certify that the project report represents independent work on the part of the candidate.

Signature of the Guide

Head of the Department

Examiners

1.

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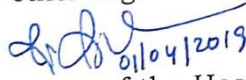



CERTIFICATE

Dr. T. THILAGAVATHI M.Sc., M.Phil., Ph.D.,
ASSISTANT PROFESSOR OF PHYSICS,
GOVERNMENT COLLEGE FOR WOMEN (AUTONOMOUS)
KUMBAKONAM - 612 001.

CERTIFICATE



This is to certify that the project report entitled "**CURCUMA LONGA BASED BIOSYNTHESIS OF COPPER NANOPARTICLES AND EVALUATION OF THEIR ANTIBACTERIAL**" is the bonafide research work done and submitted by **DURGA. R** (Reg. No: **P17PH005**) under my guidance in partial fulfillment of the requirement for the award of **Master of Science in Physics** during the academic period **2018-2019** and the project has not previously formed the basis for the award of any other degree.


Signature of the Head of the
Department


Signature of the Guide

Submitted for the University Examination held at Government
College for women (Autonomous), Kumbakonam on.....01.04.2019

EXAMINERS:

- 
11/4/2019
- 
11/04/2019



P17PH006



**GOVERNMENT COLLEGE FOR WOMEN (AUTONOMOUS)
KUMBAKONAM**

B.JEEVA M.Sc., M.Phil., B.Ed.,
Lecturer in Physics,
Department of physics,
Government college for women(A),
Kumbakonam,612001

CERTIFICATE

This is to certify that the project report entitled “**SURFACTANT ASSISTED BIOMATERIALS FORM BIOWASTE MATERIALS**” is a bonafide record of work done by **DURGASRI.T (P17PH006)**, submitted to Government college for women(Autonomous), Kumbakonam, Affiliated to Bharathidasan University, Thiruchirappali in partial fulfillment of the requirements for the award of the degree of **MASTER OF SCIENCE** in physics and supervision and the project report has not previously formed the basis for the award of any degree, diploma, fellowship or any other similar titles. I further certify that the project report represents the independent work on the part of the candidate.

Signature of the guide

Head of the department

1. External Examiners

2. Internal Examiner



P17PH007

Mrs.S.KIRUTHIKA, M.Sc., M.Phil.,
Lecturer in Physics,
Department of physics,
Government college for women (A),
Kumbakonam,612001

E-mail: skirthi1984@gmail.com

CERTIFICATE

This is to certify that the project report entitled “**FTIR,XRD AND SEM ANALYSIS OF MANIHOT ESCULENTA CASSAVA PEEL ASH** ” is a bonafide record of work done by **K.ESWARI (P17PH007)**, submitted to Government college for women(Autonomous), Kumbakonam, Affiliated to Bharathidasan University, Thiruchirappali in partial fulfillment of the requirements for the award of the degree of **MASTER OF SCIENCE** in physics and supervision and the project report has not previously formed the basis for the award of any degree, diploma, fellowship or any other similar titles. I further certify that the project report represents the independent work on the part of the candidate.

S. Kiruthika

[Signature]

Signature of the guide

Head of the department



Examiners

1. *[Signature]*
1.4.2019

2. *S. Kiruthika*

CERTIFICATE

Dr. T. THILAGAVATHI M.Sc., M.Phil., Ph.D.,
ASSISTANT PROFESSOR OF PHYSICS,
GOVERNMENT COLLEGE FOR WOMEN (AUTONOMOUS)
KUMBAKONAM - 612 001.

CERTIFICATE

This is to certify that the project report entitled "**FACILE BIOSYNTHESIS OF ANTIBACTERIAL COPPER NANOPARTICLES USING LEAF EXTRACTS OF MELIA AZEDARACH AND AZADIRACHTA**" is the bonafide research work done and submitted by **JAYABHARATHI . K** (Reg. No: **P17PH008**) under my guidance in partial fulfillment of the requirement for the award of **Master of Science in Physics** during the academic period **2018-2019** and the project has not previously formed the basis for the award of any other degree.


01/04/2019


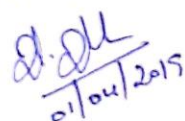
Signature of the Head of the
Department


11/04/2019

Signature of the Guide

Submitted for the University Examination held at Government
College for women (Autonomous), Kumbakonam on...01.04.2019

EXAMINERS:

1. 
11/04/2019
2. 
01/04/2019



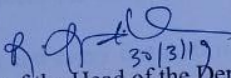
Dr.U.GNANASHEELA, M.Sc., M.Phil., Ph.D.,
Assistant Professor of Physics,
Government College for Women (Autonomous)
Kumbakonam – 612 001.

CERTIFICATE

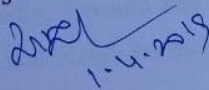
This is to certify that the project work was done under my guidance and dissertation entitled **“SYNTHESIS OF NANOMATERIAL BY CHEMICAL METHOD AND DFT STUDIES”** by **R.KALA**, (Reg.No:P17PH009). In partial fulfillment of the requirement for the award of **MASTER OF SCIENCE IN PHYSICS** during the academic year April – 2019 is the original work of the candidate.

R. Kala / 30/3/19
Signature of the candidate

U.G. Sela / 30/3/19
Signature of the Guide


30/3/19
Signature of the Head of the Department

Examiners

1. 
1-4-2019

2. U.G. Sela / 1/4/19

P17PH010



**GOVERNMENT COLLEGE FOR WOMEN (AUTONOMOUS)
KUMBAKONAM**

Dr. S.RENUKA, M.Sc., M.Phil., Ph.D.,
Assistant Professor
Department of Physics.

Date: 01.04.2019

CERTIFICATE

This is to certify that the project report entitled "**SINGLE STEP CALCINED TRICALCIUM PHOSPHATE FROM EGG SHELL WASTE**" is a bonafide record of works done by **K. KANMANI (Reg. No. P17PH010)** submitted to Government College for Women (Autonomous), Kumbakonam, Affiliated to Bharathidasan University, Thiruchirappalli in partial fulfillment of the requirements for the award of the degree of Master of Science in physics during the year 2017-2019 in the department of physics under my guidance and supervision and the project report has not previously formed the basis for the award of any degree, diploma, fellowship or any other similar titles. I further certify that the project report represents independent work on the part of the candidate.

Signature of the Guide

Head of the Department

Examiners

1. 1.4.2019

2.





P17PH011

GOVERNMENT COLLEGE FOR WOMEN (AUTONOMOUS)
KUMBAKONAM

Mrs. R. SELVI, M.Sc., M.Phil.,
Lecturer in Physics,
Department of Physics.

Date: 01.04.2019

CERTIFICATE

This is to certify that the project report entitled “**Investigation on growth, structural and optical properties of L- Alanine mixed Sodium Nitrate crystals**” is a bonafide record of works done by **R.MARAGATHAVALLI (Reg. No. P17PH011)** submitted to Government College for Women (Autonomous), Kumbakonam, Affiliated to Bharathidasan University, Thiruchirappalli in partial fulfillment of the requirements for the award of the degree of Master of Science in physics during the year 2017-2019 in the department of physics under my guidance and supervision and the project report has not previously formed the basis for the award of any degree, diploma, fellowship or any other similar titles. I further certify that the project report represents independent work on the part of the candidate.

Signature of the Guide

Head of the Department

Examiners

1. 1.4.2019

2.



P17PH012



**GOVERNMENT COLLEGE FOR WOMEN (AUTONOMOUS)
KUMBAKONAM**

Mrs.C.kayalvizhi M.Sc.,M.Phil.,(Ph.D).,
Lecturer in Physics,
Department of Physics.

CERTIFICATE

- This is to certify that the project report **ENTITLED INVESTIGATION ON GROWTH OF BISL-ALANINE ADMIXED POTASSIUM BIFLURIDE CRYSTAL "** is a bonafide record of works done by **D.MUTHULAKSHMI (Reg. No. P17PH012)** submitted to Government College for Women (Autonomous), Kumbakonam, Affiliated to Bharathidasan University, Thiruchirappalli in partial fulfillment of the requirements for the award of the degree of Master of Science in physics during the year 2017-2019 in the department of physics under my guidance and supervision and the project report has not previously formed the basis for the award of any degree, diploma, fellowship or any other similar titles. I further certify that the project report represents independent work on the part of the candidate.

Signature of the Guide
Department

Head of the

Examiners

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P17PH013



**GOVERNMENT COLLEGE FOR WOMEN (AUTONOMOUS)
KUMBAKONAM**

Dr.G.VIRUTHAGIRI M.Sc.,M.Phil.,(Ph.D).,
Assistant professor,
Department of Physics.

CERTIFICATE

- This is to certify that the project report entitled "**COMPARATIVE STUDY OF BRICK MAKING CLAY AND RED MUD-ASPECTROSCOPIC APPROACH**" is a bonafide record of works done by **K.NAVEENA (Reg. No. P17PH013)** submitted to Government College for Women (Autonomous), Kumbakonam, Affiliated to Bharathidasan University, Thiruchirappalli in partial fulfillment of the requirements for the award of the degree of Master of Science in physics during the year 2017-2019 in the department of physics under my guidance and supervision and the project report has not previously formed the basis for the award of any degree, diploma, fellowship or any other similar titles. I further certify that the project report represents independent work on the part of the candidate.

Signature of the Guide
Examiners

Head of the Department

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GOVERNMENT COLLEGE FOR WOMEN (Autonomous)

Kumbakonam – 612001

DEPARTMENT OF PHYSICS

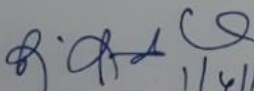
CERTIFICATE

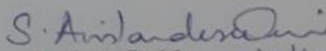
This is to certify that the thesis entitled "*Phylla nodiflora leaves extract mediated novel route for the synthesis of silver nanoparticles*" is a bonafide of the work done by

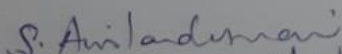
Mrs. K.PADMAVATHI

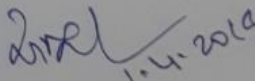
Reg.No. P17PH014

in partial fulfillment for the award of Master of Science in physics during the
year 2018 - 2019


1/4/19
Head of the Department


1/4/19
Project Guide


1/4/19
Internal Examiner


1.4.2019
External Examiner

Kumbakonam

Date: 01 /04/ 2019

P17PH015

Dr.U.GNANASHEELA M.Sc., M.Phil., Ph.D.
Assistant Professor,
Department of physics,
Government college for women(A),
Kumbakonam,612001

CERTIFICATE

This is to certify that the project report entitled “ **SYNTHESIS OF NANO MATERIALS BY BIO CHEMICAL METHODS AND DFT STUDIES** ” is a bonafide record of work done by **PRIYANGA.J,(P17PH015)** submitted to Government college for women(Autonomous), Kumbakonam, Affiliated to Bharathidasan University, Thiruchirappali in partial fulfillment of the requirements for the award of the degree of **MASTER OF SCIENCE** in physics during the year April 2020 under my supervision and the project report has not previously formed the basis for the award of any degree, diploma, fellowship or any other similar titles. .



Signature of the guide



Head of the department

Examiners

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P17PH016

Dr.I.KALAIARASI M.Sc., M.Phil., Ph.D.
Assistant Professor,
Department of physics,
Government college for women(A),
Kumbakonam,612001

CERTIFICATE

This is to certify that the project report entitled “ **SYNTHESIS AND CHARACTERIZATION OF PURE AND Zn DOPED CuO NANOPARTICLES** ” is a bonafide record of work done by **RAJESWARID,(P17PH016)** submitted to Government college for women(Autonomous), Kumbakonam, Affiliated to Bharathidasan University, Thiruchirappali in partial fulfillment of the requirements for the award of the degree of **MASTER OF SCIENCE** in physics during the year April 2019 under my supervision and the project report has not previously formed the basis for the award of any degree, diploma, fellowship or any other similar titles. .

J. Kalaiarasi

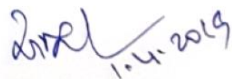


Signature of the guide

Head of the department

Examiners

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1.4.2019



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J. Kalaiarasi

P17PH017



**GOVERNMENT COLLEGE FOR WOMEN (AUTONOMOUS)
KUMBAKONAM**

Dr. S.RENUKA, M.Sc., M.Phil., Ph.D.,
Assistant Professor
Department of Physics.

Date:01.04.2019

CERTIFICATE

This is to certify that the project report entitled "**SYNTHESIS OF WASTE EGG SHELL INTO VALUED NANO TRICALCIUM PHOSPHATE FOR BIOMEDICAL APPLICATIONS**" is a bonafide record of works done by **S.RAJESWARI (Reg. No. P17PH017)** submitted to Government College for Women (Autonomous), Kumbakonam, Affiliated to Bharathidasan University, Thiruchirappalli in partial fulfillment of the requirements for the award of the degree of Master of Science in physics during the year 2017-2019 in the department of physics under my guidance and supervision and the project report has not previously formed the basis for the award of any degree, diploma, fellowship or any other similar titles. I further certify that the project report represents independent work on the _____ part of the candidate.

Signature of the Guide

Head of the Department

Examiners

- 1.
- 2.

1.4.2019



P17PH018



GOVERNMENT COLLEGE FOR WOMEN (Autonomous)

Kumbakonam – 612001

DEPARTMENT OF PHYSICS


CERTIFICATE

This is to certify that the thesis entitled “Green synthesis of silver nanoparticles from aqueous *AcalyphaFruticosa* leaf extract” is a bonafide of the work done by


Ms. P. Ramya


Reg.No.P17PH018

in partial fulfillment for the award of Master of Science in physics
during the year 2018 - 2019.


Head of the Department


Project Guide


Internal Examiner


External Examiner

Kumbakonam

Date: 01.04.2019



P17PH019

**GOVERNMENT COLLEGE FOR WOMEN (AUTONOMOUS)
KUMBAKONAM**

Mrs. T.RATHNA, M.Sc., M.Phil.,
Lecturer in Physics,
Department of Physics.

Date: 01.04.2019

CERTIFICATE

- This is to certify that the project report “ **GROWTH AND CHARACTERIZATION OF L-VALINE MALEIC ACID CRYSTAL** ” is a bonafide record of works done by SAVITHA S (**Reg. No. P17PH019**) submitted to Government College for Women (Autonomous), Kumbakonam, Affiliated to Bharathidasan University, Thiruchirappalli in partial fulfillment of the requirements for the award of the degree of Master of Science in physics during the year 2017-2019 in the department of physics under my guidance and supervision and the project report has not previously formed the basis for the award of any degree, diploma, fellowship or any other similar titles. I further certify that the project report represents independent work on the part of the candidate.



Signature of the Guide



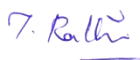
Head of the Department

Examiners

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1.4.2019

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P17PH020

**GOVERNMENT COLLEGE FOR WOMEN (AUTONOMOUS)
KUMBAKONAM**

Mrs. R. SELVI, M.Sc., M.Phil.,
Lecturer in Physics,
Department of Physics.

Date: 01.04.2019

CERTIFICATE

- This is to certify that the project report **ENTITLED INVESTIGATION ON GROWTH , STRUCTURAL AND OPTICAL PROPERTIES OF L- ARGININE MIXED POTASSIUM SULPHATE CRYSTALS "** is a bonafide record of works done by **R. SHANMUGAPRIYA (Reg. No. P17PH020)** submitted to Government College for Women (Autonomous), Kumbakonam, Affiliated to Bharathidasan University, Thiruchirappalli in partial fulfillment of the requirements for the award of the degree of Master of Science in physics during the year 2017-2019 in the department of physics under my guidance and supervision and the project report has not previously formed the basis for the award of any degree, diploma, fellowship or any other similar titles. I further certify that the project report represents independent work on the part of the candidate.

Signature of the Guide

Head of the Department

Examiners

1.

2.



P17PH021

Dr.I.KALAIARASI M.Sc., M.Phil., Ph.D.
Assistant Professor,
Department of physics,
Government college for women(A),
Kumbakonam,612001

CERTIFICATE

This is to certify that the project report entitled “ **SYNTHESIS AND CHARACTERIZATION OF PURE AND Cu DOPED ZnO NANOPARTICLES** ” is a bonafide record of work done by **SIVAPRIYA.T,(P17PH021)** submitted to Government college for women(Autonomous), Kumbakonam, Affiliated to Bharathidasan University, Thiruchirappali in partial fulfillment of the requirements for the award of the degree of **MASTER OF SCIENCE** in physics during the year April 2019 under my supervision and the project report has not previously formed the basis for the award of any degree, diploma, fellowship or any other similar titles. .

J. Kalaiarasi

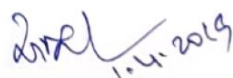


Signature of the guide

Head of the department

Examiners

1.



2.

J. Kalaiarasi



P17PH023



GOVERNMENT COLLEGE FOR WOMEN (Autonomous)

Kumbakonam – 612001

DEPARTMENT OF PHYSICS

CERTIFICATE

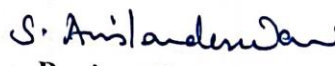
This is to certify that the thesis entitled "**Biosynthesis and characterisation of plant-mediated silver nanoparticles using *Thespesia populne***" is a bonafide of the work done by

Ms. K. Sumithra

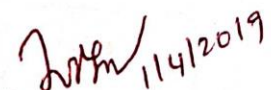
Reg no .P17PH023

in partial fulfillment for the award of Master of Science in physics
during the year 2018 - 2019.


Head of the Department


Project Guide


Internal Examiner 1/4/19


External Examiner

Kumbakonam

Date: 01.04.2019

P17PH025

Mrs.S.KIRUTHIKA, M.Sc., M.Phil.,
Lecturer in Physics,
Department of physics,
Government college for women(A),
Kumbakonam,612001
skirthi1984@gmail.com

E-mail:

CERTIFICATE

This is to certify that the project report entitled “**FTIR,XRD and SEM analysis of Corn cob ash**” is a bonafide record of work done by **R.Yamini (P17PH025)**, submitted to Government college for women(Autonomous), Kumbakonam, Affiliated to Bharathidasan University, Thiruchirappali in partial fulfillment of the requirements for the award of the degree of **MASTER OF SCIENCE** in physics and supervision and the project report has not previously formed the basis for the award of any degree, diploma, fellowship or any other similar titles. I further certify that the project report represents the independent work on the part of the candidate.

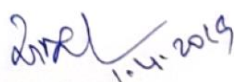


Signature of the guide



Head of the department

Examiners

1.  1.4.2019

2.



P18PH001



**GOVERNMENT COLLEGE FOR WOMEN (AUTONOMOUS)
KUMBAKONAM**

Mrs.C.kayalvizhi M.Sc.,M.Phil.,(Ph.D).,
Lecturer in Physics,
Department of Physics.

CERTIFICATE

- This is to certify that the project report **ENTITLED INVESTIGATION ON GROWTH, VIBRATIONAL, OPTICAL, X-RAY DIFFRACTION STUDIES OF L-ARGININE MALEATE CRYSTALS "** is a bonafide record of works done by **A.AARTHI(Reg. No. P18PH001)** submitted to Government College for Women (Autonomous), Kumbakonam, Affiliated to Bharathidasan University, Thiruchirappalli in partial fulfillment of the requirements for the award of the degree of Master of Science in physics during the year 2018-2020 in the department of physics under my guidance and supervision and the project report has not previously formed the basis for the award of any degree, diploma, fellowship or any other similar titles. I further certify that the project report represents independent work on the part of the ndcaidate.

Signature of the Guide

Head of the Department

Examiners

- 1.
- 2.



P18PH002

**GOVERNMENT COLLEGE FOR WOMEN (AUTONOMOUS)
KUMBAKONAM**

Mrs.S.KIRUTHIKA, M.Sc., M.Phil.,

Lecturer in Physics,
Department of physics,
Government college for women(A),
Kumbakonam,612001

E-mail: skirthi1984@gmail.com

CERTIFICATE

This is to certify that the project report entitled “**INVESTIGATIONS ON SYNTHESIS, STRUCTURAL AND OPTICAL PROPERTIES OF MANGANESE OXIDE NANOPARTICLES**” is a bonafide record of work done by **S. AKILANDESWARI (P18PH002)**, submitted to Government college for women(Autonomous), Kumbakonam, Affiliated to Bharathidasan University, Thiruchirappali in partial fulfillment of the requirements for the award of the degree of **MASTER OF SCIENCE** in physics and supervision and the project report has not previously formed the basis for the award of any degree, diploma, fellowship or any other similar titles. I further certify that the project report represents the independent work on the part of the candidate.



Signature of the guide



Head of the department

External Examiners

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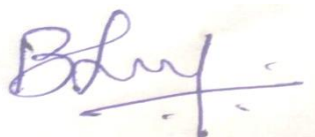
P18PH003

**GOVERNMENT COLLEGE FOR WOMEN (AUTONOMOUS)
KUMBAKONAM**

B.JEEVA M.Sc., M.Phil., B.Ed.,
Lecturer in Physics,
Department of physics,
Government college for women(A),
Kumbakonam,612001

CERTIFICATE

This is to certify that the project report entitled “**GREEN SYNTHESIS OF ZNO AND CU-DOPED ZNO NANOPARTICLES FROM LEAVES EXTRACTS OF CANNA INDICA**” is a bonafide record of work done by **T.AKSHAYA (P18PH003)**, submitted to Government college for women(Autonomous), Kumbakonam, Affiliated to Bharathidasan University, Thiruchirappali in partial fulfillment of the requirements for the award of the degree of **MASTER OF SCIENCE** in physics and supervision and the project report has not previously formed the basis for the award of any degree, diploma, fellowship or any other similar titles. I further certify that the project report represents the independent work on the part of the candidate.


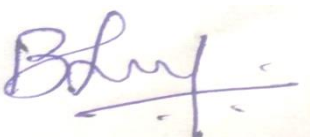


Signature of the guide



Head of the department

External Examiner

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P18PH004



**GOVERNMENT COLLEGE FOR WOMEN (AUTONOMOUS)
KUMBAKONAM**

Dr. S.RENUKA, M.Sc., M.Phil., Ph.D.,
Assistant Professor
Department of Physics.

Date: 28.09.2020

CERTIFICATE

This is to certify that the project report entitled "**GREEN SYNTHESIS OF ZNO NANOPARTICLES USING CYNODON DACTYLON LEAVES EXTRACT**" is a bonafide record of works done by **N.ANITHA (Reg. No. P18PH004)** submitted to Government college for women (Autonomous), Kumbakonam, Affiliated to Bharathidasan University, Thiruchirappalli in partial fulfillment of the requirements for the award of the degree of Master of Science in physics during the year 2019-2020 in the department of physics under my guidance and supervision and the project report has not previously formed the basis for the award of any degree, diploma, fellowship or any other similar titles. I further certify that the project report represents independent work on the part of the candidate.

Signature of the Guide

Head of the Department

Examiners

- 1.
- 2.



P18PH005



**GOVERNMENT COLLEGE FOR WOMEN (AUTONOMOUS)
KUMBAKONAM**

Mrs. R. SELVI, M.Sc., M.Phil.,
Lecturer in Physics,
Department of Physics.

Date: 28.09.2020

CERTIFICATE

- This is to certify that the project report **entitled “ Growth and characterization of Glycine Succinic acid crystal “** is a bonafide record of works done by **M . ANJUKA (Reg. No. P18PH005)** submitted to Government College for Women (Autonomous), Kumbakonam, Affiliated to Bharathidasan University, Thiruchirappalli in partial fulfillment of the requirements for the award of the degree of Master of Science in physics during the year 2018-2020 in the department of physics under my guidance and supervision and the project report has not previously formed the basis for the award of any degree, diploma, fellowship or any other similar titles. I further certify that the project report represents independent work on the part of the candidate.

Signature of the Guide

Head of the Department

Examiners

1.

2.




P18PH006


CERTIFICATE

Dr. T. THILAGAVATHI M.Sc., M.Phil., Ph.D.,
ASSISTANT PROFESSOR OF PHYSICS,
GOVERNMENT COLLEGE FOR WOMEN (AUTONOMOUS)
KUMBakonam - 612 001.

CERTIFICATE


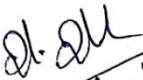
This is to certify that the project report entitled "**BIOSYNTHESIS OF COPPER NANOPARTICLES USING ANDROGRAPHIS PANICULATA (GREEN CHIRETTA) AND THEIR LARVICIDAL ACTIVITY AGAINST ANOPHELES STEPHENSI**" is the bonafide research work done and submitted by **ARUNA. C** (Reg. No:P18PH006) under my guidance in partial fulfillment of the requirement for the award of **Master of Science in Physics** during the academic period **2019 -2020** and the project has not previously formed the basis for the award of any other degree.


28/09/2020
Signature of the Head of the
Department


28/09/2020
Signature of the Guide

Submitted for the University Examination held at Government College for women (Autonomous), Kumbakonam on...28.09.2020

EXAMINERS:

1. 
28/09/2020
2. 
28/09/2020



P18PH007

Dr.S.AKILANDESWARI M.Sc., M.Phil., Ph.D.

Associate Professor,
Department of physics,
Government college for women(A),
Kumbakonam,612001

CERTIFICATE

This is to certify that the project report entitled “ **CHARACTERISTICS OF WATER AND ESTIMATION OF WATER QUALTY INDEX** ” is a bonafide record of work done by – **DHARANI . R,(P18PH007)** submitted to Government college for women(Autonomous), Kumbakonam, Affiliated to Bharathidasan University, Thiruchirappali in partial fulfillment of the requirements for the award of the degree of **MASTER OF SCIENCE** in physics during the year 2019-2020 under my supervision and the project report has not previously formed the basis for the award of any degree, diploma, fellowship or any other similar titles. .



Signature of the guide



Head of the department

Examiners

1.

2. 



P18PH008

Dr.U.GNANASHEELA M.Sc., M.Phil., Ph.D.

Assistant Professor,
Department of physics,
Government college for women(A),
Kumbakonam,612001

CERTIFICATE

This is to certify that the project report entitled “ **SYNTHESIS AND CHARACTERIZATION MNO_2** ” is a bonafide record of work done by **DHIVYA.K (P18PH008)** submitted to Government college for women(Autonomous), Kumbakonam, Affiliated to Bharathidasan University, Thiruchirappali in partial fulfillment of the requirements for the award of the degree of **MASTER OF SCIENCE** in physics during the year April 2020 under my supervision and the project report has not previously formed the basis for the award of any degree, diploma, fellowship or any other similar titles. .



Signature of the guide



Head of the department

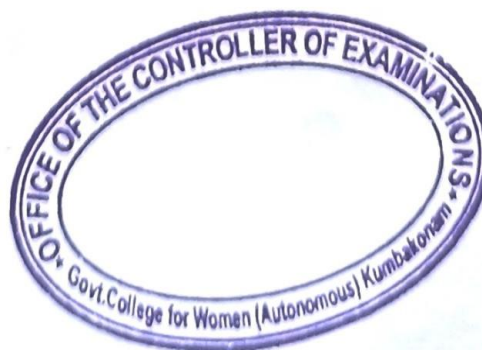
Examiners

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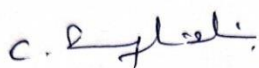
P18PH009

**GOVERNMENT COLLEGE FOR WOMEN (AUTONOMOUS)
KUMBakonam**

Mrs.C.kayalvizhi M.Sc.,M.Phil.,(Ph.D).,
Lecturer in Physics,
Department of Physics.

CERTIFICATE

- This is to certify that the project report **ENTITLED INVESTIGATION ON GROWTH AND CHARACTERIZATION OF L-VALINE MALEIC ACID CRYSTAL "** is a bonafide record of works done by **GOWSALYA. S (Reg. No. P18PH009)** submitted to Government College for Women (Autonomous), Kumbakonam, Affiliated to Bharathidasan University, Thiruchirappalli in partial fulfillment of the requirements for the award of the degree of Master of Science in physics during the year 2018-2020 in the department of physics under my guidance and supervision and the project report has not previously formed the basis for the award of any degree, diploma, fellowship or any other similar titles. I further certify that the project report represents independent work on the part of the candidate.


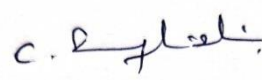


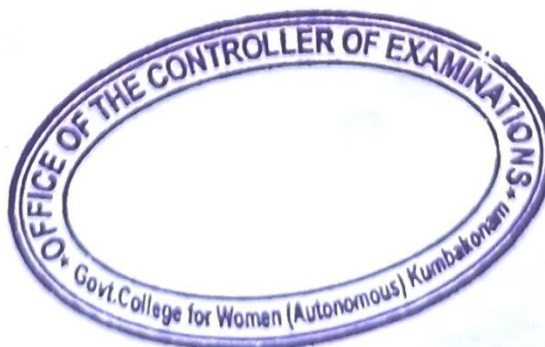
Signature of the Guide



Head of the Department

Examiners

1. 
1.4.2019
2. 



P18PH010

Dr.S.AKILANDESWARI M.Sc., M.Phil., Ph.D.

Associate Professor,
Department of physics,
Government college for women(A),
Kumbakonam,612001

CERTIFICATE

This is to certify that the project report entitled “ **PHYSICO-CHEMICAL CHARACTERISTICS OF SOIL AND ESTIMATION OF SOIL QUALITY INDEX** ” is a bonafide record of work done by **HEMANANDHNI .K (P18PH010)**, submitted to Government college for women(Autonomous), Kumbakonam, Affiliated to Bharathidasan University, Thiruchirappali in partial fulfillment of the requirements for the award of the degree of **MASTER OF SCIENCE** in physics during the year **2019-2020** under my supervision and the project report has not previously formed the basis for the award of any degree, diploma, fellowship or any other similar titles. .



Signature of the guide



Head of the department

Examiners

1. 

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2. 



P18PH011

**GOVERNMENT COLLEGE FOR WOMEN (AUTONOMOUS)
KUMBAKONAM**

Dr. S.RENUKA, M.Sc., M.Phil., Ph.D.,
Assistant Professor
Department of Physics.

Date: 28.09.2020

CERTIFICATE

This is to certify that the project report entitled "**BIOLOGICAL SYNTHESIS OF ZINC OXIDE NANOPARTICLES FROM TERMINALIA ARJUNA LEAVES EXTRACT**" is a bonafide record of works done by **JANANI.H (Reg. No. P18PH011)** submitted to Government College for Women (Autonomous), Kumbakonam, Affiliated to Bharathidasan University, Thiruchirappalli in partial fulfillment of the requirements for the award of the degree of Master of Science in physics during the year 2019-2020 in the department of physics under my guidance and supervision and the project report has not previously formed the basis for the award of any degree, diploma, fellowship or any other similar titles. I further certify that the project report represents independent work on the part of the candidate.



Signature of the Guide



Head of the Department

Examiners

1.



2.



P18PH012

Dr.I.KALAIARASI M.Sc., M.Phil., Ph.D.

Assistant Professor,
Department of physics,
Government college for women(A),
Kumbakonam,612001

CERTIFICATE

This is to certify that the project report entitled “ **SYNTHESIS AND CHARACTERIZATION OF PURE CuO NANOPARTICLES** ” is a bonafide record of work done by **JANSI.T**, (P18PH012) submitted to Government college for women(Autonomous), Kumbakonam, Affiliated to Bharathidasan University, Thiruchirappali in partial fulfillment of the requirements for the award of the degree of **MASTER OF SCIENCE** in physics during the year April 2020 under my supervision and the project report has not previously formed the basis for the award of any degree, diploma, fellowship or any other similar titles. .

J. Kalaiarasi



Signature of the guide

Head of the department

Examiners

1.



2.

J. Kalaiarasi



P18PH013

Dr.I.KALAIARASI M.Sc., M.Phil., Ph.D.
Assistant Professor,
Department of physics,
Government college for women(A),
Kumbakonam,612001

CERTIFICATE

This is to certify that the project report entitled “ **SYNTHESIS AND CHARACTERIZATION OF ZINC DOPED CuO NANOPARTICLES** ” is a bonafide record of work done by **KARTHIKA.N,(P18PH013)** submitted to Government college for women(Autonomous), Kumbakonam, Affiliated to Bharathidasan University, Thiruchirappali in partial fulfillment of the requirements for the award of the degree of **MASTER OF SCIENCE** in physics during the year April 2020 under my supervision and the project report has not previously formed the basis for the award of any degree, diploma, fellowship or any other similar titles. .

J. Kalaiarasi



Signature of the guide

Head of the department

Examiners

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2

J. Kalaiarasi



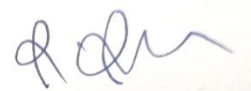
P18PH014. Dr.I.KALAIARASI M.Sc., M.Phil., Ph.D.

Assistant Professor,
Department of physics,
Government college for women(A),
Kumbakonam,612001

CERTIFICATE

This is to certify that the project report entitled “ **SYNTHESIS AND CHARACTERIZATION OF CDO NANOPARTICLES USING CO-PRECIPIATION METHOD**” is a bonafide record of work done by **KASTHOORI.V,(P18PH014)** submitted to Government college for women(Autonomous), Kumbakonam, Affiliated to Bharathidasan University, Thiruchirappali in partial fulfillment of the requirements for the award of the degree of **MASTER OF SCIENCE** in physics during the year April 2020 under my supervision and the project report has not previously formed the basis for the award of any degree, diploma, fellowship or any other similar titles. .

J. Kalaiarasi



Signature of the guide

Head of the department

Examiners

1.

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J. Kalaiarasi





**GOVERNMENT COLLEGE FOR WOMEN (AUTONOMOUS)
KUMBAKONAM**

Dr. S.RENUKA, M.Sc., M.Phil., Ph.D.,
Assistant Professor
Department of Physics.

Date: 28.09.2020

CERTIFICATE

This is to certify that the project report entitled “**SYNTHESIS, CHARACTERIZATION OF ZNO NANOPARTICLES PREPARED BY BIOLOGICAL METHOD USING AERVA LANATA**” is a bonafide record of works done by **MATHIVATHANI.B (Reg. No. P18PH015)** submitted to Government College for Women (Autonomous), Kumbakonam, Affiliated to Bharathidasan University, Thiruchirappalli in partial fulfillment of the requirements for the award of the degree of Master of Science in physics during the year 2019-2020 in the department of physics under my guidance and supervision and the project report has not previously formed the basis for the award of any degree, diploma, fellowship or any other similar titles. I further certify that the project report represents independent work on the part of the candidate.

Signature of the Guide

Head of the Department

Examiners

1.



P18PH016

Dr.U.GNANASHEELA M.Sc., M.Phil., Ph.D.

Assistant Professor,
Department of physics,
Government college for women(A),
Kumbakonam,612001

CERTIFICATE

This is to certify that the project report entitled “ **THE STRUCTURAL,MORPHOLOGICAL AND FUNCTIONAL GROUP ANALYSIS OF THE CdO NANOPARTICLE BY SIMPLE CHEMICAL PRECIPITATION METHOD** ” is a bonafide record of work done by **NILANI.M (P18PH016)** submitted to Government college for women(Autonomous), Kumbakonam, Affiliated to Bharathidasan University, Thiruchirappali in partial fulfillment of the requirements for the award of the degree of **MASTER OF SCIENCE** in physics during the year April 2020 under my supervision and the project report has not previously formed the basis for the award of any degree, diploma, fellowship or any other similar titles. .



Signature of the guide



Head of the department

Examiners

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**GOVERNMENT COLLEGE FOR WOMEN (AUTONOMOUS)
KUMBAKONAM**

Dr. S.RENUKA, M.Sc., M.Phil., Ph.D.,
Assistant Professor
Department of Physics.

Date: 28.09.2020

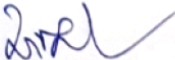

CERTIFICATE

This is to certify that the project report entitled "**SYNTHESIS, CHARACTERIZATION OF ZNO NANOPARTICLES PREPARED BY BIOLOGICAL METHOD USING AERVA LANATA** " is a bonafide record of works done by **PONNI.A (Reg. No. P18PH017)** submitted to Government College for Women (Autonomous), Kumbakonam, Affiliated to Bharathidasan University, Thiruchirappalli in partial fulfillment of the requirements for the award of the degree of Master of Science in physics during the year 2019-2020 in the department of physics under my guidance and supervision and the project report has not previously formed the basis for the award of any degree, diploma, fellowship or any other similar titles. I further certify that the project report represents independent work on the _____ part of the candidate.

Signature of the Guide

Head of the Department

Examiners

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2. 



P18PH019



**GOVERNMENT COLLEGE FOR WOMEN (AUTONOMOUS)
KUMBAKONAM**

Mrs. T.RATHNA, M.Sc., M.Phil.,
Lecturer in Physics,
Department of Physics.

Date: 28.09.2019

CERTIFICATE

- This is to certify that the project report **GROWTH AND CHARACTERIZATION OF L-ARGININE ADIPATE CRYSTALS "** is a bonafide record of works done by **ROJA .M (Reg. No. P18PH019)** submitted to Government College for Women (Autonomous), Kumbakonam, Affiliated to Bharathidasan University, Thiruchirappalli in partial fulfillment of the requirements for the award of the degree of Master of Science in physics during the year 2018-2020 in the department of physics under my guidance and supervision and the project report has not previously formed the basis for the award of any degree, diploma, fellowship or any other similar titles. I further certify that the project report represents independent work on the part of the candidate.



Signature of the Guide



Head of the Department

Examiners

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P18PH020

GOVERNMENT COLLEGE FOR WOMEN (AUTONOMOUS)

KUMBAKONAM

Mrs. R. SELVI, M.Sc., M.Phil.,

Date: 28.09.2020

Lecturer in Physics,
Department of Physics.

CERTIFICATE

This is to certify that the project report entitled “ **Vibrational ,Optical ,x-ray diffraction studies of Adipic acid crystal**” is a bonafide record of works done by **P. SINDHU (Reg. No. P18PH020)** submitted to Government College for Women (Autonomous), Kumbakonam, Affiliated to Bharathidasan University, Thiruchirappalli in partial fulfillment of the requirements for the award of the degree of Master of Science in physics during the year 2018-2020 in the department of physics under my guidance and supervision and the project report has not previously formed the basis for the award of any degree, diploma, fellowship or any other similar titles. I further certify that the project report represents independent work on the part of the ndcaidate.

Signature of the Guide

Head of the Department

Examiners

- 1.
- 2.



P18PH021



**GOVERNMENT COLLEGE FOR WOMEN (AUTONOMOUS)
KUMBAKONAM**

Mrs.S.KIRUTHIKA, M.Sc., M.Phil.,
Lecturer in Physics,
Department of physics,
Government college for women(A),
Kumbakonam,612001

E-mail: skirthi1984@gmail.com

CERTIFICATE

This is to certify that the project report entitled “**SYNTHESIS OF MANGANESE DIOXIDE NANOPARTICLES BY CO-PRECIPIATION METHOD**” is a bonafide record of work done by **A.SURYA (P18PH021)**, submitted to Government college for women(Autonomous), Kumbakonam, Affiliated to Bharathidasan University, Thiruchirappali in partial fulfillment of the requirements for the award of the degree of **MASTER OF SCIENCE** in physics and supervision and the project report has not previously formed the basis for the award of any degree, diploma, fellowship or any other similar titles. I further certify that the project report represents the independent work on the part of the candidate.

Signature of the guide

Head of the department

External Examiner

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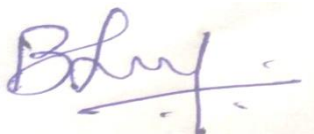


P18PH023

B.JEEVA M.Sc., M.Phil., B.Ed.,
Lecturer in Physics,
Department of physics,
Government college for women(A),
Kumbakonam,612001

CERTIFICATE

This is to certify that the project report entitled “**GREEN SYNTHESIS AND CHARACTERIZATION OF ZNO NANOPARTICLES USING CYMBOPOGON CITRATES**” is a bonafide record of work done by **V.VANMATHI (P18PH023)**, submitted to Government college for women(Autonomous), Kumbakonam, Affiliated to Bharathidasan University, Thiruchirappali in partial fulfillment of the requirements for the award of the degree of **MASTER OF SCIENCE** in physics and supervision and the project report has not previously formed the basis for the award of any degree, diploma, fellowship or any other similar titles. I further certify that the project report represents the independent work on the part of the candidate.





Signature of the guide



Head of the department

External Examiners

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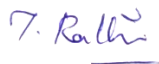
**GOVERNMENT COLLEGE FOR WOMEN (AUTONOMOUS)
KUMBAKONAM**

Mrs. T.RATHNA, M.Sc., M.Phil.,
Lecturer in Physics,
Department of Physics.

Date: 28.09.220

CERTIFICATE

- This is to certify that the project report **“GROWTH AND CHARACTERIZATION GLYCYL L-ALANINE CYSTALS ”** is a bonafide record of works done by **VIJAYALAKSHMI .K (Reg. No. P18PH024)** submitted to Government College for Women (Autonomous), Kumbakonam, Affiliated to Bharathidasan University, Thiruchirappalli in partial fulfillment of the requirements for the award of the degree of Master of Science in physics during the year 2018-2020 in the department of physics under my guidance and supervision and the project report has not previously formed the basis for the award of any degree, diploma, fellowship or any other similar titles. I further certify that the project report represents independent work on the part of the candidate.



Signature of the Guide



Head of the Department

Examiners

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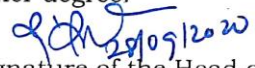


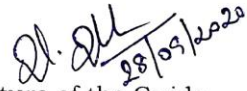
CERTIFICATE

Dr. T. THILAGAVATHI M.Sc., M.Phil., Ph.D.,
ASSISTANT PROFESSOR OF PHYSICS,
GOVERNMENT COLLEGE FOR WOMEN (AUTONOMOUS)
KUMBAKONAM - 612 001.

CERTIFICATE

This is to certify that the project report entitled "**LARVICIDAL ACTIVITY OF COPPER NANOPARTICLES SYNTHESIZED USING SYZYGIUM AROMATICUM EXTRACT AGAINST ANOPHELES STEPHENSI**" is the bonafide research work done and submitted by **K. VINODHA** (Reg. No: **P18PH025**) under my guidance in partial fulfillment of the requirement for the award of **Master of Science in Physics** during the academic period **2019 - 2020** and the project has not previously formed the basis for the award of any other degree.


Signature of the Head of the
Department


Signature of the Guide

Submitted for the University Examination held at Government College for women (Autonomous), Kumbakonam on...**28.09.2020**

EXAMINERS:

1. 
28/09/2020

2. 
28/09/2020



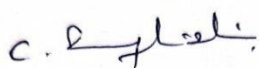
P19PH001

**GOVERNMENT COLLEGE FOR WOMEN (AUTONOMOUS)
KUMBAKONAM**

**MRS.C.KAYALVIZHI M.SC.,M.PHIL.,(PH.D).,
LECTURER IN PHYSICS,
DEPARTMENT OF PHYSICS.**

CERTIFICATE

- This is to certify that the project report "GROWTH AND CHARACTERIZATION OF BORIC ACID WITH MAGNESIUM BROMIDE CRYSTAL " is a bonafide record of works done by AKILA.P (Reg. No. P19PH001) submitted to Government College for Women (Autonomous), Kumbakonam, Affiliated to Bharathidasan University, Thiruchirappalli in partial fulfillment of the requirements for the award of the degree of Master of Science in physics during the year 2017-2019 in the department of physics under my guidance and supervision and the project report has not previously formed the basis for the award of any degree, diploma, fellowship or any other similar titles. I further certify that the project report represents independent work on the part of the ndcaidate.


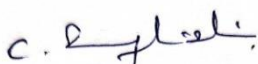


Signature of the Guide



Head of the Department

Examiners

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2. 



P19PH002



**GOVERNMENT COLLEGE FOR WOMEN (AUTONOMOUS)
KUMBAKONAM**

**MRS.C.KAYALVIZHI M.SC.,M.PHIL.,(PH.D).,
LECTURER IN PHYSICS,
DEPARTMENT OF PHYSICS.**

CERTIFICATE

- This is to certify that the project report “**ENTITLED INVESTIGATION ON GROWTH AND CHARACTERIZATION OF BORIC ACID MIXED MAGNESIUM HYDROXIDE CRYSTAL** ” is a bonafide record of works done by **ARUNA K (Reg. No. P19PH002)** submitted to Government College for Women (Autonomous), Kumbakonam, Affiliated to Bharathidasan University, Thiruchirappalli in partial fulfillment of the requirements for the award of the degree of Master of Science in physics during the year 2019-2021 in the department of physics under my guidance and supervision and the project report has not previously formed the basis for the award of any degree, diploma, fellowship or any other similar titles. I further certify that the project report represents independent work on the part of the ndcaidate.

Signature of the Guide

Head of the Department

Examiners

- 1.
- 2.



P19PH003



**GOVERNMENT COLLEGE FOR WOMEN (AUTONOMOUS)
KUMBAKONAM**

Dr. S.RENUKA, M.Sc., M.Phil., Ph.D.,
Assistant Professor
Department of Physics.

Date: 26.04.2021

CERTIFICATE

This is to certify that the project report entitled "**GREEN SYNTHESIS OF Fe-DOPED ZnO NANOPARTICLES USING CYNODON DACTYLON LEAVES EXTRACT**" is a bonafide record of works done by **M.CHITHIRAISELVI (Reg. No. P19PH003)** submitted to Government college for women (Autonomous), Kumbakonam, Affiliated to Bharathidasan University, Thiruchirappalli in partial fulfillment of the requirements for the award of the degree of Master of Science in physics during the year 2020-2021 in the department of physics under my guidance and supervision and the project report has not previously formed the basis for the award of any degree, diploma, fellowship or any other similar titles. I further certify that the project report represents independent work on the part of the candidate.

Signature of the Guide

Head of the Department

Examiners

- 1.
- 2.



P19PH004



**GOVERNMENT COLLEGE FOR WOMEN (AUTONOMOUS)
KUMBakonam**

Dr. S.RENUKA, M.Sc., M.Phil., Ph.D.,
Assistant Professor
Department of Physics.

Date: 26.04.2021

CERTIFICATE

This is to certify that the project report entitled "**SYNTHESIS AND CHARACTERIZATION OF Fe-DOPED ZnO NANOPARTICLES**" is a bonafide record of works done by **N.DEEPAPRIYA (Reg. No. P19PH004)** submitted to Government College for Women (Autonomous), Kumbakonam, Affiliated to Bharathidasan University, Thiruchirappalli in partial fulfillment of the requirements for the award of the degree of Master of Science in physics during the year 2020-2021 in the department of physics under my guidance and supervision and the project report has not previously formed the basis for the award of any degree, diploma, fellowship or any other similar titles. I further certify that the project report represents independent work on the part of the candidate.

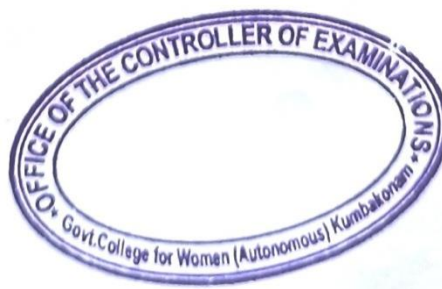
Signature of the Guide

Head of the Department

Examiners

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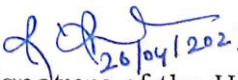
P19PH005

CERTIFICATE

Dr. T. THILAGAVATHI M.Sc., M.Phil., Ph.D.,
ASSISTANT PROFESSOR OF PHYSICS,
GOVERNMENT COLLEGE FOR WOMEN (AUTONOMOUS)
KUMBAKONAM - 612 001.

CERTIFICATE

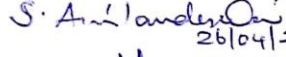

This is to certify that the project report entitled "**MAGNETIC PROPERTIES OF IRON OXIDE NANOPARTICLES SYNTHESIZED BY SOL-GEL METHOD USING ANIONIC SURFACTANT (SDS)**" is the bonafide research work done and submitted by **E. DHIVANA** (Reg. No: **P19PH005**) under my guidance in partial fulfillment of the requirement for the award of **Master of Science in Physics** during the academic period **2020-2021** and the project has not previously formed the basis for the award of any other degree.


Signature of the Head of the
Department


Signature of the Guide

Submitted for the University Examination held at Government College for women (Autonomous), Kumbakonam on 26.04.2021

EXAMINERS:

1. 
26/04/2021.
2. 
26/04/2021



P19PH006

**Government college for women (Autonomous)
Kumbakonam**

(Affiliated to BHARATHIDASANDHIDASAN UNIVERSITY, tiruchirapalli)

DEPARTMENT OF PHYSICS

CERTIFICATE

This is to certify that the project report entitled "CHARACTERISTICS OF WATER AND ESTIMATION OF WATER QUALITY INDEX" is a bonafied record of the work done by

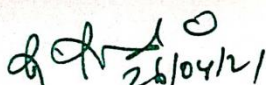
Name


M. DIVYA

Reg. No.

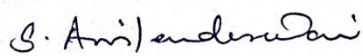
P19PH006

In partial fulfillment for the award Master of Science in physics during the year 2019-2021.



26/04/21
Head of the Department


project Guide

Dr.S.AKILANDESWARI


INTERNAL EXAMINER




EXTERNAL EXAMINER

P19PH007

**GOVERNMENT COLLEGE FOR WOMEN (AUTONOMOUS)
KUMBAKONAM**

Mrs. R. SELVI, M.Sc., M.Phil.,
Lecturer in Physics,
Department of Physics.

Date: 26.04.2021

CERTIFICATE

This is to certify that the project report entitled “ **Growth and characterization of Thiourea Zincsulphate optical crystal** is a bonafide record of works done by **M. DURGADEVI(Reg. No. P19PH007)** submitted to Government College for Women (Autonomous), Kumbakonam, Affiliated to Bharathidasan University, Thiruchirappalli in partial fulfillment of the requirements for the award of the degree of Master of Science in physics during the year 2019-2021 in the department of physics under my guidance and supervision and the project report has not previously formed the basis for the award of any degree, diploma, fellowship or any other similar titles. I further certify that the project report represents independent work on the part of the candidate.





Signature of the Guide



Head of the Department

Examiners

1. 
2. 



P19PH008

**GOVERNMENT COLLEGE FOR WOMEN (AUTONOMOUS)
KUMBAKONAM**

Mrs R. SELVI, M.Sc., M.Phil.,
Lecturer in Physics,
Department of Physics.

Date: 26.04.2021

CERTIFICATE

This is to certify that the project report entitled “**SYNTHESIS OF IRON OXIDE NANO PARTICLES USING SODIUM DODECYL SULFATE SURFACTANT**” is a bonafide record of works done by **M. DURGAPIYA (Reg. No. P19PH008)** submitted to Government College for Women (Autonomous), Kumbakonam, Affiliated to Bharathidasan University, Thiruchirappalli in partial fulfillment of the requirements for the award of the degree of Master of Science in physics during the year 2019-2021 in the department of physics under my guidance and supervision and the project report has not previously formed the basis for the award of any degree, diploma, fellowship or any other similar titles. I further certify that the project report represents independent work on the part of the candidate.





Signature of the Guide



Head of the Department

Examiners

1. 

2. 



PH19PH009

GOVERNMENT COLLEGE FOR WOMEN (AUTONOMOUS)

KUMBAKONAM

Dr.U. GNANASHEELA, M.Sc.,M.Phil.,Ph.D.,

Date:

Assistant professor,

Department of Physics.

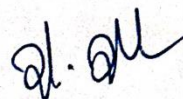
CERTIFICATE

This is to certify that the project report entitled "STRUCTURAL AND MORPHOLOGICAL ANALYSIS OF PURE CdO AND Ti DOPED CdO NANOPARTICLES" is a bonafide record of works done by HEMAVATHI. S (Reg. No. P19PH009) submitted to Government college for women (Autonomous), Kumbakonam, Affiliated to Bharathidasan University , Thiruchirappali in partial fulfillment of the requirements for the award of the degree of master of science in physics and supervision and the project report has not previously formed the basis for the award of any degree , diploma, fellowship or any other similar titles. I further certify that the project report represents independent work on the part of the candidate.


Signature of the guide


Head of the department

Examiners

1. 



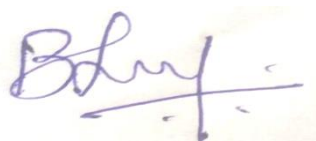
2.

**GOVERNMENT COLLEGE FOR WOMEN (AUTONOMOUS)
KUMBAKONAM**

B.JEEVA M.Sc., M.Phil., B.Ed.,
Lecturer in Physics,
Department of physics,
Government college for women(A),
Kumbakonam,612001

CERTIFICATE

This is to certify that the project report entitled “**BIOLOGICAL SYNTHESIS OF Fe-DOPED ZnO NANOPARTICLES FROM TERMINALIA ARJUNA LEAVES EXTRACT**” is a bonafide record of work done by **M.KARTHIKA (P19PH010)**, submitted to Government college for women(Autonomous), Kumbakonam, Affiliated to Bharathidasan University, Thiruchirappali in partial fulfillment of the requirements for the award of the degree of **MASTER OF SCIENCE** in physics and supervision and the project report has not previously formed the basis for the award of any degree, diploma, fellowship or any other similar titles. I further certify that the project report represents the independent work on the part of the candidate.



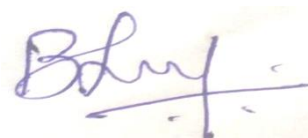
Signature of the guide

External Examiner



Head of the department

Internal Examiner



P19PH011

**GOVERNMENT COLLEGE FOR WOMEN (AUTONOMOUS)
KUMBAKONAM**

Mrs.S.KIRUTHIKA, M.Sc., M.Phil.,
Lecturer in Physics,
Department of physics,
Government college for women(A),
Kumbakonam,612001

E-mail: skirthi1984@gmail.com

CERTIFICATE

This is to certify that the project report entitled “**CONTROLLABLE SYNTHESIS OF MONODISPERSED IRON OXIDE NANOPARTICLES USING NON-IRONIC SURFACTANT(TWEEN20)**” is a bonafide record of work done by **S.KAVITHA (P19PH011)**, submitted to Government college for women(Autonomous), Kumbakonam, Affiliated to Bharathidasan University, Thiruchirappali in partial fulfillment of the requirements for the award of the degree of **MASTER OF SCIENCE** in physics and supervision and the project report has not previously formed the basis for the award of any degree, diploma, fellowship or any other similar titles. I further certify that the project report represents the independent work on the part of the candidate.

Signature of the guide

Head of the department

External Examiner

Internal Examiner

**GOVERNMENT COLLEGE FOR WOMEN (AUTONOMOUS)
KUMBAKONAM**

Dr. U. GNANASHEELA, M.Sc., M.Phil., Ph.D.,

Assistant Professor,

Department of Physics.

Date :

CERTIFICATE

This is to certify that the project report entitled "FUNCTIONAL GROUP AND MORPHOLOGICAL ANALYSIS OF PURE AND AI DOPED CdO NANOPARTICLES " is a Bonafide record of work done by M.KAYALVIZHI (Reg No. P19PH012) submitted to Government College for Women (Autonomous), Kumbakonam, Affiliated to Bharathidasan University, Tiruchirappalli in partial fulfillment of the requirements for the award of the degree of Master of Science in Physics during the year 2019-2021 in the Department of Physics and the project has not previously formed the basis for the award of any other degree.

U. G. Gnanasheela
Signature of the Guide

[Signature] 26/04/21
Head of the Department

Examiners

1. *[Signature]*

2.



P19PH013



**GOVERNMENT COLLEGE FOR WOMEN (AUTONOMOUS)
KUMBAKONAM**

Dr. I.KALAIARASI, M.Sc., M.Phil., Ph.D.,
Assistant Professor
Department of Physics.

Date: 26.04.2021

CERTIFICATE

This is to certify that the project report entitled "**STRUCTURAL AND MORPHOLOGICAL ANALYSIS OF PURE CdO AND Sn DOPED CdO NANOPARTICLES**" is a bonafide record of works done by **KEERTHIKA.T (Reg. No. P19PH013)** submitted to Government college for women (Autonomous), Kumbakonam, Affiliated to Bharathidasan University, Thiruchirappalli in partial fulfillment of the requirements for the award of the degree of Master of Science in physics during the year 2020-2021 in the department of physics under my guidance and supervision and the project report has not previously formed the basis for the award of any degree, diploma, fellowship or any other similar titles. I further certify that the project report represents independent work on the part of the candidate.

J. Kalaiarasi


26/04/21

Signature of the Guide

Head of the Department

Examiners

1. 

2. J. Kalaiarasi



CERTIFICATE

**Dr. T. THILAGAVATHI M.Sc., M.Phil., Ph.D.,
ASSISTANT PROFESSOR OF PHYSICS,
GOVERNMENT COLLEGE FOR WOMEN (AUTONOMOUS)
KUMBAKONAM - 612 001.**

CERTIFICATE

This is to certify that the project report entitled "**TUNING THE SHAPE, SIZE, PHASE COMPOSITION OF IRON OXIDE NANOPARTICLES: THE ROLE OF ANIONIC SURFACTANT (SDS)**" is the bonafide research work done and submitted by **V. Kokila** (Reg. No: **P19PH014**) under my guidance in partial fulfillment of the requirement for the award of **Master of Science in Physics** during the academic period **2020-2021** and the project has not previously formed the basis for the award of any other degree.


26/04/2021

Signature of the Head of the
Department


26/04/2021

Signature of the Guide

Submitted for the University Examination held at Government College for women (Autonomous), Kumbakonam on... **26.04.2021**

EXAMINERS:

1. 
26/04/2021

2. 
26/04/2021

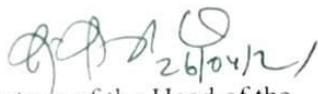


P19PH015

K. LEELAVATHI M.Sc., M.Phil.,
ASSISTANT PROFESSOR OF PHYSICS,
GOVERNMENT COLLEGE FOR WOMEN (AUTONOMOUS)
KUMBAKONAM – 612 001.

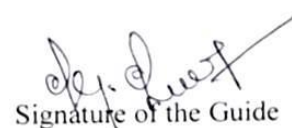
CERTIFICATE

This is to certify that the project report entitled "STUDY ON IRON OXIDE NANOPARTICLES SYNTHESIZED BY SOL-GEL TECHNIQUES USING CTAB" is the bonafide research work done and submitted by R. NANDHINI (Reg. No:P19PH015) under my guidance in partial fulfillment of the requirement for the award of **Master of Science in Physics** during the academic period **2020-2021** and the project has not previously formed the basis for the award of any other degree.


26/04/21


Signature of the Head of the

Department


Signature of the Guide

Submitted for the University Examination held at Government College for women (Autonomous), Kumbakonam on. 24.4.2021

EXAMINERS:

1. S. Aniladevi
2. 

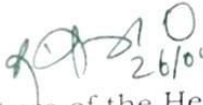



P19PHO16

K .LEELAVATHI M.Sc., M.Phil.,
ASSISTANT PROFESSOR OF PHYSICS,
GOVERNMENT COLLEGE FOR WOMEN (AUTONOMOUS)
KUMBAKONAM - 612 001.

CERTIFICATE



This is to certify that the project report entitled "**THE INFLUENCE OF CATIONIC SURFACTANT CTAB ON MAGNETIC PROPERTIES OF IRON OXIDE NANOPARTICLES**" is the bonafide research work done and submitted by **G. PRADEEPA** (Reg. No: **P19PH016**) under my guidance in partial fulfillment of the requirement for the award of **Master of Science in Physics** during the academic period **2020-2021** and the project has not previously formed the basis for the award of any other degree.


26/04/21
Signature of the Head of the
Department


Signature of the Guide

Submitted for the University Examination held at Government
College for women (Autonomous), Kumbakonam on...24.4.2021...

EXAMINERS:

1. 
2. 



P19PH017



**GOVERNMENT COLLEGE FOR WOMEN (AUTONOMOUS)
KUMBAKONAM**

Mrs. T.RATHNA, M.Sc., M.Phil.,
Lecturer in Physics,
Department of Physics.

Date: 26.04.2021

CERTIFICATE

- This is to certify that the project report “**GROWTH AND CHARACTERIZATION OF ZINC ACETATE GLYCINE CRYSTAL**” is a bonafide record of works done by **PREETHI .A (Reg. No. P19PH017)** submitted to Government College for Women (Autonomous), Kumbakonam, Affiliated to Bharathidasan University, Thiruchirappalli in partial fulfillment of the requirements for the award of the degree of Master of Science in physics during the year 2019-2021 in the department of physics under my guidance and supervision and the project report has not previously formed the basis for the award of any degree, diploma, fellowship or any other similar titles. I further certify that the project report represents independent work on the part of the candidate.

Signature of the Guide

Head of the Department

Examiners

1.

2.



P19PH018



**GOVERNMENT COLLEGE FOR WOMEN (AUTONOMOUS)
KUMBAKONAM**

Mrs. R. SELVI, M.Sc., M.Phil.,
Lecturer in Physics,
Department of Physics.

Date: 26.04.2021

CERTIFICATE

- This is to certify that the project report entitled “**OPTICAL AND FTIR STUDIES ON THE GROWTH L-THREONINE CRYSTALS MIXED WITH MAGNESIUM BROMIDE** ” is a bonafide record of works done by **R.RAMYA (Reg. No. P19PH018)** submitted to Government College for Women (Autonomous), Kumbakonam, Affiliated to Bharathidasan University, Thiruchirappalli in partial fulfillment of the requirements for the award of the degree of Master of Science in physics during the year 2019-2021 in the department of physics under my guidance and supervision and the project report has not previously formed the basis for the award of any degree, diploma, fellowship or any other similar titles. I further certify that the project report represents independent work on the part of the candidate.

Signature of the Guide

Head of the Department

Examiners

1.

2.



P19PH019

**GOVERNMENT COLLEGE FOR WOMEN (AUTONOMOUS)
KUMBAKONAM**

Mrs.S.KIRUTHIKA, M.Sc., M.Phil.,
Lecturer in Physics,
Department of physics,
Government college for women(A),
Kumbakonam,612001

E-mail: skirthi1984@gmail.com

CERTIFICATE

This is to certify that the project report entitled "STUDY OF THE DIFFERENT PROPERTIES OF MAGNETIC NANOPARTICLES IN THE PRESENCE OF NON-IONIC SURFACTANT(TWEEN 10)" is a bonafide record of work done by S.SAMLA (P19PH019), submitted to Government college for women(Autonomous), Kumbakonam, Affiliated to Bharathidasan University, Thiruchirappali in partial fulfillment of the requirements for the award of the degree of **MASTER OF SCIENCE** in physics and supervision and the project report has not previously formed the basis for the award of any degree, diploma, fellowship or any other similar titles. I further certify that the project report represents the independent work on the part of the candidate.

Signature of the guide

External Examiner



Head of the department

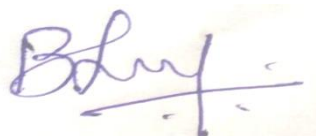
Internal Examiner

P19PH020

B.JEEVA M.Sc., M.Phil., B.Ed.,
Lecturer in Physics,
Department of physics,
Government college for women(A),
Kumbakonam,612001

CERTIFICATE

This is to certify that the project report entitled “**SYNTHESIS AND CHARACTERIZATION OF Fe-DOPED ZnO NANOPARTICLES PREPARED BY BIOLOGICAL METHOD USING AARVA LANATA**” is a bonafide record of work done by **G.SANGAVI (P19PH020)**, submitted to Government college for women(Autonomous), Kumbakonam, Affiliated to Bharathidasan University, Thiruchirappali in partial fulfillment of the requirements for the award of the degree of **MASTER OF SCIENCE** in physics and supervision and the project report has not previously formed the basis for the award of any degree, diploma, fellowship or any other similar titles. I further certify that the project report represents the independent work on the part of the candidate.



Signature of the guide

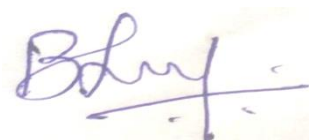


Head of the department

External Examiner



Internal Examiner



P19PH021



**GOVERNMENT COLLEGE FOR WOMEN (AUTONOMOUS)
KUMBAKONAM**

Dr. I.KALAIARASI, M.Sc., M.Phil., Ph.D.,
Assistant Professor
Department of Physics.

Date: 26.04.2021

CERTIFICATE

This is to certify that the project report entitled "**FUNCTIONAL AND MORPHOLOGICAL ANALYSIS OF PURE CdO AND Ti DOPED CdO NANOPARTICLES**" is a bonafide record of works done by **S.SEVANTHI (Reg. No. P19PH021)** submitted to Government college for women (Autonomous), Kumbakonam, Affiliated to Bharathidasan University, Thiruchirappalli in partial fulfillment of the requirements for the award of the degree of Master of Science in physics during the year 2020-2021 in the department of physics under my guidance and supervision and the project report has not previously formed the basis for the award of any degree, diploma, fellowship or any other similar titles. I further certify that the project report represents independent work on the part of the candidate.

J. Kalaiarasi



Signature of the Guide

Head of the Department

Examiners

1. 

2. J. Kalaiarasi



P19PH022

P19PH021



**GOVERNMENT COLLEGE FOR WOMEN (AUTONOMOUS)
KUMBAKONAM**

Dr. I.KALAIARASI, M.Sc., M.Phil., Ph.D.,
Assistant Professor
Department of Physics.

Date: 26.04.2021

CERTIFICATE

This is to certify that the project report entitled "**STRUCTURAL AND MORPHOLOGICAL ANALYSIS OF PURE CdO AND AI DOPED CdO NANOPARTICLES**" is a bonafide record of works done by **SINDHUSRI.V (Reg. No. P19PH022)** submitted to Government college for women (Autonomous), Kumbakonam, Affiliated to Bharathidasan University, Thiruchirappalli in partial fulfillment of the requirements for the award of the degree of Master of Science in physics during the year 2020-2021 in the department of physics under my guidance and supervision and the project report has not previously formed the basis for the award of any degree, diploma, fellowship or any other similar titles. I further certify that the project report represents independent work on the part of the candidate.

J. Kalaiarasi


26/04/21

Signature of the Guide

Head of the Department

Examiners

1.





2. J. Kalaiarasi

P19PH023



**GOVERNMENT COLLEGE FOR WOMEN (AUTONOMOUS)
KUMBAKONAM- 612001
DEPARTMENT OF PHYSICS**

CERTIFICATE

This is to certify that the project report entitled "PHYSICO-CHEMICAL ANALYSIS OF WATER USING WATER QUALITY INDEX" is a record of independent research work done by Miss.T.SUMAIYA (REG.NO:P19PH023) under my guidance in partial fulfillment for the award of MASTER OF SCIENCE IN PHYSICS during the year 2019-2021 and the project has not previously formed the basis for the award of any other degree.

S. Anilandesai
Signature of the Guide
S. Anilandesai
Head of the Department



Examiners

1. *S. Anilandesai*
2. *S. Anilandesai*



P19PH024

**GOVERNMENT COLLEGE FOR WOMEN (AUTONOMOUS)
KUMBAKONAM**

Mrs. T.RATHNA, M.Sc., M.Phil.,
Lecturer in Physics,
Department of Physics.

Date: 26.04.2021

CERTIFICATE

- This is to certify that the project report “**GROWTH AND CHARACTERIZATION OF THIO-UREA MIXED POTASSIUM SULPHATE CRYSTALS** ” is a bonafide record of works done by **SWATHI .S (Reg. No. P19PH024)** submitted to Government College for Women (Autonomous), Kumbakonam, Affiliated to Bharathidasan University, Thiruchirappalli in partial fulfillment of the requirements for the award of the degree of Master of Science in physics during the year 2019-2021 in the department of physics under my guidance and supervision and the project report has not previously formed the basis for the award of any degree, diploma, fellowship or any other similar titles. I further certify that the project report represents independent work on the part of the candidate.

Signature of the Guide

Head of the Department

Examiners

1.



2.

7. Rathi

P19PH025



**GOVERNMENT COLLEGE FOR WOMEN (AUTONOMOUS)
KUMBAKONAM**

Dr. I.KALAIARASI, M.Sc., M.Phil., Ph.D.,
Assistant Professor
Department of Physics.

Date: 26.04.2021

CERTIFICATE

This is to certify that the project report entitled "**FUNCTIONAL AND MORPHOLOGICAL ANALYSIS OF Su DOPED CdO NANOPARTICLES**" is a bonafide record of works done by **S.SWATHI (Reg. No. P19PH025)** submitted to Government college for women (Autonomous), Kumbakonam, Affiliated to Bharathidasan University, Thiruchirappalli in partial fulfillment of the requirements for the award of the degree of Master of Science in physics during the year 2020-2021 in the department of physics under my guidance and supervision and the project report has not previously formed the basis for the award of any degree, diploma, fellowship or any other similar titles. I further certify that the project report represents independent work on the part of the candidate.

J. Kalaiarasi


26/04/21

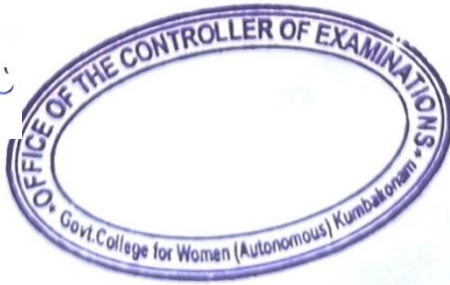
Signature of the Guide

Head of the Department

Examiners

1. *B. Anilenderani*

2. *J. Kalaiarasi*





CERTIFICATE

**B. JEEVA M.Sc., M.Phil.,
LECTURER OF PHYSICS,
GOVERNMENT COLLEGE FOR WOMEN (AUTONOMOUS)
KUMBAKONAM – 612 001.**

CERTIFICATE



This is to certify that the project report entitled “**ROLE OF SURFACTANT IN MODIFYING MAGNETISM Fe₂O₃ NANOPARTICLES: RAMAN STUDIES**” is the bonafide research work done and submitted by **R. ABARNA** (Reg. No:**P20PH001**) under my guidance in partial fulfillment of the requirement for the award of **Master of Science in Physics** during the academic period **2021 -2022** and the project has not previously formed the basis for the award of any other degree.

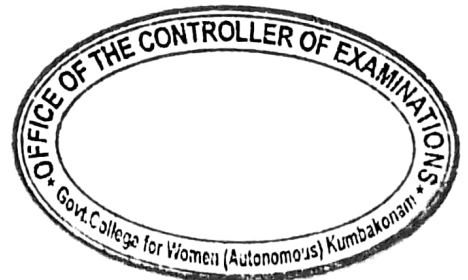

Signature of the Head of the
Department

for 
09/06/2022
Signature of the Guide

Submitted for the University Examination held at Government College
for women (Autonomous), Kumbakonam on. *D.D. r.D.b. 2022*

EXAMINERS:

1.  9/6/22
2.  9/6/22

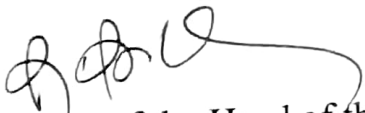


CERTIFICATE

**K. LEELAVATHI M.Sc., M.Phil.,
LECTURER OF PHYSICS,
GOVERNMENT COLLEGE FOR WOMEN (AUTONOMOUS)
KUMBAKONAM – 612 001.**

CERTIFICATE

This is to certify that the project report entitled “**CORRELATION BETWEEN RAMAN SPECTRA OF Fe₂O₃ NANOPARTICLES AND THEIR ELECTRICAL AND MAGNETIC PROPERTIES**” is the bonafide research work done and submitted by **A. AMMUDEVI** (Reg. No:**P20PH002**) under my guidance in partial fulfillment of the requirement for the award of **Master of Science in Physics** during the academic period **2021-2022** and the project has not previously formed the basis for the award of any other degree.




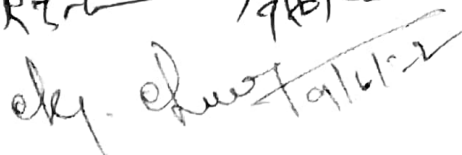
Signature of the Head of the
Department

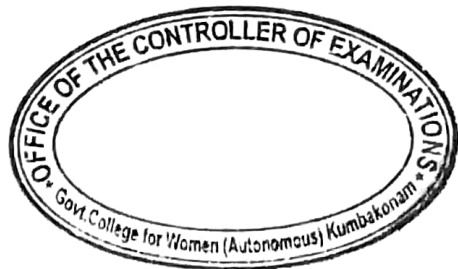
for
A. D. D.
03/06/2022

Signature of the Guide

Submitted for the University Examination held at Government College for women (Autonomous), Kumbakonam on. 03.06.2022

EXAMINERS:

1.  9/6/22
2.  9/6/22



GOVERNMENT COLLEGE FOR WOMEN (AUTONOMOUS)

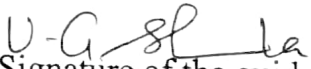
KUMBAKONAM- 612001

Dr.U.GNANASHEELA,M.SC.,M.Phil.,Ph.D.,
Assistant professor
Department of physics,
Government college for women (Autonomous),
Kumbakonam.

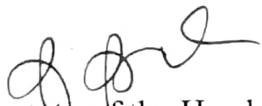
CERTIFICATE

This is to certify that the project work entitled "SYNTHESIS AND CHARACTERIZATION OF TITANIUM DOPED CADMIUM-OXIDE NANOPARTICLE" Submitted to the BHARATHIDASAN UNIVERSITY, in the partial fulfillment of the requirement of the award of MASTER OF SCIENCE (PHYSICS) by selvi.N.Apsana, Post graduate student of Government college for women (Autonomous), kumbakonam is original and independent work carried out during 2021-2022 under my supervision.

Place: Kumbakonam

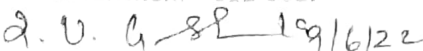

Signature of the guide

Date: 03.06.2022


Signature of the Head of the Department


EXAMINERS) 9/6/22

Dr. R. S. SUNDARARAJAN
Associate Professor & Head,
Department of Physics,
Government Arts College (Autonomous),
Kumbakonam - 612 002.


2. U. G. 19/6/22



Dr. U.GNANASHEELA, M.Sc., M.Phil., Ph.D.,
ASSISTANT PROFESSOR,
GOVERNMENT COLLEGE FOR WOMEN (AUTONOMOUS),
KUMBAKONAM- 612 001



Certificate

This is to certify that the dissertation entitled "SYNTHESIS AND CHARACTERIZATION OF CADMIUM OXIDE NANO PARTICLES" submitted to the Department of Physics, Government College for Women (Autonomous), Kumbakonam in partial fulfillment of the requirements for the award of the degree of Master of Science in Physics is a record of original project done by Ms.S.DURGA DEVI (Regno:P20PH004), under my supervision and guidance. And this dissertation has not formed the basis for the award of any Degree/ Diploma/ Associateship/ Fellowship or other similar title to any candidate of any other University.

**Signature of the
Head of the department**

Signature of the guide

Submitted for the university Examination held at Government College for Women (Autonomous),

Kumbakonam on 03.06.2022

Examiners:

- 1.
- 2.



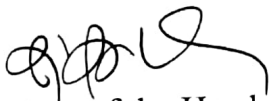
Dr. R. S. SUNDARARAJAN
Associate Professor & Head,
Department of Physics,
Government Arts College (Autonomous),
Kumbakonam - 612 002.

CERTIFICATE

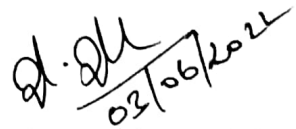
Dr. T .THILAGAVATHI M.Sc., M.Phil., Ph.D.,
ASSISTANT PROFESSOR OF PHYSICS,
GOVERNMENT COLLEGE FOR WOMEN (AUTONOMOUS)
KUMBAKONAM – 612 001.

CERTIFICATE

This is to certify that the project report entitled “TUNING EFFECT OF CATIONIC SURFACTANT (CTAB) DOPING ON STRUCTURAL, MORPHOLOGICAL, OPTICAL, ELECTRICAL AND PHOTOCATALYTIC PROPERTIES OF IRON OXIDE NANOPARTICLES” is the bonafide research work done and submitted by **K. ELAYARANI** (Reg. No:P20PH005) under my guidance in partial fulfillment of the requirement for the award of **Master of Science in Physics** during the academic period **2021-2022** and the project has not previously formed the basis for the award of any other degree.




Signature of the Head of the
Department




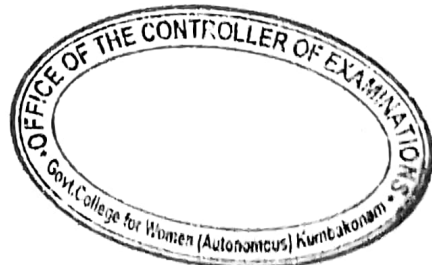
Signature of the Guide

Submitted for the University Examination held at Government College for women (Autonomous), Kumbakonam on. 03.06.2022

EXAMINERS:

1. 

2. 





**GOVERNMENT COLLEGE FOR WOMEN (AUTONOMOUS)
KUMBAKONAM-612 001**

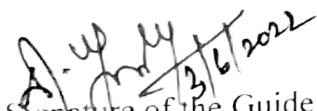
Dr. S. RENUKA, M.Sc., M.Phil., Ph.D.,

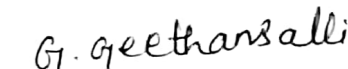
Date: 03.06.2022


Assistant Professor,
Department of Physics.

CERTIFICATE

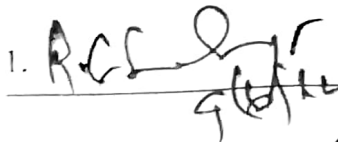
This is to certify that the project report entitled "**Synthesis and characterization of Fe doped Zinc Oxide (ZnO) nanoparticles using *Canna indica* leaf extract**" is a bonafied record of work done by **G.GEETHANSALLI, (Reg. No. P20PH006)** submitted to Government College for Women (Autonomous), Kumbakonam, Affiliated to Bharathidasan University, Thiruchirappalli in partial fulfillment of the requirements for the award of the degree of Master of Science in Physics during the year 2020-2022 in the Department of Physics under my guidance and supervision and the project report has not previously formed the basis for the award of any degree, diploma, fellowship or any other similar titles. I further certify that the project report represents independent work on the part of the candidate.


Signature of the Guide

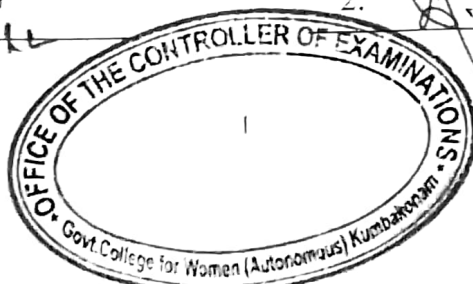

Signature of the Student


Head of the Department

Examiners

1. 

2. 




Dr. C. Kayalvizhi, M.Sc., M.Phil., Ph.D
Lecturer in physics,
Government College for Women (Autonomous),
Kumbakonam

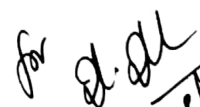


Certificate

This is to certify that the dissertation entitled, "**GROWTH, OPTICAL AND STRUCTURAL CHARACTERIZATION OF L - ALANINIUM MALEATE OPTICAL CRYSTAL**" submitted by K. **INDHUMATHI (Reg. No. P20PH007)** in partial fulfilment of the requirements for the award of degree of **Master of Science in Physics** during the period of 2021-2022 under my guidance and the dissertation has not previously formed the basis for the award of any degree, diploma, fellowship or other similar title to any other University.

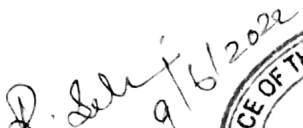

Signature of the

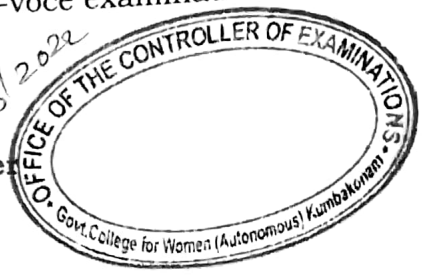
Head of the Department


for 
25/06/2022

Signature of the Guide

Submitted for the viva-voce examination held on 03.06.2022


9/6/2022
Internal Examiner




9/6/2022
External Examiner

Dr.U.GNANASHEELA, MSc., M.Phil.,Ph.D.,

Assistant Professor

GOVERNMENT COLLEGE FOR WOMEN [AUTONOMOUS]

KUMBAKONAM-612001

CERTIFICATE

This is to certify that the project work entitled **“SYNTHESIS AND CHARACTERIZATION OF TIN DOPED CADMIUM-OXIDE NANOPARTICLE”** Submitted to the **BHARATHIDASAN UNIVERSITY**, in the partial fulfillment of the requirement of the award of **MASTER OF SCIENCE (PHYSICS)** by selvi. **A.KALAIVANI**, Post graduate student of Government college for women (Autonomous), kumbakonam is original and independent work carried out during 2021-2022 under my supervision.

Place: Kumbakonam

U.G. Sheela
Signature of the Guide

Date: 03.06.2022

[Signature]

Signature of the Head of the Department

EXAMINERS

1. *[Signature]* 9/6/22
2. **DR. P. S. SUNDARARAJAN**
Associate Professor & Head,
Department of Physics,
Government Arts College (Autonomous),
Kumbakonam - 612 002.

2. *U. G. S. P.* 10/6/22



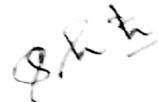
S.KIRUTHIKA M.Sc., M.Phil., Ph.D.,
LECTURER IN PHYSICS,
GOVERNMENT COLLEGE FOR WOMEN (AUTONOMOUS)
KUMBAKONAM – 612 001.

CERTIFICATE

This is to certify that the project report entitled "THERMAL STABILITY OF MANGANESE DIOXIDE NANOPARTICLES VIA CHEMICAL METHOD" is the bonafide research work done and submitted by R.KEERTHANA (Reg.No: P20PH009) under my guidance in partial fulfilment of the requirement for the award of **Master of Science in Physics** during the academic period **2021-2022** and the project has not previously formed the basis for the award of any other degree.




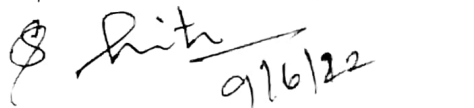
Signature of the
Head of the Department



Signature of the Guide

Submitted for the University Examination held at Government College
For Women (Autonomous), Kumbakonam on 03.06.22.....

EXAMINERS:

1. 
2. 
9/6/22



Dr. C. KAYALVIZHI, M.Sc., M.Phil., Ph.D.

Lecturer of Physics,

GOVERNMENT COLLEGE FOR WOMEN (AUTONOMOUS),

KUMBAKONAM- 612 001



Certificate

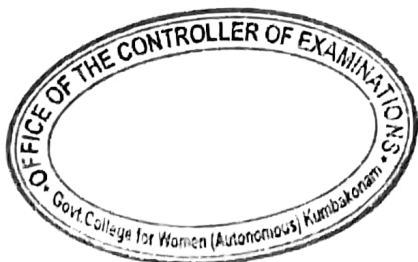
*This is to certify that the dissertation entitled "GROWTH AND VIBRATIONAL, UV-VIS-NIR SPECTROPHOTOMETRY AND HARDNESS ANALYSIS OF L-LYSINE MONOHYDROCHLORIDE CRYSTAL" submitted to the Department of Physics, Government College for Women (Autonomous), Kumbakonam in partial fulfillment of the requirements for the award of the degree of **Master of Science in Physics** is a record of original project done by **Ms. R. KRITHIKA** (REG No: P20PH010), under my supervision and guidance. And this dissertation has not formed the basis for the award of any Degree/ Diploma/ Associateship/ Fellowship or other similar title to any candidate of any other University.*

**Signature of the
Head of the department**

Signature of the guide

Submitted for the university Examination held at Government College for Women (Autonomous),

Kumbakonam on 03.06.2022



Examiners:

1. 9/6/22
2. 9/6/2022

Mrs. T. RATHNA, M.Sc., M.Phil.,

Lecturer in Physics,

Government College for women (Autonomous),

Kumbakonam -612001.

CERTIFICATE

This is to certify that the project work entitled "GROWTH, OPTICAL AND STRUCTURAL CHARACTERIZATION OF L-ARGININE MALEATE CRYSTALS" is the bonafide research work done and submitted by **S. LATHAPRIYA (REG NO: P20PH011)** under my guidance in fulfilment of the requirement for the award of **MASTER OF PHYSICS** and the project has not previously formed the basis for the award of any other degree.



Signature of the

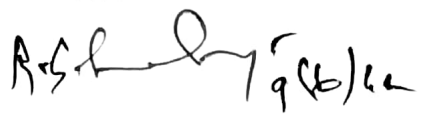
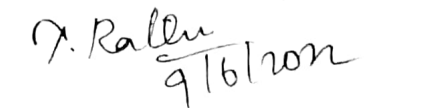
Head of the Department

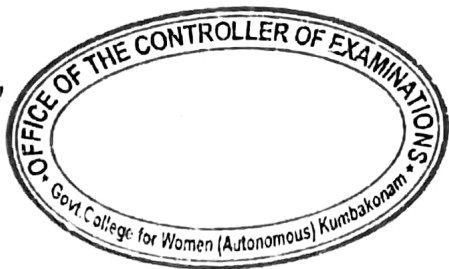


Signature of the Guide

Submitted For The University Examination Held At Government College
For Women (Autonomous), Kumbakonam On ...03..06..2022

Examiners

1. 
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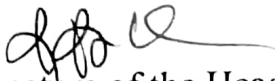


CERTIFICATE

K. LEELAVATHI M.Sc., M.Phil.,
LECTURER IN PHYSICS,
GOVERNMENT COLLEGE FOR WOMEN (AUTONOMOUS),
KUMBAKONAM – 612 001.

CERTIFICATE

This is to certify that the project report entitled
“HYDROTHERMAL SYNTHESIS OF IRON OXIDE
NANOPARTICLES USING ANIONIC SURFACTANT (SDS) :
APPLICATION FOR PHOTOCATALYTIC DEGRADATION OF
METHYLENE BLUE” is the bonafide research work done and
submitted by **D. LAVANYA** (Reg. No:P20PH012) under my guidance
in partial fulfillment of the requirement for the award of **Master of
Science in Physics** during the academic period **2021-2022** and the project
has not previously formed the basis for the award of any other degree.



Signature of the Head of the

Department

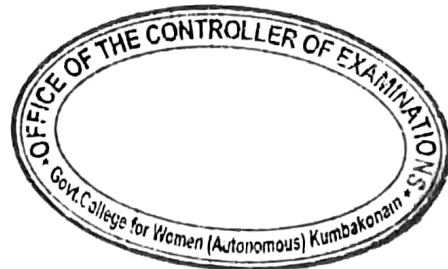
for *d. dl*
03/06/2022

Signature of the Guide

Submitted for the University Examination held at Government College
for women (Autonomous), Kumbakonam on.03.06.2022

EXAMINERS:

1. *RSC* 9/6/22
2. *dy. sw* 9/6/22



GOVERNMENT COLLEGE FOR WOMEN (AUTONOMOUS)

KUMBAKONAM- 612001

T. RATHNA, M. Sc., M.Phil.,

Lecturer in physics,

Government College for women (Autonomous),

Kumbakonam.

CERTIFICATE

This is to certify that the project report entitled "GROWTH AND CHARACTERISATION OF PURE MALEIC ACID CRYSTALS" is a bonafide record of works done by T. MAHALAKSHMI (REG.NO:P20PH013) , submitted to Government College for Women (Autonomous), Kumbakonam, Affiliated to Bharathidasan University, Thiruchirappalli in partial fulfillment of the requirements for the award of the degree of Master of Science in Physics during the year 2021-2022 in the Department of Physics under my guidance and supervision and the project report has not previously formed the basis for the award of any degree, diploma, fellowship or any other similar titles. I further certify that the project report represents independent work on the part of the candidate.

[Signature]

Signature of the Head of the Department

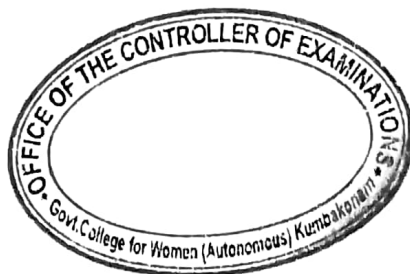
[Signature]

Signature of the Guide

Submitted for the University Examination held at Government College for Women (Autonomous), Kumbakonam on... 3-6-22.

Examiners:

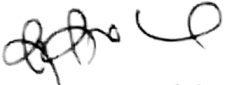
1. *[Signature]*
2. *[Signature]*



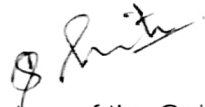
S.KIRUTHIKA M.Sc., M.Phil., Ph.D.,
LECTURER IN PHYSICS,
GOVERNMENT COLLEGE FOR WOMEN (AUTONOMOUS)
KUMBAKONAM – 612 001.

CERTIFICATE

This is to certify that the project report entitled “**STRUCTURAL AND CHARACTERIZATION OF MANGANESE DIOXIDNANOPARTICLES USING CO-PRECIPIATION METHOD**” is the bonafide research work done and submitted by **S.MANOPRIYA** (Reg No: **P20PH014**) under my guidance in partial fulfilment of the requirement for the award of **Master of Science in Physics** during the academic period **2021-2022** and the project has not previously formed the basis for the award of any other degree.



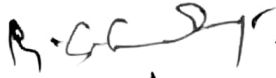

Signature of the
Head of the Department



Signature of the Guide

Submitted for the University Examination held at Government College For Women (Autonomous), Kumbakonam on...03..06..2022....

EXAMINERS:

1.  9/6/22
2.  9/6/22




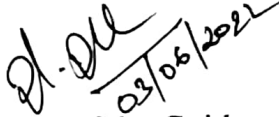
CERTIFICATE

Dr. T. THILAGAVATHI M.Sc., M.Phil., Ph.D.,
ASSISTANT PROFESSOR OF PHYSICS,
GOVERNMENT COLLEGE FOR WOMEN (AUTONOMOUS)
KUMBAKONAM – 612 001.

CERTIFICATE

This is to certify that the project report entitled
“INFLUENCE OF Fe_2O_3 DOPED WITH SURFACTANT ON
STRUCTURAL, OPTICAL AND MAGNETIC PROPERTIES” is
the bonafide research work done and submitted by **G. PRABAVATHI**
(Reg. No: **P20PH015**) under my guidance in partial fulfillment of the
requirement for the award of **Master of Science in Physics** during the
academic period **2021-2022** and the project has not previously formed the
basis for the award of any other degree.



Signature of the Head of the
Department

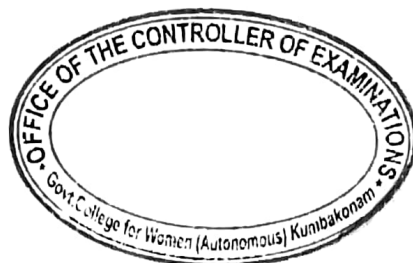

Signature of the Guide

Submitted for the University Examination held at Government College
for women (Autonomous), Kumbakonam on. 07.06.2022

EXAMINERS:

1. 

2. 



CERTIFICATE

B. JEEVA, M.Sc., M.Phil.,
LECTURER OF PHYSICS,
GOVERNMENT COLLEGE FOR WOMEN (AUTONOMOUS)
KUMBAKONAM – 612 001.

CERTIFICATE

This is to certify that the project report entitled “SYNTHESIS OF IRON OXIDE NANOPARTICLES USING TWEEN 20 WITH ENHANCED VISIBLE-LIGHT-INDUCED PHOTOCATALYTIC ACTIVITY” is the bonafide research work done and submitted by P. SANTHIYA (Reg. No:P20PH017) under my guidance in partial fulfillment of the requirement for the award of **Master of Science in Physics** during the academic period **2021-2022** and the project has not previously formed the basis for the award of any other degree.





Signature of the Head of the
Department

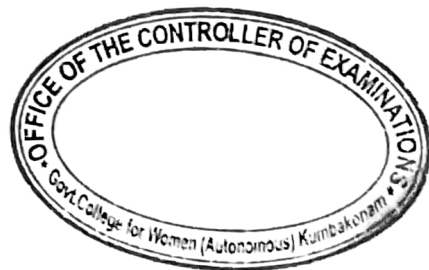


Signature of the Guide

Submitted for the University Examination held at Government College for women (Autonomous), Kumbakonam on 03.06.2022

EXAMINERS:

1.  9/6/22
2.  9/6/22





**GOVERNMENT COLLEGE FOR WOMEN (AUTONOMOUS)
KUMBAKONAM-612 001**


Dr. S. RENUKA, M.Sc., M.Phil., Ph.D.,

Date: 03.06.2022

Assistant Professor,
Department of Physics.

CERTIFICATE

This is to certify that the project report entitled "Synthesis of Zinc Oxide Nanoparticles Using Leaf Extract of *Cymbopogon Citrates* And Evaluation of Its Antibacterial Activity" is a bonafied record of work done by **P. SARANYA (Reg. No. P20PH018)** submitted to Government College for Women (Autonomous), Kumbakonam, Affiliated to Bharathidasan University, Thiruchirappalli in partial fulfillment of the requirements for the award of the degree of Master of Science in Physics during the year 2020-2022 in the Department of Physics under my guidance and supervision and the project report has not previously formed the basis for the award of any degree, diploma, fellowship or any other similar titles. I further certify that the project report represents independent work on the part of the candidate.


Signature of the Guide

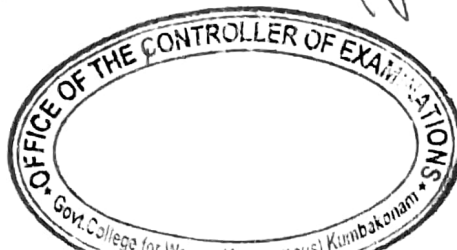

Signature of the Student


Head of the Department

Examiners

1. 
7/6/22

2. 
7/6/2022



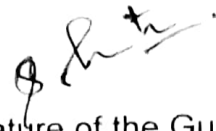
S.KIRUTHIKA M.Sc., M.Phil., Ph.D.,
LECTURER IN PHYSICS,
GOVERNMENT COLLEGE FOR WOMEN (AUTONOMOUS)
KUMBAKONAM – 612 001.

CERTIFICATE

This is to certify that the project report entitled “**SYNTHESIS AND CHARACTERIZATION OF MANGANESE DIOXIDE NANOPARTICLES USING CO-PRECIPIATION METHOD**” is the bonafide research work done and submitted by **S. SHALINI** (Reg.No: **P20PH019**) under my guidance in partial fulfilment of the requirement for the award of **Master of Science in Physics** during the academic period **2021-2022** and the project has not previously formed the basis for the award of any other degree.





Signature of the
Head of the Department

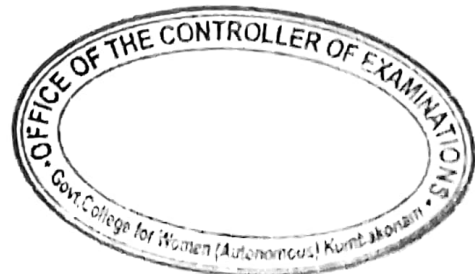


Signature of the Guide

Submitted for the University Examination held at Government College
For Women (Autonomous), Kumbakonam on..03..06..2022

EXAMINERS:

1.  9/6/22
2.  9/6/22



GOVERNMENT COLLEGE FOR WOMEN (AUTONOMOUS)

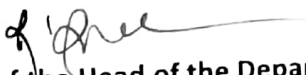
KUMBAKONAM- 612001

Dr. C. KAYALVIZHI M. Sc., M.Phil.,B.Ed.,Ph.D.,

Lecturer in physics,
Government College for women (Autonomous),
Kumbakonam.

CERTIFICATE


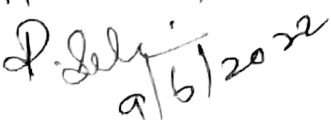
This is to certify that the project report entitled "GROWTH AND CHARACTERISATION OF PURE L-LYSINEMONOHYDROCHLORIDE CRYSTALS" is a bonafide record of works done by V.SNEGAPRIYA (REG.NO:P20PH020), submitted to Government College for Women (Autonomous), Kumbakonam, Affiliated to Bharathidasan University, Tiruchirapalli in partial fulfillment of the requirements for the award of the degree of Master of Science in Physics during the year 2021-2022 in the Department of Physics under my guidance and supervision and the project report has not previously formed the basis for the award of any degree, diploma, fellowship or any other similar titles. I further certify that the project report represents independent work on the part of the candidate.

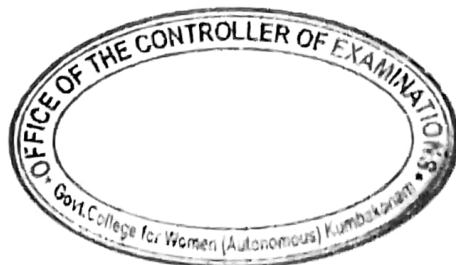

Signature of the Head of the Department

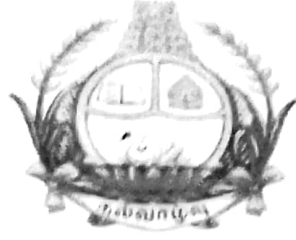

Signature of the Guide

Submitted for the University Examination held at Government College for Women (Autonomous), Kumbakonam on ..03..06..2022

Examiners:

1. 
9/6/22
2. 
9/6/2022





GOVERNMENT COLLEGE FOR WOMEN (Autonomous)

Kumbakonam-612001

DEPARTMENT OF PHYSICS

CERTIFICATE

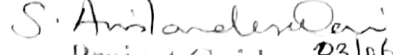
This is to certify that the thesis entitled "Noise pollution status around Kumbakonam, Thanjavur District" is a bonafide of the work done by

G. SOFIYA

Reg .No.P20PH021

In partial fulfillment for the award of Master of science in physics during the year 2021-2022



Head of the Department


Project Guide 03/06/2022

Kumbakonam

Date: 03/06/2022.




External Examiner

Dr. P. S. SUNDARARAJAN
Associate Professor & Head,
Department of Physics,
Government Arts College (Autonomous),
Kumbakonam - 612 002.

Mrs. R.SELVI M.Sc., M.Phil.,

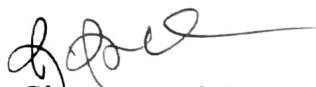
Lecturer in Physics,

GOVERNMENT COLLEGE FOR WOMEN (AUTONOMOUS),


KUMBAKONAM-612001

CERTIFICATE

This is to certify that the project report titled “**GROWTH AND VIBRATIONAL, UV-VIS-NIR SPECTROPHOTOMETRY AND HARDNESS ANALYSIS OF L-ARGININE MALEATE CRYSTAL**” is the bonafide research work done and submitted by **S.SUBASHINI (P20PH022)** under my guidance in fulfilment of the requirement for the award of **MASTER OF PHYSICS** and the project has not previously formed the basis for the award of any other degree.




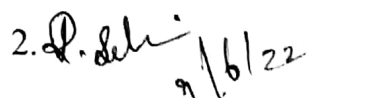
Signature of the
Head of the Department

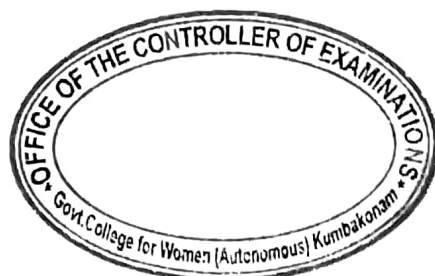


Signature of the Guide

Submitted for the university Examination held at Government College for Women(Autonomous), Kumbakonam.

Examiners:

1. 
P/S/Kc
2. 
9/6/22




DEPARTMENT OF PHYSICS
GOVERNMENT COLLEGE FOR WOMEN (AUTONOMOUS)
KUMBAKONAM - 612 001
TAMILNADU, INDIA

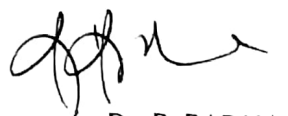



CERTIFICATE

This is to certify that the dissertation entitled "STUDY OF NONLINEAR DYNAMICS BEHAVIOUR OF DIFFERENT NONLINEAR SYSTEMS" submitted to the Department of Physics, Government College for Women (Autonomous), Kumbakonam in partial fulfillment of the requirements for the award of the degree of Master of Science in Physics is a record of original project done by Ms. SURYAA. R under my supervision and guidance. And this dissertation has not formed the basis for the award of any Degree/Diploma/Associateship/Fellowship or other similar title to any candidate of any University.


Dr. R. RADHA
ASSOCIATE PROFESSOR & HEAD




Dr. R. RADHA
GUIDE AND SUPERVISOR


Dr. P. S. SUNDARAJAN
Associate Professor & Head,
Department of Physics,
Government Arts College (Autonomous),
Kumbakonam - 612 002.


2.9/10/2022

Mrs. R. SELVI M.Sc., M.Phil., PGDCA, Ph.D.,

Lecturer in Physics

Government College for Women (A)

Kumbakonam – 612001



CERTIFICATE

This is Certify that the project work entitled, **GROWTH AND CHARACTERIZATION OF ALANANIUM MALEATE CRYSTAL** Submitted by **Selvi. T. VARSHA (Reg. No. P20PH024)** under my guidance in fulfillment of the requirement for the award of Master of Physics and the project has not previously form the basics for award of any other degree.

Signature of the Head of the department

Signature of the Guide

Submitted for the University Examination held at Government College for women (Autonomous), Kumbakonam on 3.06.2022

Examiners



1. 3/6/22

2. 9/6/22



GOVERNMENT COLLEGE FOR WOMEN (Autonomous)

Kumbakonam-612001

DEPARTMENT OF PHYSICS


CERTIFICATE

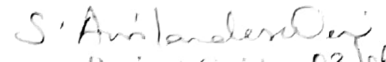
This is to certify that the thesis entitled "Noise pollution status around Kumbakonam, Thanjavur District" is a bonafide of the work done by

S.YUVARANI

Reg .No.P20PH025

In partial fulfillment for the award of Master of science in physics during the year 2021-2022

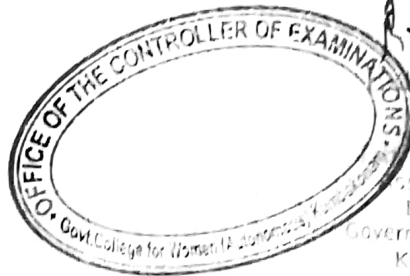

Head of the Department


Project Guide 03/06/2022


Internal Examiner 3/6/22

Kumbakonam

Date: 03/06/2022.



R. S. SUNDARARAJAN
Associate Professor & HOD
Department of Physics
Government Arts College (Autonomous)
Kumbakonam - 612 001



**GOVERNMENT COLLEGE FOR WOMEN (AUTONOMOUS)
KUMBAKONAM**

Dr. S. RENUKA, M.Sc., M.Phil., Ph.D.,
Assistant Professor
Department of Physics.

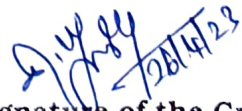
Date: 27.04.2023

CERTIFICATE

This is to certify that the project report entitled " Biological synthesis of zinc oxide nanoparticles from *Terminalia Arjuna* leaves extract and photocatalytic activities " is a bonafide record of works done by **M. AARTHI (Reg. No. P21PH001)** submitted to Government College for Women (Autonomous), Kumbakonam, Affiliated to Bharathidasan University, Thiruchirappalli in partial fulfillment of the requirements for the award of the degree of Master of Science in Physics during the year 2021-2023 in the Department of Physics under my guidance and supervision and the project report has not previously formed the basis for the award of any degree, diploma, fellowship or any other similar titles. I further certify that the project report represents independent work on the part of the candidate.


27/04/23


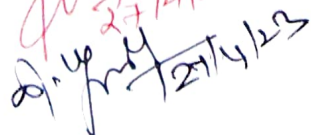
Signature of the Head of the Department

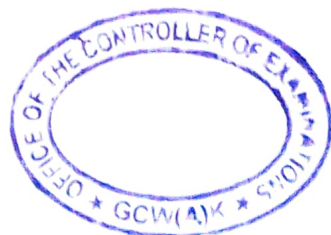

27/04/23

Signature of the Guide

Submitted for the University Examination held at Government College for Women (Autonomous), Kumbakonam on 27.04.2023

Examiners

1. 
27/4/23
2. 
27/4/23





**GOVERNMENT COLLEGE FOR WOMEN
(AUTONOMOUS)
KUMBAKONAM**

Dr. S. RENUKA, M.Sc., M.Phil., Ph.D.,
Assistant Professor
Department of Physics.

Date: 27.04.2023

CERTIFICATE

This is to certify that the project report entitled "**GREEN SYNTHESIS AND CHARACTERIZATION OF ZnO NANOPARTICLES USING THE EXTRACT OF CYMBOPOGON CITRATES**" is a bonafide record of works done by **N.AKSHAYA (Reg. No. P21PH002)** submitted to Government College for Women (Autonomous), Kumbakonam, Affiliated to Bharathidasan University, Thiruchirappalli in partial fulfillment of the requirements for the award of the degree of Master of Science in Physics during the year 2021-2023 in the Department of Physics under my guidance and supervision and the project report has not previously formed the basis for the award of any degree, diploma, fellowship or any other similar titles. I further certify that the project report represents independent work on the part of the candidate.



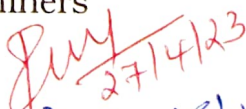
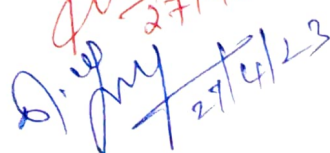
Signature of the Head of the Department



Signature of the Guide

Submitted for the University Examination held at Government College for Women (Autonomous), Kumbakonam on 27.04.2023

Examiners

- 
27/4/23
- 
27/4/23



CERTIFICATE

S.KIRUTHIKA M.Sc., M.Phil., (Ph.D.)

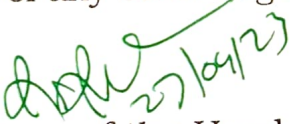
LECTURER OF PHYSICS,

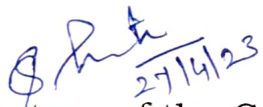
GOVERNMENT COLLEGE FOR WOMEN (AUTONOMOUS)

KUMBAKONAM - 612 001.

CERTIFICATE

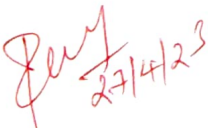

This is to certify that the project report entitled **"INVESTIGATION OF OPTICAL PROPERTIES AND MORPHOLOGY OF HYDROTHERMALLY MANUFACTURED TITANIUM DIOXIDE"** is the bonafide research work done and submitted by **R. Anitha** (Reg. No:**P21PH003**) under my guidance in partial fulfillment of the requirement for the award of **Master of Science in Physics** during the academic period **2022-2023** and the project has not previously formed the basis for the award of any other degree.

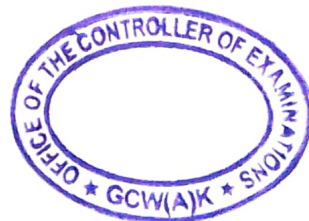

Signature of the Head of the
Department


Signature of the Guide

Submitted for the University Examination held at Government College for women (Autonomous), Kumbakonam on...27/4/2023

EXAMINERS:

- 
27/4/23
- 
27/4/23



Mrs.R.SELVI,M.Sc.,M.Phil.,
Lecturer,
Department of Physics,
Government College for Women(Autonomous),
Kumbakonam-612001.

CERTIFICATE

This Is To Certify That The Project Report Entitled "SINGLE X-RAY DIFFRACTION AND PHOTOLUMINESCENCE ANALYSIS OF DL-SERINE OXALIC ACID CRYSTAL" is a bonafide record of work done by V. ASWINI (REGNo.P21PH004), submitted to Government College for women(Autonomous) Kumbakonam, affiliated to Bharathidasan University, Trichy in partial fulfillment of the requirements for the award of the degree of Master Of Science in during the year 2022-2023, in the department of Physics under my guidance and supervision and the Project Report has not previously formed the basis for the award of any degree, diploma, fellowship or any other similar titles .I further certify that the project report represents the independent work of the candidate.

[Handwritten Signature]
27/04/23

Signature of the
Head of department

[Handwritten Signature]

Signature of the Guide

Submitted for the university examination held at Government College for the women(Autonomous),Kumbakonam on

27.04.2023

Examiners:

1. *[Handwritten Signature]*
27/4/23
2. *[Handwritten Signature]*
27/4/23



Dr.U.GNANASHEELA,M.Sc.,M.Phil.,Ph.D
Assistant professor
Department of physics,
Government college for women (Autonomous),
Kumbakonam.

CERTIFICATE

This is to certify that the project work entitled "**Green Synthesis and Characterization of Cadmium – Oxide Nanoparticle**" Submitted to the **BHARATHIDASANUNIVERSITY**, in the partial fulfillment of the requirement of the award of **MASTER OF SCIENCE IN PHYSICS** by selvi.**T.AYEESHA BANU**, Post graduate student of Government college for women (Autonomous), kumbakonam is original and independent work carried out during 2022-2023 under my supervision.

Place: Kumbakonam

Date: 27.04.23

U.G. S. L. A.
Signature of the guide

[Handwritten Signature]
Signature of the Head of the department

EXAMINERS

1. *[Handwritten Signature]*
27/4/23

2. *U.G. S. L. A.*
27/4/23





**GOVERNMENT COLLEGE FOR WOMEN (Autonomous)
Kumbakonam - 612001**

Dr. S. AKILANDESWARI
Associate professor of Physics,
Government College For Women (Autonomous),
Kumbakonam - 612001.

CERTIFICATE

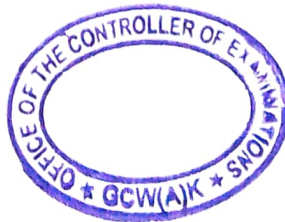
This is to certify that the project was done under my guidance and the dissertation entitled “**CHARACTRISTICS OF WATER AND ESTIMATION OF WATER QUALITY INDEX** ” submitted by **M. Deepana (Reg. No: P21PH006)** in partial fulfillment for the award of **Master of Science in Physics**, during the academic year 2021-2023.



Head of the Department


Project Guide 27/4/23

Internal Examiner
Place: Kumbakonam

Date: 27/4/2023




External Examiner

CERTIFICATE

S.KIRUTHIKA M.Sc., M.Phil., (Ph.D.)

LECTURER OF PHYSICS,

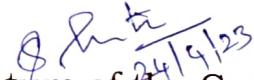
GOVERNMENT COLLEGE FOR WOMEN (AUTONOMOUS)

KUMBAKONAM - 612 001.

CERTIFICATE

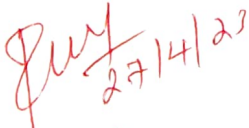
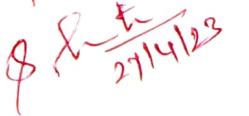
This is to certify that the project report entitled "**SYNTHESIS, CHARACTERIZATION OF ELETROCHEMIAL STUDIES OF TITANIUM DIOXIDE NANOPARTICAL DOPED WITH ZINC**" is the bonafide research work done and submitted by **S.DHIVYA** (Reg. No:**P21PH007**) under my guidance in partial fulfillment of the requirement for the award of **Master of Science in Physics** during the academic period **2022-2023** and the project has not previously formed the basis for the award of any other degree.


Signature of the Head of the
Department


Signature of the Guide

Submitted for the University Examination held at Government College for women (Autonomous), Kumbakonam on...27.04/2023

EXAMINERS:

1. 
27/4/23
2. 
27/4/23



Dr. C. KAYALVIZHI, M.Sc., M.Phil., B.Ed., Ph.D.,

Lecturer in physics,

Government College for Women (Autonomous),


Kumbakonam.

CERTIFICATE

This is to certify that the project report entitled “**UV-VISIBLE AND POWDER X-RAY DIFFRACTION ANALYSIS OF L-SERINE SUCCINIC ACID CRYSTAL**” is the bonafide research work done and submitted by **T.HASRIN (REG.NO:P21PH009)** under my guidance in fulfillment of the requirement for the award of **MASTER OF PHYSICS** and the project has not previously formed the basis for the award of any other degree.

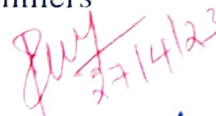
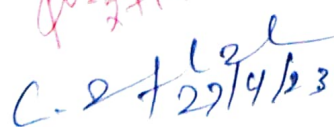

Signature of the

Head of the Department,


Signature of the Guide,

Submitted for the University Examination held at Government College for Women (Autonomous), Kumbakonam on 27.04.2023

Examiners

1.  27/4/23
2.  27/4/23



CERTIFICATE

Dr. T.THILAGAVATHI M.Sc., M.Phil., Ph.D.,
ASSISTANT PROFESSOR OF PHYSICS,
GOVERNMENT COLLEGE FOR WOMEN (AUTONOMOUS)
KUMBAKONAM – 612 001.

CERTIFICATE

This is to certify that the project report entitled
**“CHARACTERIZATION AND ELECTROCHEMICAL
PROPERTIES OF TITANIUM DIOXIDE NANOPARTICLE
DOPED WITH CADMIUM”** is the bonafide research work done
and submitted by **S. INDHUMATHI** (Reg. No:**P21PH010**) under my
guidance in partial fulfillment of the requirement for the award of
Master of Science in Physics during the academic period **2022-2023**
and the project has not previously formed the basis for the award of any
other degree.


27/04/23

Signature of the Head of the
Department

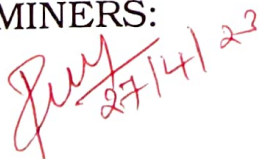

27/4/2023

Signature of the Guide

Submitted for the University Examination held at
Government College for women (Autonomous), Kumbakonam
on...27.04.2023

EXAMINERS:

1.


27/4/23

2.


27/4/2023



Mrs. R.SELVI, M.Sc., M.Phil.,

Lecturer in physics,

Government College for Women (Autonomous),

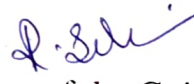
Kumbakonam.

CERTIFICATE

This is to certify that the project report entitled “UV-VISIBLE AND POWDER X-RAY DIFFRACTION ANALYSIS OF DL-SERINE OXALIC ACID CRYSTAL” is the bonafide research work done and submitted by M.KRISHNAVENI (REG.NO:P21PH011) under my guidance in fulfillment of the requirement for the award of MASTER OF PHYSICS and the project has not previously formed the basis for the award of any other degree.

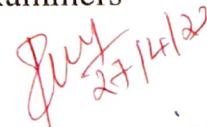


Signature of the

Head of the Department,


Signature of the Guide,

Submitted for the University Examination held at Government College for Women (Autonomous), Kumbakonam on 27.04.2023

Examiners

1.  27/4/22
2.  27/4/23



CERTIFICATE

K.LEELAVATHI M.Sc., M.Phil., (Ph.D.,)

LECTURER OF PHYSICS,

GOVERNMENT COLLEGE FOR WOMEN (AUTONOMOUS)

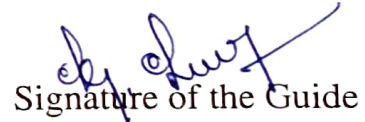
KUMBAKONAM – 612 001.

CERTIFICATE

This is to certify that the project report entitled “**SYNTHESIS, CHARACTERIZATION OF ELECTROCHEMICAL STUDIES OF TITANIUM OXIDE NANOPARTICLE DOPED WITH ZINC AND CADMIUM**” is the bonafide research work done and submitted by **G.NANDHINI** (Reg. No:P21PH012) under my guidance in partial fulfillment of the requirement for the award of **Master of Science in Physics** during the academic period **2022-2023** and the project has not previously formed the basis for the award of any other degree.


26/04/23


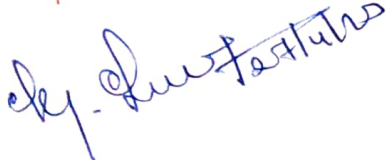
Signature of the Head of the


Signature of the Guide

Department

Submitted for the University Examination held at Government College for women (Autonomous), Kumbakonam on. ~~27.04.2023~~

EXAMINERS:

1. 
27/4/23
2. 





**GOVERNMENT COLLEGE FOR WOMEN
(AUTONOMOUS)
KUMBAKONAM**

Dr. S. RENUKA, M.Sc., M.Phil., Ph.D.,
Assistant Professor
Department of Physics

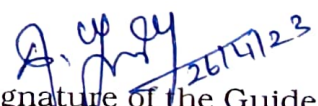
Date: 27.04.2023

CERTIFICATE

This is to certify that the project report entitled "**SYNTHESIS AND CHARACTERIZATION OF ZnO NANOPARTICLES USING AERVA LANATA LEAF EXTRACT THEIR PHOTOCATALYTIC ACTIVITY**" is a bonafide record of works done by **P.PAPATHI (Reg. No. P21PH014)** submitted to Government College for Women (Autonomous), Kumbakonam, Affiliated to Bharathidasan University, Thiruchirappalli in partial fulfillment of the requirements for the award of the degree of Master of Science in Physics during the year 2021-2023 in the Department of Physics under my guidance and supervision and the project report has not previously formed the basis for the award of any degree, diploma, fellowship or any other similar titles. I further certify that the project report represents independent work on the part of the candidate.



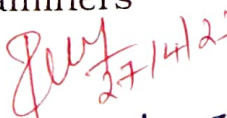
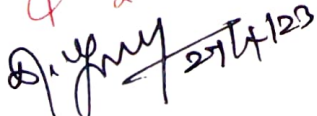
Signature of the Head of the Department



Signature of the Guide

Submitted for the University Examination held at Government College for Women (Autonomous), Kumbakonam on 27.04.2023

Examiners

- 
- 





**GOVERNMENT COLLEGE FOR WOMEN (Autonomous)
Kumbakonam - 612001**

Dr. S. AKILANDESWARI

Associate professor of Physics,
Government College for Women (Autonomous),
Kumbakonam - 612001.

CERTIFICATE

This is to certify that the project was done under my guidance and the dissertation entitled **“PHYSICO-CHEMICAL PARAMETERS OF WATER IN AND AROUND ADUTHURAI AND ASSESSMENT OF WATER QUALITY INDEX”** submitted by **S. Priyadharshini (Reg. No: P21PH015)** in partial fulfillment for the award of **Master of Science in Physics**, during the academic year **2021-2023**.

[Handwritten Signature]
27/04/23

Head of the Department

[Handwritten Signature]
27/4/23.

Project Guide

Internal Examiner

External Examiner

Place: Kumbakonam

Date: 27.04.2023





**GOVERNMENT COLLEGE FOR WOMEN (AUTONOMOUS)
KUMBAKONAM**

Mrs. B.JEEVA., M.Sc., M.Phil., B.Ed.,
Lecturer
Department of Physics

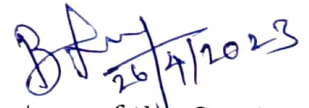
Date: 27.04.23

CERTIFICATE

This is to certify that the project report entitled "Green synthesis, characterization and photocatalytic application of ZnO nanoparticles synthesized by *Cynodon dactylon* leaves extract" is a bonafide record of works done by **S.PRIYADHARSINI, (Reg. No. P21PH016)** submitted to Government College for Women (Autonomous), Kumbakonam, Affiliated to Bharathidasan University, Thiruchirappalli in partial fulfillment of the requirements for the award of the degree of Master of Science in Physics during the year 2021-2023 in the Department of Physics under my guidance and supervision and the project report has not previously formed the basis for the award of any degree, diploma, fellowship or any other similar titles. I further certify that the project report represents independent work on the part of the candidate.


27/4/23



Signature of the Head of the Department


26/4/2023

Signature of the Guide

Submitted for the University Examination held at Government College for Women (Autonomous), Kumbakonam on 27.04.23

Examiners

1. 
27/4/23
2. 
27/4/23





**GOVERNMENT COLLEGE FOR WOMEN
(AUTONOMOUS)
KUMBAKONAM**

Mrs. B. JEEVA., M.Sc., M.Phil., B.Ed.,
Lecturer
Department of Physics.

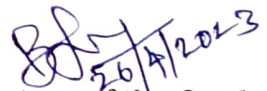
Date: 27.04.2023

CERTIFICATE

This is to certify that the project report entitled "**GREEN SYNTHESIS OF ZnO NANOPARTICLES USING PONGAMIA PINNATA LEAF EXTRACTS WITH DEGRADATION OF RHODAMINE B DYE**" is a bonafide record of works done by **R.RADHA, (Reg. No. P21PH017)** submitted to Government College for Women (Autonomous), Kumbakonam, Affiliated to Bharathidasan University, Thiruchirappalli in partial fulfillment of the requirements for the award of the degree of Master of Science in Physics during the year 2021-2023 in the Department of Physics under my guidance and supervision and the project report has not previously formed the basis for the award of any degree, diploma, fellowship or any other similar titles. I further certify that the project report represents independent work on the part of the candidate.



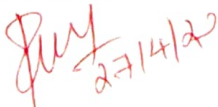
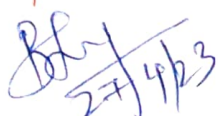
Signature of the Head of the Department



Signature of the Guide

Submitted for the University Examination held at Government College for Women (Autonomous), Kumbakonam on 27.04.2023

Examiners

1. 
27/4/23
2. 
27/4/23



GOVERNMENT COLLEGE FOR WOMEN (AUTONOMOUS)

KUMBAKONAM-612001

Dr.I.Kalaiarasi,M.SC.,M.Phil.,Ph.D.Assistant professor

**Department of physics,
Government college for women (Autonomous),
Kumbakonam.**

CERTIFICATE

This is to certify that the project work entitled "GREEN SYNTHESIS AND CHARACTERIZATION OF TITANIUM DIOXIDE NANOPARTICLE" Submitted to the BHARATHIDASAN UNIVERSITY, in the partial fulfillment of the requirement of the award of MASTER OF SCIENCE (PHYSICS) by selvi. A. Rajalakshmi, Post graduate student of Government college for women (Autonomous), kumbakonam is original and independent work carried out during 2022-2023 under my supervision.

[Handwritten Signature]
27/04/23

Signature of Head of the Department

[Handwritten Signature]

Signature of the Guide

Place: Kumbakonam

Date: 27.04.2023

EXAMINERS

1.

[Handwritten Signature]
27/4/23

2.

[Handwritten Signature]
27/4/23



CERTIFICATE

K.LEELAVATHI M.Sc., M.Phil., (Ph.D)

LECTURER OF PHYSICS,

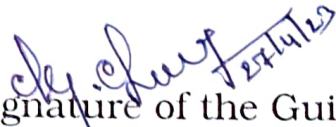
GOVERNMENT COLLEGE FOR WOMEN (AUTONOMOUS)

KUMBAKONAM - 612 001.

CERTIFICATE

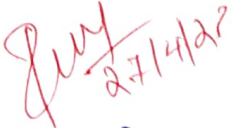

This is to certify that the project report entitled "**CADMIUM-DOPED TITANIUM OXIDE NANOPARTICLE AND ITS CHARACTERIZATION**" is the bonafide research work done submitted by **R.RASIKA (Reg.No : P21PH019)** under my guidance in partial fulfillment of the requirement for the award of **Master of Science in Physics** during the academic period **2022-2023** and the project has not previously formed the basis for the award of any other degree.


Signature of the Head of the
Department


Signature of the Guide

Submitted for the University Examination held at Government College for women (Autonomous), Kumbakonam on.27.04.23.

EXAMINERS:

1. 
2. 



Mrs. T.RATHNA, M.Sc., M. Phil.,M.Ed.,

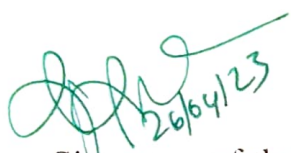
Lecturer in physics,

Government College for Women (Autonomous),

Kumbakonam.

CERTIFICATE

This is to certify that the project report entitled “**SINGLE XRD DIFFRACTION AND PHOTOLUMINESCENCE ANALYSIS OF L-SERINE SUCCINATE ACID CRYSTAL**” is the bonafide research work done and submitted by **R.SHEELADEVI (REG.NO:P21PH020)** under my guidance in fulfillment of the requirement for the award of **MASTER OF PHYSICS** and the project has not previously formed the basis for the award of any other degree.


26/04/23

Signature of the

Head of the Department,

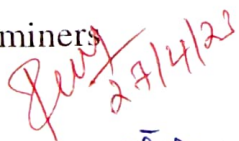


Signature of the Guide,

Submitted for the University Examination held at Government College for Women (Autonomous), Kumbakonam on ...27/04/23

Examiners

1.


27/4/23

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27/4/23



Dr.U.GNANASHEELA,M.Sc.,M.Phil,Ph.D.,

Assistant Professor

Government College For Women (Autonomus)

Kumbakonam - 612 001

CERTIFICATE

This is to certify that the project work entitled "GREEN SYNTHESIS AND CHARACTERIZATION OF CADMIUM OXIDE NANOPARTICLE" Submitted to the BHARATHIDASAN UNIVERSITY, in the partial fulfillment of the requirement of the award of MASTER OF SCIENCE IN PHYSICS by Selvi. SHYAMALADEVI. K, Post graduate student of Government college for women (Autonomous), Kumbakonam is original and independent work carried out during the period 2022-2023 under my supervision.

[Handwritten Signature]

Signature of Head of the Department

[Handwritten Signature]

Signature of the Guide

Place: Kumbakonam.

Date: 27. 04. 2023

Examiners:

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27/4/23

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27/4/23



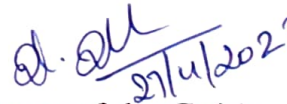
CERTIFICATE

Dr. T.THILAGAVATHI M.Sc., M.Phil., Ph.D.,
ASSISTANT PROFESSOR OF PHYSICS,
GOVERNMENT COLLEGE FOR WOMEN (AUTONOMOUS)
KUMBAKONAM – 612 001.

CERTIFICATE

This is to certify that the project report entitled “SYNTHESIS AND CHARACTERIZATION OF TITANIUM DIOXIDE DOPED WITH ZINC” is the bonafide research work done and submitted by C.SIVANTHI (Reg. No: P21PH022) under my guidance in partial fulfillment of the requirement for the award of **Master of Science in Physics** during the academic period **2022-2023** and the project has not previously formed the basis for the award of any other degree.

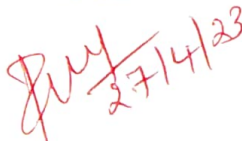


Signature of the Head of the


Signature of the Guide

Department

Submitted for the University Examination held at Government College
for women (Autonomous), Kumbakonam on. 27/4/23

EXAMINERS:

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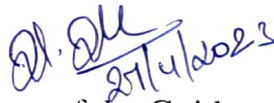
Dr. T.THILAGAVATHI M.Sc., M.Phil., Ph.D.,
ASSISTANT PROFESSOR OF PHYSICS,
GOVERNMENT COLLEGE FOR WOMEN (AUTONOMOUS)
KUMBAKONAM – 612 001.

CERTIFICATE

This is to certify that the project report entitled “**STRUCTURE AND OPTICAL STUDIES OF CADMIUM DOPED TITANIUM NANOPARTICLE**” is the bonafide research work done and submitted by **B.SNEHA** (Reg. No:**P21PH023**) under my guidance in partial fulfillment of the requirement for the award of **Master of Science in Physics** during the academic period **2022-2023** and the project has not previously formed the basis for the award of any other degree.

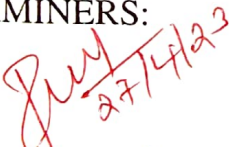


Signature of the Head of the

Department


Signature of the Guide

Submitted for the University Examination held at Government College for women (Autonomous), Kumbakonam on.27.4.2023

EXAMINERS:

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27/4/23
- 
27/4/2023



Mrs. C. KAYALVIZHI, M.Sc., M.Phil., B.ED., Ph.D.,

Lecturer in physics,

Government college for women (autonomous),

Kumbakonam-621 001.


CERTIFICATE

This is to certify that the project report entitled "**SYNTHESIS, GROWTH AND CHARACTERIZATION OF L-SERINE SUCCINIC NLO CRYSTAL**" is a bonafide record of work done by **M.SUBHASHINI (Reg No. P21PH024)**, Submitted to Government college for women (autonomous), Kumbakonam, affiliated to Bharathidasan university, Trichy in partial fulfillment of the requirements for the award of the degree of Master Of Science in physics during the year 2022 - 2023, in the department of physics under my guidance and supervision and the project Report has not previously formed the basis for the award of any degree, diploma, fellowship or any other similar titles. I further certify that the project report represents the independent work of the candidate.



Signature of the


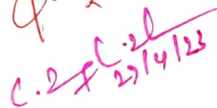
Head of the Department



Signature of the Guide

Submitted for the university examination held at Government College for Women(Autonomous), Kumbakonam on 27/04/2023

Examiners

1.  27/4/23
2.  27/4/23



GOVERNMENT COLLEGE FOR WOMEN (AUTONOMOUS)

KUMBAKONAM-612001

Dr.I.Kalaiarasi, M.SC., M.Phil.,Ph.D.,

Assistant professor of physics,

Department of physics,

Government College for women (Autonomous),

Kumbakonam.

CERTIFICATE

This is to certify that the project work entitled "**GREEN SYNTHESIS AND CHARACTERIZATION OF TITANIUM DI-OXIDE NANOPARTICLE**" Submitted to the **BHARATHIDASAN UNIVERSITY**, in the partial fulfilment of the requirement of the award of **MASTER OF SCIENCE IN PHYSICS** by selvi. **B. SUVEDHA**, Post graduate student of Government college for women (Autonomous), kumbakonam is original and independent work carried out during 2022-2023 under my supervision.

Place: Kumbakonam

Date: 27.04.2023

dph
27/04/23

Signature of the Head of the Department

J.Kalaiarasi

Signature of the guide

EXAMINERS

- J.K*
27/4/23
- J.Kalaiarasi*
27/4/23



Mrs. T.RATHNA, M.Sc., M. Phil.,M.Ed.,

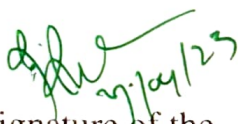
Lecturer in physics,

Government College for Women (Autonomous),

Kumbakonam.

CERTIFICATE

This is to certify that the project report entitled “**FTIR AND FTRAMAN ANALYSIS OF DL-SERINE OXALIC ACID CRYSTAL**” is the bonafide research work done and submitted by **V. VINITHA (REG.NO:P21PH026)** under my guidance in fulfillment of the requirement for the award of **MASTER OF PHYSICS** and the project has not previously formed the basis for the award of any other degree.


Signature of the

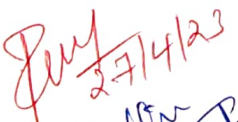

Head of the Department,



Signature of the Guide,

Submitted for the University Examination held at Government College for Women (Autonomous), Kumbakonam on .27.04.2023

Examiners

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27/4/23
2. 
22/4/23

