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DEPARTMENT OF PHYSICS

M.Sc., STUDENT PROJECT DETAILS

SUBJECT: PROJECT WORK

SUB.CODE: P16PYPW

YEAR: 2020-2021

K. S. Srinivasan
HOD

Head Dept. of Physics
Annai College of Arts & Science
Kovilachery - 612 503

Latha
IQAC



G. M. Srinivasan
PRINCIPAL

Principal
Annai College of Arts & Science
Kovilachery, Kumbakonam-612 503



Department of Physics

Date: 16.12.2021

Minutes of Meeting For Project Elective List

The physics department meeting was held in staff room dated on 16th December 2019 at 2.30pm

Agenda:

- Project Discussion
- Guide List
- Guideline Regarding Project Work
- Review Dates

Faculty Presence:

S.No	Faculty	Signature
1	Dr.K.Sathishkumar	
2	Dr.A.Venkatesan	
3	Prof.T. Jayakumar	
4	Prof.G.Dhanalakshmi	
5	Prof.P.Samiyammal	
6	Dr.C.Rajeevgandhi	

Resolution:

- Resolved to give detail information about the project to the students
- Resolved by allocating list of faculty with their ward for effective project guidance
- Resolved by giving proper guideline to prepare/collect starting material to their project work
- Resolved to follow up the review dates as per the schedule dates.

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Department of Physics

Allotment of Guide & Student List

Batch: 2019-2021

S.No	Guide	Students
1	Dr.K.Sathishkumar	1. V.ARTHI 2. B.SATHIYA 3. P.SUGUNA 4. C.TAMILSELVI
2	Dr.A.Venkatesan	1. S.ILAKIYA 2. R.PRIYANGA 3. R.RENUGADEVI 4. S.VANITHA
3	Prof.T. Jayakumar	1. V.RAMYA 2. M.SUBASHRI 3. V.VINOTHINI
4	Prof.G.Dhanalakshmi	1. R.DURGADEVI 2. J.NIROSHA
5	Prof.P.Samiyammal	1. S.KALAISELVI 2. P.KAYALVIZHI 3. M.PREETHI
6	Dr.C.Rajeevgandhi	1. S.AKILA 2. R.RAJESWARI 3. K.SATHIYABAMA 4. K.SONA

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Department of Physics

Project Review Details/ II-M.Sc., Physics / Batch 2019-2021

Subject: Project Work

Sub.Code: P16PYPW

Month	Date	Review	Details	Mark Allocation
December	20.12.2016	0 th Review	Problem identification, project Title	80
January	05.01.2017	First Review	Review of literature	
February	14.02.2017	Second Review	Characterization (or) analysis	
March	01.03.2017	Third Review	Project report(thesis writing)	
March	13.03.2017	Fourth Review	Project submission & PowerPoint presentation	
March	31.03.2017		VIVA-VOCE	
TOTAL MARKS				100

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DEPARTMENT OF PHYSICS

M.Sc., PHYSICS Project (2019-2021)


The title of the M.Sc project allocation is listed below

S.No	NAME OF THE STUDENT	REG.NO	PROJECT TITLE	NAME OF THE GUIDE	MONTH & YEAR
1	ARTHI V	P 19201902	The Impact of Mn doped on Structural, Optical and Magnetic Properties of CuO Nanoparticles.	Dr.K.SATHISHKUMAR	APR. - 2021
2	SATHYA B	P 19201913			
3	SUGUNA P	P 19201917			
4	THAMILSELVIC	P 19201918	Thermal and Structural Property of Silver doped CdO nanoparticles by Chemical Precipitation method.	Dr.A.VENKATESAN	APR. - 2021
5	ILAKIYA S	P 19201904			
6	PRIYANGA R	P 19201909			
7	RENUGADEVIR	P 19201912	Synthesis and Characterization of Cobalt Ferrite nanoparticles.	Prof.T.JAYAKUMAR	APR. - 2021
8	VANITHA S	P 19201919			
9	RAMYA B	P 19201911			
10	SUBASHRIM	P 19201916	Thermal stability of Ba Doped Cdo nanoparticles by chemical precipitation method.	Prof.G.DHANALAKSHMI	APR. - 2021
11	VINOTHINI V	P 19201920			
12	DURGADEVIR	P 19201903			
13	NIROSHA J	P 19201907			

14	KALAIHELVIS	P 19201905	Study the Pure and Its doped ZnO nanoparticles by Chemical Precipitation method.	Prof.P.SAMYAMMAL	APR. - 2021
15	KAYALVISHI P	P 19201906			
16	PREETHI M	P 19201908	Synthesis and Characterization of ZnO nanoparticles.	Dr.C.RAJEVGANDHI	APR. - 2021
17	AGLA S	P 19201901			
18	RAJESWARI R	P 19201910			
19	SATHYABAMA K	P 19201914			
20	SONIA K	P 19201915			

K. Sathy
HOD

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 IQAC Coordinator
Annai College of Arts & Science
Kovilachery, Kumbakonam-612 503

G.M. Viji
Principal
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S.No	Name	Reg.No	20.12.16	05.01.17	14.02.17	01.03.17	13.03.17	31.03.17
1	AKILA S	P 19201901	✓	✓	✓	✓	✓	✓
2	ARTHI V	P 19201902	✓	✓	✓	✓	✓	✓
3	DURGADEVIR	P 19201903	✓	✓	✓	✓	✓	✓
4	ILAKIYA S	P 19201904	✓	✓	✓	✓	✓	✓
5	KALAISELVI B	P 19201905	✓	✓	✓	✓	✓	✓
6	KAYALVIZHI P	P 19201906	✓	✓	✓	✓	✓	✓
7	NIROSHA J	P 19201907	✓	✓	✓	✓	✓	✓
8	PREETHI M	P 19201908	✓	✓	✓	✓	✓	✓
9	PRIYANGA R	P 19201909	✓	✓	✓	✓	✓	✓
10	RAJESWARI R	P 19201910	✓	✓	✓	✓	✓	✓
11	RAMYA B	P 19201911	✓	✓	✓	✓	✓	✓
12	RENUGADEVIR	P 19201912	✓	✓	✓	✓	✓	✓
13	SATHYA B	P 19201913	✓	✓	✓	✓	✓	✓
14	SATHYABAMA K	P 19201914	✓	✓	✓	✓	✓	✓
15	SONA K	P 19201915	✓	✓	✓	✓	✓	✓
16	SUBASHRI M	P 19201916	✓	✓	✓	✓	✓	✓
17	SUGUNA P	P 19201917	✓	✓	✓	✓	✓	✓
18	THAMILSELVI C	P 19201918	✓	✓	✓	✓	✓	✓
19	VANITHA S	P 19201919	✓	✓	✓	✓	✓	✓
20	VINOTHINI V	P 19201920	✓	✓	✓	✓	✓	✓
Total No. of Present			20	20	20	20	20	20
Total No. of Absent			-	-	-	-	-	-
Faculty Sign			<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>

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HOD
Dept. of Physics
Annai College of Arts & Science



Annai College of Arts & Science

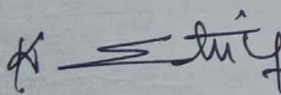
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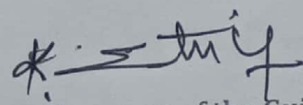
CERTIFICATE

This is to certify that the dissertation entitled "The Impact Of Mn Doped On Structural, Optical, And Magnetic Properties Of CuO Nanoparticles" submitted to Bharathidasan University in partial fulfillment of the requirements for the award of Master of Science in Physics is a record of original project done

Name	Reg.No.
V. ARTHI	(P 19201902)
B.SATHYA	(P 19201913)
P.SUGUNA	(P 19201917)
C.THAMILASELVI	(P 19201918)

During the period of her study in Department of Physics, Annai College of Arts and Science, Kovilacheri, Kumbakonam under my supervision and guidance.

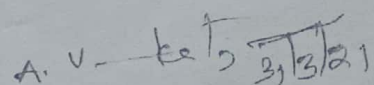

31/3/21
Head of the Department


Signature of the Guide

Head Dept. of Physics
Annai College of Arts & Science
Kovilacheri - 612 503

Submitted for the Viva-Voce Examination held on 31.03.2021

Internal Examiner


31/3/21
External Examiner

Dr. A. VENKATESAN, M.Sc., B.Ed., Ph.D.
Asst. Professor of Physics
Annai College of Arts and Science

PREFACE

Physics and chemistry of nanostructures or nanophysics and nanochemistry are relatively new areas of science arisen in last decade of past century after discovery of fullerenes and nanotubes, nanoflakes. It is introduction into more extent interdisciplinary integrated modern science known as nanotechnology. Nanotechnology is one of the new technologies, refers to the development of devices, structures and systems whose size varies from 1 to 100 nanometers.

The physical and chemical properties of nanostructures are distinctly different from those of a single molecule and bulk matter with the same chemical composition. These differences between nanomaterials and the molecular, condensed phase materials pertain to the spatial structures and shapes, phase changes, energetic, electronic structure, chemical reactivity, and catalytic properties of large, finite systems, and their assemblies. Some of the important issues in nanoscience relate to size effects, shape phenomena, quantum confinement and response to external electric and optical excitations of individual and coupled finite systems.

The last decade has seen advancement in every side of nanotechnology such as nanoparticles and powders; nanolayers and coats; electrical, optic and mechanical nanodevices; and nanostructured biological materials. Presently, nanotechnology is estimated to be influential in the next 20-30 years, in all fields of science and technology.

Copper oxide is a semiconducting compound with a monoclinic structure. Copper oxide has concerned particular care because it is the simplest member of the family of copper compounds and exhibits a range of potentially useful physical and chemical properties. As an important p-type semiconductor, copper oxide has found many varied applications such as in gas sensors, batteries, catalysis, high-temperature superconductors, solar energy conversion and field emission emitters. 'Cu' has three oxidation states, Cu^+ , Cu^{2+} and Cu^{3+} because of which both hole and electron doping are possible in semiconducting materials. Recently, copper oxide nanoparticles are characterized for its antimicrobial activity.

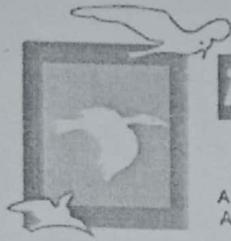
At this stage of growing knowledge author have shortly outlined the subject and classifications of nanostructures, main principles, methods, techniques, as well as general directions of future perspective research to be a guideline in the modern research are presented in eight chapters,

We can observe a tidal wave of new products which are directly related to nanosciences. Therefore, the basic ideas will be introduced and a brief review of literature outline will be given in **Chapter I**.

Chapter II deals with method of preparation of undoped and doped CuO nanoparticles. The various characterization techniques employed in this work and the procedure adopted are also given.

Chapter III to IV reveals with the synthesis and various characterizations of undoped and different mole concentrations of Mn doped CuO nanoparticles/nanostructures.

Chapter-V briefly summarizes the arrived results from the previous chapters.



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P. A. Venkatesan
Head of the Department

Head Dept. of Physics
Annai College of Arts & Science
Kovilachery - 612 503

A. Venkatesan
Signature of the Guide

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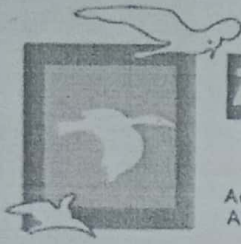
Dr. A. VENKATESAN, M.Sc., B.Ed., Ph.D.,
Asst. Professor of Physics

PREFACE

Nanomaterials are cornerstones of nanoscience and nanotechnology. Nanostructures science and technology is a broad and interdisciplinary area of research and development activity that has been growing explosively worldwide in the past few years. It has the potential for revolutionizing the ways in which materials and products are created and the range and nature of functionalities that can be accessed.

The nanocrystalline cadmium oxide (CdO) is an important n-type semiconductor metal oxide with a direct band gap of 2.2–2.7 eV and an indirect band gap of 1.36–1.98 eV. Different values for band gap have been reported in literatures that are attributed to lattice defects originated from different preparation conditions. The unique combination of high electrical conductivity, high carrier concentration and high transparency in the visible range of electromagnetic spectrum has prompted its optoelectronic applications.

The thesis consists of five chapters, the first chapter deals with the introduction about the nanomaterials and cadmium oxide and in the second chapter relevant review of literature was given in detail. The experimental techniques, materials and methods were given in third chapter. In fourth chapter, **Thermal and Structural Property of Silver doped CdO nanoparticles** is discussed. The summary and conclusion are given in the last chapter.



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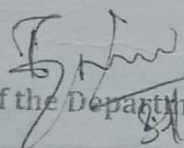
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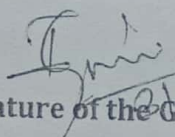
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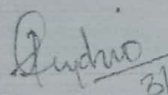
Name	Reg.No.
B. RAMYA	(P 19201911)
M. SUBASHRI	(P 19201916)
V. VINOOTHINI	(P 19201920)

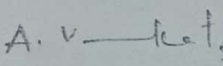
During the period of her study in Department of Physics, Annai College of Arts and Science, Kovilacheri, Kumbakonam under my supervision and guidance.


Head of the Department
31/03/21

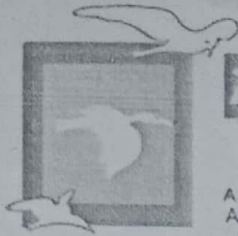

Signature of the Guide
31/03/21

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Internal Examiner
31/03/21


External Examiner
31/3/21

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J.NIROSHA	(P 19201907).

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A. V. K. S. 31/03/21
Head of the Department

[Signature] 31/03/2021
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Head Dept. of Physics
Annai College of Arts & Science
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Internal Examiner

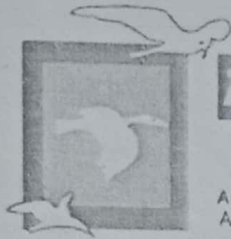
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PREFACE

Nanomaterials are cornerstones of nanoscience and nanotechnology. Nanostructures science and technology is a broad and interdisciplinary area of research and development activity that has been growing explosively worldwide in the past few years. It has the potential for revolutionizing the ways in which materials and products are created and the range and nature of functionalities that can be accessed.

The nanocrystalline cadmium oxide (CdO) is an important n-type semiconductor metal oxide with a direct band gap of 2.2–2.7 eV and an indirect band gap of 1.36–1.98 eV. Different values for band gap have been reported in literatures that are attributed to lattice defects originated from different preparation conditions. The unique combination of high electrical conductivity, high carrier concentration and high transparency in the visible range of electromagnetic spectrum has prompted its optoelectronic applications.

The thesis consists of five chapters, the first chapter deals with the introduction about the nanomaterials and cadmium oxide and in the second chapter relevant review of literature was given in detail. The experimental techniques, materials and methods were given in third chapter. In fourth chapter, The thermal stability of Ba doped CdO Nanoparticles are discussed. The summary and conclusion are given in the last chapter.



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A. V. *kat*, 31/3/21
Head of the Department

P. Selvi
31/3/21
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D. A. VENKATESAN, Head of the Department

Department of Physics

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The thesis consists of five chapters, the first chapter deals with the introduction about the nanomaterials and cadmium oxide and in the second chapter relevant review of literature was given in detail. The experimental techniques, materials and methods were given in third chapter. In fourth chapter, The enhancement on thermal stability of Sn doped CdO Nanoparticles are discussed. The summary and conclusion are given in the last chapter.

ANNAI COLLEGE OF ARTS AND SCIENCE



DEPARTMENT OF PHYSICS

Dr. C.RAJEEVGANDHI, M.Sc., M.Ed, Ph.D.,
Assistant Professor,
Department of Physics,
Annai College of Arts and Science,
Kovilacheri, Kumbakonam - 612 503,
Tamil Nadu, India.

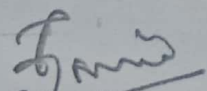
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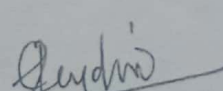
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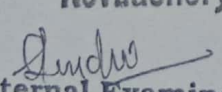
This is to certify that the thesis entitled "**SYNTHESIS AND CHARACTERIZATION OF CuO NANOPARTICLES**" submitted by

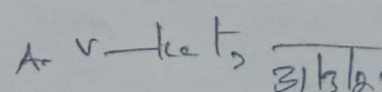
- | | |
|-----------------|--------------------|
| 1. S. AKILA | Reg. No. P19201901 |
| 2. R.RAJESWARI | Reg. No. P19201910 |
| 3. K.SATHYABAMA | Reg. No. P19201914 |
| 4. K.SONA | Reg. No. P19201915 |

in partial fulfillment for the award of Master of Science in Physics during the year 2020-2021.


Head of the Department
Head Dept. of Physics
Annai College of Arts & Science
Kovilachery - 612 503


Research Supervisor


Internal Examiner


External Examiner



Annai college

Date: 30/03/2021

Dr.A.VENKATESAN, M.Sc., B.Ed., Ph.D.,
Asst. Professor of Physics
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