

**AUTOMATIC PLANT IRRIGATION SYSTEM**  
A PROJECT REPORT SUBMITTED TO  
**SAVITRIBAI PHULE PUNE UNIVERSITY,**  
**PUNE**



**FOR THE DEGREE OF**  
**MASTER OF SCIENCE**  
**IN**  
**PHYSICS**  
**UNDER THE FACULTY OF SCIENCE**  
**BY**

**MISS. Barhate Rutuja Eknath**

Department of Physics, Arts, Commerce and Science College, Sonai

**UNDER THE GUIDANCE OF**

**Prof. Darandale A. A.**

**M.Sc. (Physics)**

**DEPARTMENT OF PHYSICS,**  
**ARTS, COMMERCE AND SCIENCE COLLEGE, SONAI**

**MARCH-2023**

Seat No.

201875

**SAVITRIBAI PHULE PUNE UNIVERSITY, PUNE**

**BONAFIDE CERTIFICATE**

This is to certify that the work incorporated in the project report entitled AUTOMATIC PLANT IRRIGATION SYSTEM submitted to Savitribai Phule Pune University, Pune is benefited work of **Miss. Barhate Rutuja Eknath** of M.Sc. (Physics) during the academic year 2022-23, who carried out the project work under my supervision.

*Darandale A.A.*

**Prof. Darandale A. A**

**Guide**

Department of Physics

Arts, Commerce and Science College,

Sonai-414105

*H.K.*

**Dr. Sadekar H.K.**

**Head**

Department of Physics

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Sonai-414105

*Darandale M.P.*  
*23/05/2023*

**Internal Examiner**

*H.K. 23/05/2023*

**External Examiner**



## ACKNOWLEDGEMENT

I wish to thank the Principal **Dr. Shankar Laware** of my college for permitting me to use all the facilities available in the institution for my project work. I would also like thank the Head of the Physics Department **Dr. Sadekar H.K.**, the teaching faculty and all the Non-teaching staff of my college for their support in completing the work successfully.

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Place: Sonai

Date 23/05/2023

Signature of Research Student

Miss. Barhate Rutuja Eknath

(M.Sc. Physics)

**GROWTH AND CHARACTERIZATION OF P6S THIN  
FILMS**

**A PROJECT REPORT SUBMITTED TO  
SAVITRIBAI PHULE PUNE UNIVERSITY,  
PUNE**



**FOR THE DEGREE OF  
MASTER OF SCIENCE  
IN  
PHYSICS**

**UNDER THE FACULTY OF SCIENCE**

**BY**

**Mr. DARANDALE UDAY PATILBA**

*Department of Physics, Arts, Commerce and Science College, Sonai*

**UNDER THE GUIDANCE OF**

**Dr.Sadekar H.K.**

**DEPARTMENT OF PHYSICS,  
ARTS, COMMERCE AND SCIENCE COLLEGE, SONAI  
SONSI-414105**

**2022-23**

Seat No.

SAVITRIBAI PHULE PUNE UNIVERSITY

**BONAFIDE CERTIFICATE**

This is to certify that the work incorporated in the project report entitled “**Growth and Characterization of PbS Thin Films**” submitted to Savitribai Phule Pune University, Pune, is benefited work of **Mr. Darandale Uday Patilba** of M.sc. (Physics) during the academic year 2022-23, who carried out the project work under my supervision



**Dr. Sadekar H.K.**

**Guide**

Department of Physics  
Arts, Commerce and Science College  
Sonai-414105

Date-



**Dr. Sadekar H.K.**

**Head**

Department of Physics  
Arts, Commerce and Science College,  
Sonai-414105

*Darandale M.P.*  
*23/05/2023*

Internal Examiner

Date



External Examiner



## ACKNOWLEDGEMENT

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Place: Sonai

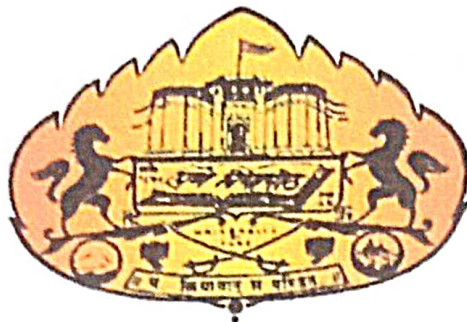
  
Signature of Research Student

Date: 23-05-2023

*Mr. Darandale U.P.*

(M.sc. Physics)

**CLAP SWITCH**  
A PROJECT REPORT SUBMITTED TO  
**SAVITRIBAI PHULE PUNE UNIVERSITY,**  
**PUNE**



**FOR THE DEGREE OF  
BACHLOR OF SCIENCE  
IN  
PHYSICS**

**UNDER THE FACULTY OF SCIENCE**

**BY**

**MISS. DHADGE KOMAL NAVNATH**

**Department of Physics, Arts, Commerce and Science College, Sonai**

**UNDER THE GUIDANCE OF**

**Prof. SHINDE R. S.**

**M.Sc. (Physics), NET, SET**

**DEPARTMENT OF PHYSICS,**

**ARTS, COMMERCE AND SCIENCE COLLEGE, SONAI**

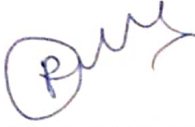
**MARCH-2023**

Seat No.

**SAVITRIBAI PHULE PUNE UNIVERSITY, PUNE**

**BONAFIDE CERTIFICATE**

This is to certify that the work incorporated in the project report entitled SIMPLE CLAP SWITCH submitted to Savitribai Phule Pune University, Pune is benefited work of Miss.Dhadge Komal Navnath of B.Sc. (Physics) during the academic year 2022-23, who carried out the project work under my supervision.



**Prof. Shinde R. S.**

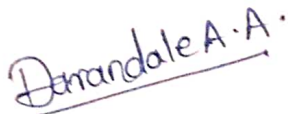
**Guide**

Department of Physics  
Arts, Commerce and Science College,  
Sonai-414105

**Dr. Sadekar H.K.**

**Head**

Department of Physics  
Arts, Commerce and Science College,  
Sonai-414105



**Internal Examiner**

**External Examiner**



## ACKNOWLEDGEMENT

I wish to thank the Principal **Dr. Shankar Laware** of my college for permitting me to use all the facilities available in the institution for my project work. I would also like thank the Head of the Physics Department **Dr. Sadekar H.K.**, the teaching faculty and all the Non-teaching staff of my college for their support in completing the work successfully.

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Place: Sonai

Signature of Research Student

Date: /05/2022

Miss. Dhadge Komal Navnath

(B.Sc. Physics)

**SMOKE DETECTOR**  
A PROJECT REPORT SUBMITTED TO  
**SAVITRIBAI PHULE PUNE UNIVERSITY,**  
**PUNE**



**FOR THE DEGREE OF**  
**MASTER OF SCIENCE**  
**IN**  
**PHYSICS**  
**UNDER THE FACULTY OF SCIENCE**  
**BY**  
**MISS. GAWALI SHIVANI JAYANT**

**Department of Physics, Arts, Commerce and Science College, Sonai**

**UNDER THE GUIDANCE OF**

**Prof. SHINDE R. S.**

**M.Sc. (Physics), NET, SET**

**DEPARTMENT OF PHYSICS,**  
**ARTS, COMMERCE AND SCIENCE COLLEGE, SONAI**

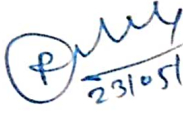
**MARCH-2023**

Seat No.

**SAVITRIBAI PHULE PUNE UNIVERSITY, PUNE**

**BONAFIDE CERTIFICATE**

This is to certify that the work incorporated in the project report entitled SMOKE DETECTOR submitted to Savitribai Phule Pune University, Pune is benefited work of Miss. GAWALI SHIVANI JAYANT of M.Sc. (Physics) during the academic year 2022-23, who carried out the project work under my supervision.

  
23/05/2023

**Prof. Shinde R. S.**

**Guide**

Department of Physics

Arts, Commerce and Science College,

Sonai-414105



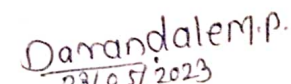
**Dr. Sadekar H.K.**

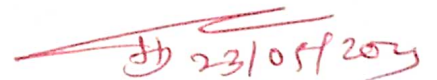
**Head**

Department of Physics

Arts, Commerce and Science College,

Sonai-414105

  
23/05/2023  
**Damandale M.P.**  
Internal Examiner

  
23/05/2023  
**External Examiner**



## ACKNOWLEDGEMENT

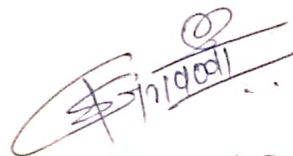
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Place: Sonai

Date: /05/2023



Signature of Research Student

Miss. GAWALI SHIVANI JAYANT

(M.Sc. Physics)

**GROWTH AND CHARACTERIZATION OF CuS THIN  
FILMS BY CHEMICAL BATH DEPOSITION  
A PROJECT REPORT SUBMITTED TO  
SAVITRIBAI PHULE PUNE UNIVERSITY,  
PUNE**



FOR THE DEGREE OF  
**MASTER OF SCIENCE IN  
PHYSICS**

UNDER THE FACULTY OF SCIENCE

BY

**Miss. AGHADE RUTUJA VILAS**

*Department of Physics, Arts, Commerce and Science College, Sonai*

UNDER THE GUIDANCE OF

**Dr. SADEKAR H.K**

DEPARTMENT OF PHYSICS,  
ARTS, COMMERCE AND SCIENCE COLLEGE, SONAI  
SONSI-414105

**2022-23**

Seat No.

SAVITRIBAI PHULE PUNE UNIVERSITY

BONAFIDE CERTIFICATE

This is to certify that the work incorporated in the project report entitled "Growth and Characterization of CuS Thin Films by Chemical Bath Deposition" submitted to Savitribai Phule Pune University, Pune, is benefited work of **Mis Aghade Rutuja Vilas** of during the academic year 2022-23, who carried out the project work under my supervision



Dr. Sadekar H.K.

Department of Physics  
Arts, Commerce and Science College  
Sonai-414105

Date-

*Dorandale M.P.*  
*23/05/2023*  
Internal Examiner

Date



Dr. Sadekar H.K.

Head  
Department of Physics  
Arts, Commerce and Science College,  
Sonai-414105

*Dr. Sadekar H.K.*  
*23/05/2023*  
External Examiner

External Examiner



## ACKNOWLEDGEMENT

I wish to thank the Principal **Dr. Shankar Laware** of my college for permitting me to use all the facilities available in the institution for my project work. I would also like thank the Head of the Physics Department **Dr. Sadekar H.K.**, the teaching faculty and all the non-teaching staff of my college for their support in completing the work successfully.

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Place: Sonai

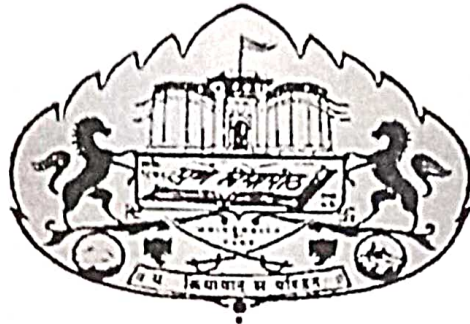
Date: 23-05-2023



Signature of Research Student

Miss. Aghade Rutuja  
Vilas

**HEART BEAT MOTION**  
A PROJECT REPORT SUBMITTED TO  
**SAVITRIBAI PHULE PUNE UNIVERSITY,**  
**PUNE**



**FOR THE DEGREE OF**  
**MASTER OF SCIENCE**  
**IN**  
**PHYSICS**  
**UNDER THE FACULTY OF SCIENCE**  
**BY**

**MISS. GHODECHOR DNYANESHWARI NAMDEV**

**Department of Physics, Arts, Commerce and Science College, Sonai**

**UNDER THE GUIDANCE OF**

**Prof. SHINDE R. S.**

**M.Sc. (Physics), NET, SET**

**DEPARTMENT OF PHYSICS,**  
**ARTS, COMMERCE AND SCIENCE COLLEGE, SONAI**

**MARCH-2023**

Seat No.

**SAVITRIBAI PHULE PUNE UNIVERSITY, PUNE**

**BONAFIDE CERTIFICATE**

This is to certify that the work incorporated in the project report entitled **HEART BEAT MOTION** submitted to Savitribai Phule Pune University, Pune is benefited work of **Miss. Ghodechor Dnyaneshwari Namdev** of M.Sc. (Physics) during the academic year 2022-23, who carried out the project work under my supervision.



**Prof. Shinde R. S.**

**Guide**

Department of Physics

Arts, Commerce and Science College,

Sonai-414105



**Dr. Sadekar H.K.**

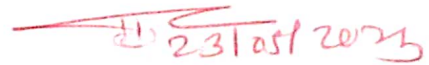
**Head**

Department of Physics

Arts, Commerce and Science College,

Sonai- 414105

Internal Examiner



External Examiner



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## ACKNOWLEDGEMENT

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Place: Sonai

Date: 23/05/2023

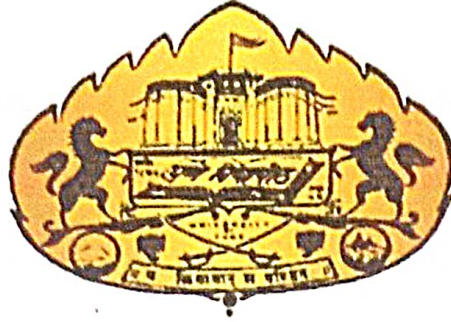
Signature of Research Student

Miss. Ghodechor Dnyaneshwari Namdev

(M.Sc. Physics)

---

**LOCKER SECURITY ALARM**  
A PROJECT REPORT SUBMITTED TO  
**SAVITRIBAI PHULE PUNE UNIVERSITY,**  
**PUNE**



**FOR THE DEGREE OF**  
**MASTER OF SCIENCE**  
**IN**  
**PHYSICS**

**UNDER THE FACULTY OF SCIENCE**  
**BY**

**MISS. KAJALE SHITAL ABASAHEB**

**Department of Physics, Arts, Commerce and Science College, Sonai**

**UNDER THE GUIDANCE OF**  
**Prof. SHINDE R. S.**

**M.Sc. (Physics), NET, SET**

**DEPARTMENT OF PHYSICS,**  
**ARTS, COMMERCE AND SCIENCE COLLEGE, SONAI**

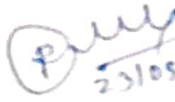
**MARCH-2023**

Seat No.

SAVITRIBAI PHULE PUNE UNIVERSITY, PUNE

## BONAFIDE CERTIFICATE

This is to certify that the work incorporated in the project report entitled LOCKER SECURITY ALARM submitted to Savitribai Phule Pune University, Pune is benefited work of Miss. Kajale Shital Abasaheb of M.Sc. (Physics) during the academic year 2022-23 who carried out the project work under my supervision.

  
23/05/2023

Prof. Shinde R. S.

Guide

Department of Physics

Arts, Commerce and Science College,

Sonai-414105



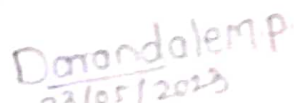
Dr. Sadekar H.K.


Head

Department of Physics

Arts, Commerce and Science College,

Sonai-414105

  
23/05/2023  
Internal Examiner

  
23/05/2023  
External Examiner

## ACKNOWLEDGEMENT

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Place: Sonai

Date: 29/05/2022



Signature of Research Student

Miss. Kajale Shital Abasaheb

(M.Sc. Physics)



**“AUTOMATIC PLANT IRRIGATION SYSTEM AND LIGHT  
CONTROL SYSTEM USING ARDUINO UNO”**

A PROJECT REPORT SUBMITTED TO  
**SAVITRIBAI PHULE PUNE UNIVERSITY,**  
**PUNE**



**FOR THE DEGREE OF  
MASTER OF SCIENCE**

**IN**

**PHYSICS**

**UNDER THE FACULTY OF SCIENCE**

**BY**

**MISS. PRATIKSHA DINKAR LANDE**

Department of Physics, Arts, Commerce and Science College, Sonai

**UNDER THE GUIDANCE OF**

**Prof. Darandale A. A.**

M.Sc. (Physics)

**DEPARTMENT OF PHYSICS,  
ARTS, COMMERCE AND SCIENCE COLLEGE, SONAI**

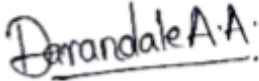
**MARCH-2023**

Seat No.

**SAVITRIBAI PHULE PUNE UNIVERSITY, PUNE**

**BONAFIDE CERTIFICATE**

This is to certify that the work incorporated in the project report entitled AUTOMATIC PLANT IRRIGATION SYSTEM AND LIGHT CONTROL SYSTEM USING ARDUINO UNO submitted to Savitribai Phule Pune University, Pune is benefited work of **Miss. Pratiksha Dinkar Lande** of M.Sc. (Physics) during the academic year 2022-23, who carried out the project work under my supervision.



**Prof. Darandale A. A**

**Guide**

Department of Physics

Arts, Commerce and Science College,

Sonai-414105



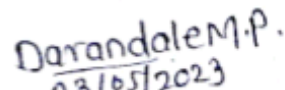
**Dr. Sadekar H.K.**

**Head**

Department of Physics

Arts, Commerce and Science College,

Sonai-414105

  
23/05/2023  
**Internal Examiner**

  
23/05/2023  
**External Examiner**

## ACKNOWLEDGEMENT

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Place: Sonai

Date: /05/2023



Signature of Research Student

Miss. Pratiksha Dinkar Lande

(M.Sc. Physics)

**AUTOMATIC STREET LIGHT**  
A PROJECT REPORT SUBMITTED TO  
**SAVITRIBAI PHULE PUNE UNIVERSITY,**  
**PUNE**



**FOR THE DEGREE OF**  
**MASTER OF SCIENCE**  
**IN**  
**PHYSICS**  
**UNDER THE FACULTY OF SCIENCE**  
**BY**  
**MISS. SAWAI SARITA MOHAN**  
**Department of Physics, Arts, Commerce and Science College, Sonai**  
**UNDER THE GUIDANCE OF**  
**Prof. Darandale M.P.,**  
**M.Sc. (Physics),**  
**DEPARTMENT OF PHYSICS,**  
**ARTS, COMMERCE AND SCIENCE COLLEGE, SONAI**  
**MARCH-2023**



Seat No.

**SAVITRIBAI PHULE PUNE UNIVERSITY, PUNE**

**BONAFIDE CERTIFICATE**

This is to certify that the work incorporated in the project report entitled AUTOMATIC PLANT IRRIGATION submitted to Savitribai Phule Pune University, Pune is benefited work of Miss. Sawai Sarita Mohan of M.Sc. (Physics) during the academic year 2022-23, who carried out the project work under my supervision.

*Darandale M.P.*  
*23/05/2023*

**Prof. Darandale M.P**

**Guide**

Department of Physics

Arts, Commerce and Science College,

Sonai-414105



**Dr. Sadekar H.K.**

**Head**

Department of Physics

Arts, Commerce and Science College,

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*Darandale M.P.*  
*23/05/2023*  
**Internal Examiner**

*[Signature]*  
*23/05/2023*  
**External Examiner**

## ACKNOWLEDGEMENT

I wish to thank the Principal **Dr. Shankar Laware** of my college for permitting me to use all the facilities available in the institution for my project work. I would also like thank the Head of the Physics Department **Dr. Sadekar H.K.**, the teaching faculty and all the Non-teaching staff of my college for their support in completing the work successfully.

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Place: Sonai

Date: 23/05/2022



Signature of Research Student

Miss. Sawai Sarita Mohan

(M.Sc. Physics)

**IR PROXIMITY SENSOR**  
A PROJECT REPORT SUBMITTED TO  
**SAVITRIBAI PHULE PUNE UNIVERSITY,**  
**PUNE**



**FOR THE DEGREE OF**  
**MASTER OF SCIENCE**  
**IN**  
**PHYSICS**  
**UNDER THE FACULTY OF SCIENCE**  
**BY**

**MISS. TEKALE VAISHNAVI SAMBHAJI**

**Department of Physics, Arts, Commerce and Science College, Sonai**

**UNDER THE GUIDANCE OF**  
**Prof. DARANDALE.A.A**

**M.Sc. (Physics)**

**DEPARTMENT OF PHYSICS,**  
**ARTS, COMMERCE AND SCIENCE COLLEGE, SONAI**

**APRIL-2023**



Seat No.

201886

**SAVITRIBAI PHULE PUNE UNIVERSITY, PUNE**

**BONAFIDE CERTIFICATE**

This is to certify that the work incorporated in the project report entitled IR Proximity sensor submitted to Savitribai Phule Pune University, Pune is benefited work of **Miss. Tekale Vaishnavi Sambhaji** of M.Sc. (Physics) during the academic year 2022-23 who carried out the project work under my supervision.

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## ACKNOWLEDGEMENT

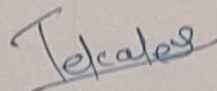
I wish to thank the Principal **Dr. Shankar Laware** of my college for permitting me to use all the facilities available in the institution for my project work. I would also like thank the Head of the Physics Department **Dr. Sadekar H.K.**, the teaching faculty and all the Non-teaching staff of my college for their support in completing the work successfully.

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Place: Sonai

Date: 05/2023



Signature of Research Student

Miss. Tekale vaishnavi sambhaji

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