

# **STRUCTURAL AND ANTIFUNGAL ACTIVITIES OF CdO AND NiO NANOPARTICLES**

Project work Submitted to  
AVVM Sri Puspham College (Autonomous), Poondi  
(Affiliated to Bharathidasan University, Thiruchirapalli)  
in partial fulfillment of the requirements  
for the award of the Degree of

## **MASTER OF SCIENCE IN PHYSICS**

By

**E. ELAVAZHAGAN – 18PHB402**  
**S. SANTHIYA – 18PHA363**  
**S. SHARMILA – 18PHB468**

Under the Guidance of  
**Dr. A. R. BALU**



**PG AND RESEARCH DEPARTMENT OF PHYSICS**  
**AVVM SRI PUSHPAM COLLEGE, (AUTONOMOUS)**  
**POONDI – 613503**  
**THANJAVUR DISTRICT**  
**SEPTEMBER-2020**

# GROWTH, OPTICAL AND MECHANICAL STUDIES OF METTANILIC ACID

Research project submitted to  
**A.V.V.M SRI PUSHPAM COLLEGE (AUTONOMOUS)**

Affiliated to  
**BHARATHIDASAN UNIVERSITY,**  
**Tiruchirappalli.**

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

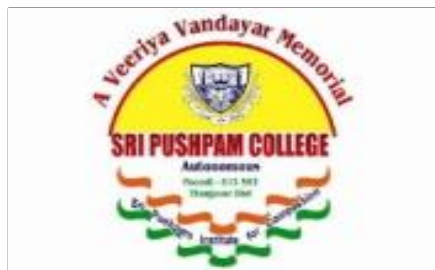
**MASTER OF SCIENCE  
IN  
PHY SICS**

*Submitted by*

**R.SIVARANJANI**

Reg.No: 18PHA352

*Under the Guidance of*  
**Dr. P. DEEPA, M.Sc., M.Phil., Ph.D.,**



**P.G & RESEARCH DEPARTMENT OF PHY SICS,**  
**A.V.V.M SRI PUSHPAM COLLEGE (AUTONOMOUS),**  
**POONDI – 613503,**  
**THANJAVUR.**  
**SEPTEMBER - 2020**



# THE NONLINEAR OPTICAL AND ANTIBACTERIAL PROPERTIES OF 2-FUROIC ACID DOPED GUANIDINIUM CARBONATE SINGLE CRYSTAL

Research project submitted to  
**A.V.V.M SRI PUSHPAM COLLEGE (AUTONOMOUS)**  
Affiliated to **BHARATHIDASAN UNIVERSITY, Tiruchirappalli.**

*In partial fulfillment of requirements for*

*The award of the degree of*

**MASTER OF SCIENCE  
IN  
PHYSICS**

*Submitted by*

**1. R.LAVANYA**

**(Reg.No: 18PHA371)**

**2. A.NIRANJANA**

**(Reg.No: 18PHB461)**

*Under the Guidance of*

**Dr. B. DEEPA M.Sc., M.Phil., Ph.D.,**



OF PHYSICS,

P.G

& RESEARCH DEPARTMENT

**A.V.V.M SRI PUSHPAM COLLEGE (AUTONOMOUS),**

**POONDI – 613503, THANJAVUR (DT).**

**SEPTEMBER- 2020**



**FABRICATION OF ALUMINIUM DOPED ZnO THIN FLIMS  
FOR SPRAY PYROLYSIS TECHNIQUE**

**Dissertation submitted to**

**A.V.V.M SRI PISHPAM COLLEGE, POONDI**

**Affiliated to BHARATHIDASAN UNIVERSITY, THIRUCHIRAPPALLI**

**In partial fulfillment of the requirements**

**For the award of the degree of**

**MASTER OF SCIENCE IN PHYSICS**

**Submitted**

**By**

**G. PRAVEEN**

**Reg.No: 18PHA302**

**Under the guidance of**

**Dr. B. SAKTHIVEL, M.Sc., M.Phil., PGDCA., Ph.D.,**



**PG & RESEARCH DEPARTMENT OF PHYSICS**

**A.V.VM SRI PUSHPAM COLLEGE (AUTONOMOUS)**

**POONDI-613 503**

**SEPTEMBER-2020**

**FABRICATION OF Mo DOPED CdS THIN FLIMS  
DEPOSITED BY USING THE SILAR TECHNIQUE**

**Dissertation submitted to**

**A.V.V.M SRI PISHPAM COLLEGE, POONDI**

**Affiliated to BHARATHIDASAN UNIVERSITY, THIRUCHIRAPPALLI**

**In partial fulfillment of the requirements**

**For the award of the degree of**

**MASTER OF SCIENCE IN PHYSICS**

**Submitted**

**By**

**B. BHARATHI**

**Reg.No: 18PHB457**

**Under the guidance of**

**Dr. B. SAKTHIVEL, M.Sc., M.Phil., PGDCA., Ph.D.,**



**PG & RESEARCH DEPARTMENT OF PHYSICS**

**A.V.VM SRI PUSHPAM COLLEGE (AUTONOMOUS)**

**POONDI-613 503**

**SEPTEMBER-2020**

# **ANTIBACTERIAL PROPERTIES OF PbS NANOPARTICLES**

Project work submitted to  
A.V.V.M. Sri Puspham College (Autonomous), Poondi  
(Affiliated to Bharathidasan University, Thiruchirapalli)  
in partial fulfillment of the requirements  
for the award of the Degree of

## **MASTER OF SCIENCE IN PHYSICS**

By

**K.S. ALEXANDER – Reg. No: 18PHB408**  
**A.KAYALVIZHI– Reg. No: 18PHB467**

Under the Guidance of  
**Dr. C. RAJASHREE**



**P.G. AND RESEARCH DEPARTMENT OF PHYSICS**  
**A.V.V.M. SRI PUSHPAM COLLEGE, (AUTONOMOUS)**  
**POONDI – 613503**  
**THANJAVUR DISTRICT**  
**SEPTEMBER - 2020**

**STRUCTURAL AND OPTICAL PROPERTIES OF LEAD SULFIDE THIN FILM  
COATED AT 400° C**

Project work submitted to  
A.V.V.M. Sri Puspham College (Autonomous), Poondi  
(Affiliated to Bharathidasan University, Thiruchirapalli)  
in partial fulfillment of the requirements  
for the award of the Degree of

**MASTER OF SCIENCE IN PHYSICS**

By

**M. THIAGARAJAN  
(REG.NO. - 18PHA303)**

Under the Guidance of  
**Dr. G. PASUPATHI**



**P.G. AND RESEARCH DEPARTMENT OF PHYSICS  
A.V.V.M. SRI PUSHPAM COLLEGE, (AUTONOMOUS)  
POONDI – 613503  
THANJAVUR DISTRICT  
SEPTEMBER – 2020**

# **GROWTH AND CHARACTERIZATION OF L-ALANINE POTASSIUM IODIDE NLO SINGLE CRYSTAL**

Project submitted to  
A.V.V.M. Sri Pushpam College (Autonomous), Poondi  
Affiliated to Bharathidasan University, Thiruchirapalli  
in partial fulfillment of the requirements  
for the award of the Degree of

**MASTER OF SCIENCE IN PHYSICS**

Submitted  
By

**M. ANITHA**  
**(Reg. No: 18PHA361)**

Under The Guidance of

**Dr. G. PASUPATHI, M.Sc., M.Phil., Ph.D.,**



**P.G. AND RESEARCH DEPARTMENT OF PHYSICS**  
**A.V.V.M. SRI PUSHPAM COLLEGE, (AUTONOMOUS)**  
**POONDI – 613503**  
**THANJAVUR DISTRICT**

**OCTOBER - 2020**



**“GROWTH AND CHARACTERIZATION OF  
L – ASCORBIC AMMONIUM BROMIDE NLO SINGLE CRYSTAL”**

Project submitted to

A.V.V.M. Sri Puspham College (Autonomous), Poondi  
Affiliated to Bharathidasan University, Thiruchirapalli  
in partial fulfillment of the requirements for the award  
of the Degree of

**MASTER OF SCIENCE IN PHYSICS**

Submitted

By

**S. MALARVIZHI ROLL.NO. 18PHB458**

Under The Guidance of

**Dr. G.PASUPATHI, M.Sc., M.Phil., Ph.D.,**



**P.G. AND RESEARCH DEPARTMENT OF PHYSICS A.V.V.M. SRI  
PUSHPAM COLLEGE, (AUTONOMOUS) POONDI – 613503 THANJAVUR  
DISTRICT**

**OCTOBER - 2020**

# **MICROCONTROLLER BASED TEMPERATURE MONITORING SYSTEM**

*A Project report submitted to*

**A.V.V.M SRI PUSHPAM COLLEGE (AUTONOMOUS), Poondi**

*Affiliated to BHARATHIDASAN UNIVERSITY, Thiruchirappalli*

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

## **MASTER OF SCIENCE IN PHYSICS**

Submitted by

**Ms.K. VIDHYA (Reg.NO. 18PHA353)**

**Ms.M.SRINITHI (Reg. No. 18PHB451)**

*Under the Guidance of*

**Dr .K. MURUGANANTHAN, M.Sc., M.Phil., Ph.D.,**



**P.G & RESEARCH DEPARTMENT OF PHYSICS  
A.V.V.M SRI PUSHPAM COLLEGE (AUTONOMOUS)  
POONDI – 613503, THANJAVUR DT.**

**APRIL 2020**

**FABRICATION OF ZnO AND Mo DOPED ZnO THIN FILMS FOR  
PHOTOCATALYTIC DYE DEGRADATION OF MB AND MG DYES**

**Project Work Submitted To**

**A.V.V.M. Sri Puspham College (Autonomous), Poondi  
(Affiliated to Bharathidasan University, Thiruchirapalli) in  
partial fulfillment of the requirements for the award of  
the Degree of**

**MASTER OF SCIENCE IN PHYSICS**

**By**

**A.SUBASH CHANDRA BOSE (REG.NO - 18PHA301)**

**P.REKHA(REG.NO-18PHA358)**

**S.KANNAMMA(REG.NO-18PHB452)**

**Under the Guidance of  
Dr. K. RAVICHANDRAN**



**P.G AND RESEARCH DEPARTMENT OF PHYSICS  
A.V.V.M. SRI PUSHPAM COLLEGE, (AUTONOMOUS)  
POONDI – 613503 THANJAVUR  
SEPTEMBER – 2020**

**ANTIBACTERIAL AND PHOTOCATALYTIC ACTIVITY  
OF SnO<sub>2</sub> NANOPOWDER SYNTHESIZED USING  
SOFT CHEMICAL METHOD**

Project work submitted to  
A.V.V.M. Sri Puspham College (Autonomous), Poondi  
(Affiliated to Bharathidasan University,  
Thiruchirapalli) in partial fulfillment of the  
requirements for the award of the Degree of

**MASTER OF SCIENCE IN PHYSICS**

By

**C.SHANMUGA PRIYA (REG. NO.18PHB455)  
B.TAMIL PRIYA (REG.NO.18PHA354)**

Under the Guidance of  
**Dr. K.RAVICHANDRAN**



**P.G AND RESEARCH DEPARTMENT OF PHYSICS  
A.V.V.M. SRI PUSHPAM COLLEGE, (AUTONOMOUS)  
POONDI – 613503 THANJAVUR DISTRICT  
SEPTEMBER – 2020**

# **EFFECT OF VANADIUM DOPING ON THE PHOTOCATALYTIC PROPERTY OF ZnO THIN FILMS**

Project submitted to

A.V.V.M. Sri Puspham College (Autonomous), Poondi  
Affiliated to Bharathidasan University, Thiruchirapalli

in partial fulfillment of the requirements

for the award of the Degree of

**MASTER OF SCIENCE IN PHYSICS**

Submitted

By

**K.SHIVARANJANI**

**REG.NO. 18PHA360**

**&**

**K.GAYATHRI**

**REG.NO. 18PHA369**

Under The Guidance of

**Dr. K.RAVICHANDRAN**



**P.G. AND RESEARCH DEPARTMENT OF PHYSICS**

**A.V.V.M. SRI PUSHPAM COLLEGE, (AUTONOMOUS)**

**POONDI – 613503**

**THANJAVUR DISTRICT**

**OCTOBER - 2020**



# **FABRICATION AND OPTICAL STUDIES OF Zn DOPED SnO<sub>2</sub> THIN FILMS DEPOSITED USING SPRAY PYROLYSIS TECHNIQUE**

Project work submitted to  
A.V.V.M. SriPusphamCollege (Autonomous), Poondi  
(Affiliated to Bharathidasan University, Thiruchirapalli)  
in partial fulfillment of the requirements  
for the award of the Degree of

**MASTER OF SCIENCE IN PHYSICS**

By

**P.THANGABHARATHI - Reg. No: 18PHB453  
S.GIRIJA - Reg. No: 18PHA366**

Under the Guidance of  
**Dr.K .Thirumurugan**



**P.G. AND RESEARCH DEPARTMENT OF PHYSICS  
A.V.V.M. SRI PUSHPAM COLLEGE, (AUTONOMOUS)  
POONDI – 613503  
THANJAVUR DISTRICT  
SEPTEMBER - 2020**

# **GROWTH OF MELAMINIUM PERCHLORATE MONOHYDRATE SINGLE CRYSTALS**

Project submitted to  
A.V.V.M. Sri Puspham College (Autonomous), Poondi  
Affiliated to Bharathidasan University, Thiruchirapalli  
in partial fulfillment of the requirements  
for the award of the Degree of

## **MASTER OF SCIENCE IN PHYSICS**

Submitted

By

**T.RAGHAVI**

**ROLL.NO. 18PHA356**

Under The Guidance of

**Dr.K.UMA, M.Sc., M.Phil., Ph.D.,**



**P.G. AND RESEARCH DEPARTMENT OF PHYSICS  
A.V.V.M. SRI PUSHPAM COLLEGE, (AUTONOMOUS)  
POONDI – 613503  
THANJAVUR DISTRICT  
September - 2020**

# **GROWTH AND CHARACTERIZATION OF L-ASPARTIC MAGNESIUM**

## **SULPHATE SINGLE CRYSTAL**

Project submitted to  
A.V.V.M. Sri Puspham College (Autonomous), Poondi  
Affiliated to Bharathidasan University, Thiruchirapalli  
in partial fulfillment of the requirements  
for the award of the Degree of

### **MASTER OF SCIENCE IN PHYSICS**

Submitted

By

**M.AARTHI**

**ROLL.NO. 18PHB454**

Under The Guidance of

**Dr.K.UMA, M.Sc., M.Phil., Ph.D.,**



**P.G. AND RESEARCH DEPARTMENT OF PHYSICS**

**A.V.V.M. SRI PUSHPAM COLLEGE, (AUTONOMOUS)**

**POONDI – 613503**

**THANJAVUR DISTRICT**

**September - 2020**



# **SYNTHESIS OF PbS-CdO AND PbS-NiO NANOCOMPOSITES**

Project work Submitted to  
AVVM Sri Puspham College (Autonomous), Poondi  
(Affiliated to Bharathidasan University, Thiruchirapalli)  
in partial fulfillment of the requirements  
for the award of the Degree of

## **MASTER OF SCIENCE IN PHYSICS**

By

**V. NITHYA – 18PHA351**  
**P. MONISHA – 18PHA370**

Under the Guidance of  
**Dr. M. SUGANYA**



**PG AND RESEARCH DEPARTMENT OF PHYSICS**  
**AVVM SRI PUSHPAM COLLEGE, (AUTONOMOUS)**  
**POONDI – 613503**  
**THANJAVUR DISTRICT**  
**SEPTEMBER – 2020**

# ANALYSIS OF ORGANIC COMPOUNDS USING NMR SPECTRUM

Dissertation submitted to

**A.V.V.M SRI PUSHPAM COLLEGE, POONDI**

Affiliated by BHARATHIDASAN UNIVERSITY, THIRUCHIRAPPALLI

In partial fulfillment of the requirements

for the award of the degree of

**MASTER OF SCIENCE IN PHYSICS**

Submitted

By

**B.RAMYA - 18PHA368**

**A.KEERTHIKA – 18PHB465**

**G.RAVIPRASATH – 18PHB406**

Under the guidance of

**Dr.M.VASANTHI, M.Sc., M.Phil., Ph.D.,**



**PG & RESEARCH DEPARTMENT OF PHYSICS**

**A.V.V.M SRI PUSHPAM COLLEGE (AUTONOMOUS)**

**POONDI-613 503**

**SEPTEMBER-2020**

**SYNTHESIS AND CHARACTERIZATION OF ZINC NANOPARTICLE AND  
EVALUATION OF ANTIBACTERIAL ACTIVITY**

The project submitted to

**BHARATHIDASAN UNIVERSITY, TIRUCHIRAPPALLI**

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

**MASTER OF SCIENCE IN PHYSICS**

Submitted by

**K.M. ASHTALAKSHMI**

**REG.NO. 18PHA357**

Under the guidance of

**Dr. N. BALAGURU M.Sc., M.Phil., Ph.D.,**

**ASSISTANT PROFESSOR**



**DEPARTMENT OF PHYSICS**

**A.V.V.M. SRI PUSHPAM COLLEGE**

[Affiliated to Bharathidasan University, Tiruchirappalli]

**POONDI – 613 503.**

**SEPTEMBER – 2020**

# **SYNTHESIS AND STRUCTURAL CHARACTERIZATION OF SnO<sub>2</sub> NANOPARTICLES**

Project work submitted to  
A.V.V.M. Sri Puspham College (Autonomous), Poondi  
(Affiliated to Bharathidasan University, Thiruchirapalli)  
in partial fulfillment of the requirements  
for the award of the Degree of

**MASTER OF SCIENCE IN PHYSICS**

By

**K. DEVENDRAN – Reg. No: 18PHB403**  
**C. THILOTHIMA – Reg. No: 18PHA364**  
**J. ASWINI– Reg. No: 18PHB462**

Under the Guidance of  
**Dr. N. MANJULA**



**P.G. AND RESEARCH DEPARTMENT OF PHYSICS**  
**A.V.V.M. SRI PUSHPAM COLLEGE, (AUTONOMOUS)**  
**POONDI – 613503**  
**THANJAVUR DISTRICT**  
**SEPTEMBER - 2020**

# **GROWTH AND CHARACTERIZATION OF LITHIUM AMMONIUM SULPHATE INORGANIC NONLINEAR OPTICAL SINGLE CRYSTALS**

Project submitted to

**A.V.V.M SRI PUSHPAM COLLEGE (AUTONOMOUS)**

Affiliated to **BHARATHIDASAN UNIVERSITY, Tiruchirappalli.**

*In partial fulfillment of requirements for*

*The award of the degree of*

**MASTER OF SCIENCE  
IN  
PHYSICS**

*Submitted by*

**S. RAJA**

Reg.No: 18PHB404

*Under the Guidance of*

**Dr. R. MANIMEKALAI, M.Sc., M.Phil., Ph.D.,**



**P.G & RESEARCH DEPARTMENT OF PHYSICS,**

**A.V.V.M SRI PUSHPAM COLLEGE (AUTONOMOUS),**

**POONDI – 613503,**

**THANJAVUR.**

**SEPTEMBER- 2020**

**INVESTIGATION ON STRUCTURAL, THERMAL AND MAGNETIC  
PROPERTY OF BISTHIOUREA AMMONIUM BISULPHATE  
OPTICAL SINGLE CRYSTALS**

Project submitted to

**A.V.V.M SRI PUSHPAM COLLEGE (AUTONOMOUS)**

Affiliated to **BHARATHIDASAN UNIVERSITY, Tiruchirappalli.**

*In partial fulfillment of requirements for*

*The award of the degree of*

**MASTER OF SCIENCE  
IN  
PHYSICS**

*Submitted by*

**V. KAVIYA**

Reg.No: 18PHA365

*Under the Guidance of*

**Dr. R. MANIMEKALAI, M.Sc., M.Phil., Ph.D.,**



**P.G & RESEARCH DEPARTMENT OF PHYSICS,**

**A.V.V.M SRI PUSHPAM COLLEGE (AUTONOMOUS),**

**POONDI – 613503,**

**THANJAVUR.**

**SEPTEMBER- 2020:**

**GROWTH AND CHARACTERIZATION OF BISTHIOUREA  
AMMONIUM BISULPHATE SEMIORGANIC NON LINEAR  
OPTICAL SINGLE CRYSTALS**

Project submitted to

**A.V.V.M SRI PUSHPAM COLLEGE (AUTONOMOUS)**

Affiliated to **BHARATHIDASAN UNIVERSITY, Tiruchirappalli.**

*In partial fulfillment of requirements for*

*The award of the degree of*

**MASTER OF SCIENCE  
IN  
PHYSICS**

*Submitted by*

**K. KAVIYA**

Reg.No: 18PHB463

*Under the Guidance of*

**Dr. R. MANIMEKALAI, M.Sc., M.Phil., Ph.D.,**



**P.G & RESEARCH DEPARTMENT OF PHYSICS,**

**A.V.V.M SRI PUSHPAM COLLEGE (AUTONOMOUS),**

**POONDI – 613503,**

**THANJAVUR.**

**SEPTEMBER-2020**

# **SYNTHESIS AND CHARACTERIZATION OF $\text{SnS}_2$ – CdS NANOCOMPOSITE**

Project work submitted to  
A.V.V.M. Sri Puspham College (Autonomous), Poondi  
(Affiliated to Bharathidasan University, Thiruchirapalli)  
in partial fulfillment of the requirements  
for the award of the Degree of

## **MASTER OF SCIENCE IN PHYSICS**

By

**B. PIRUTHIGA - 18PHA355**  
**D.RATHNA – 18PHA362**  
**G.GOKULNATH – 18PHB405**

Under the Guidance of  
**Dr. S. RAVISHANKAR**



**P.G. AND RESEARCH DEPARTMENT OF PHYSICS**  
**A.V.V.M. SRI PUSHPAM COLLEGE, (AUTONOMOUS)**  
**POONDI – 613503**  
**THANJAVUR DISTRICT**  
**SEPTEMBER - 2020**



# **OPTICAL AND LUMINESCENT PROPERTIES OF SnS<sub>2</sub>NANOPARTICLES**

Project work submitted to  
A.V.V.M. SriPushpam College (Autonomous), Poondi  
(Affiliated to Bharathidasan University, Thiruchirapalli)  
in partial fulfillment of the requirements  
for the award of the Degree of

**MASTER OF SCIENCE IN PHYSICS**

By

**K. NEETHIDEVAN – Reg. No: 18PHB401**  
**K.SHALINI – Reg. No: 18PHB460**  
**D. PIRIYANGA – Reg. No: 18PHB464**

Under the Guidance of  
**Dr. V.S. NAGARETHINAM**



**P.G. AND RESEARCH DEPARTMENT OF PHYSICS**  
**A.V.V.M. SRI PUSHPAM COLLEGE, (AUTONOMOUS)**  
**POONDI – 613503**  
**THANJAVUR DISTRICT**  
**SEPTEMBER - 2020**