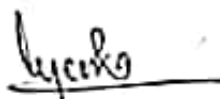


## CERTIFICATE

This is to certify that the project report titled "ANTI-BAG SNATCHING ALARM" is a bonafide record of the work done by SHISHIRA S NAIR under my guidance at the Department of Physics, Sacred Heart College, Thevara in partial fulfilment of B.Sc Physics degree course of Mahatma Gandhi University Kottayam.



**Dr. SIBY MATHEW**  
Associate Professor  
Department of Physics  
Sacred Heart College, Thevara



**Prof. V M GEORGE**  
Head of  
Department of Physics  
Sacred Heart College, Thevara


**CERTIFICATE**

This is to certify that the project work entitled "SUN TRACKING SOLAR PANEL" is the bonafide work done by JYOTHS JOB Y and ANSIA JOSE under my guidance at the Department of Physics , Sacred Heart College , Thevara in partial fulfillment of BSc Physics degree course of Mahatma Gandhi University Kottayam .

  
Dr. sibymathew

Assistant Professor  
Department of Physics  
Sacred Heart College  
.Thevara



  
Dr. V. M. George  
Head of Department  
Department of Physics  
Sacred Heart College  
.Thevara

SACRED HEART COLLEGE

THEVARA

CERTIFICATE

This is to certify that this report on "ARDUINO CAR-BLUETOOTH CONTROL" is a bonafide record of the project work done by ANNIE JACOB, RITU MARY POLY PARAMBI, and ANAGHA JOBY during the sixth semester in the year 2019 at Sacred Heart college, Thevara in partial fulfilment of the requirement for the award of bachelor's degree in physics from MG University, Kottayam.

Annie Jacob -16UPHY4531

Ritu Mary Poly Parambi -16UPHY4541

Anagha Joby -16UPHY4566



*V.M. George*

Head of the Department  
V.M. George  
Associate Professor  
Dept of Physics  
Sacred Heart  
College, Thevara.

*Dr. Siby Mathew*

Teacher In charge  
Dr. Siby Mathew  
Associate Professor  
Dept of PHYSICS  
Sacred Heart  
College, Thevara

**SACRED HEART COLLEGE (AUTONOMOUS)**

**THEVARA, KOCHI-682013**

**MARCH 2019**



**SACRED  
HEART  
COLLEGE**  
Autonomous



**SACRED HEART COLLEGE (AUTONOMOUS)**

**THEVARA, KOCHI-682013**

**DEPARTMENT OF PHYSICS**

**CERTIFICATE**

This to certify that the project report titled "HOME AUTOMATION USING ARDUINO UNO" is a bonafide record of the work done by ALFRED MANUEL (16UPHY4555), LEON NOBLE(16UPHY4505), ROSE VENEETHS BIVERA(16UPHY4553) of final year B.Sc Physics under our supervision during the academic year 2018-2019.

Signature

A handwritten signature in blue ink, appearing to read 'V M George', written over a horizontal line.

**Prof. V M GEORGE**

**HEAD OF THE DEPARTMENT**

**DEPARTMENT OF PHYSICS**

DATE:

PLACE:THEVARA

Signature

A handwritten signature in blue ink, appearing to read 'Siby Mathew', written over a horizontal line.

**Dr. SIBY MATHEW**

**ASSOCIATE PROFESSOR**

**DEPARTMENT OF PHYSICS**







Department of Physics  
Sacred Heart College, Thevara

**CERTIFICATE**

*This is to certify that Mr. Tojo M. Chacko has satisfactorily completed the project entitled Dielectric probing of novel reprocessible rubber ionomers at Sacred Heart College, Thevara in partial fulfillment of the requirement for the award of the degree of Master of Science in Physics during the academic year 2009-11.*

Dr. Siby Mathew

Professor in charge

Prof. A. Varadarajan

Head of the Department



Department of Physics  
Sacred Heart College, Thevara

### **CERTIFICATE**

*This is to certify that Miss.Saumya Joseph has satisfactorily completed the project entitled "Growth and Characterization of  $K_3Na(SO_4)_2$ " at Sacred Heart College, Thevara in partial fulfillment of the requirement for the award of the degree of Master of science in physics during the academic year 2009-11.*

**Dr. Siby Mathew**

Lecturer in charge

**Dr. Georgekutty Joseph**

Project guide

**Prof. A. Varadarajan**

Head of the department

## CERTIFICATE

This is to certify that the project work entitled "BLUETOOTH CONTROLLED AND OBSTACLE AVOIDING ARDUINO ROVER" is an authentic record of work carried out by NEENU MATHEW (REG. NO. 16UPHY4562), under my guidance and supervision, in the department of physics, Sacred Heart College, Thevara, during the period 2018-2019 in partial fulfilment of the degree of Bachelor of Science in Physics of Mahatma Gandhi University, Kottayam. I further certify that no part of the work embodied in this project work has been submitted for the award of any other degree or diploma.



Dr. Siby Mathew

Associate Professor

Department of Physics

Sacred Heart (Autonomous) Coll

Thevara

Place:

Date:



SACRED HEART COLLEGE, THEVARA

**CERTIFICATE**

This is to certify that this report on "BLIND STICK" is a bonafide record of the project work done by HARIKRISHNAN R & ANTONY RONALD CORREYA during the sixth semester in the year 2016-2019 at Sacred Heart College, Thevara in partial fulfilment of the requirement for the award of Bachelor's degree in Physics from M.G University, Kottayam.

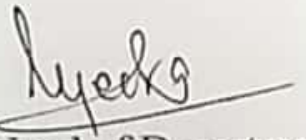
Class No: 4540 & 4542

Regd No: 16UPHY4540 & 16UPHY4542



Teacher in charge

Prof. Siby Mathew



Head of Department

Prof. V.M George



Department of Physics  
Sacred Heart College, Thevara.





SACRED HEART COLLEGE, THEVARA

CERTIFICATE

This is to certify that this report on "BLIND STICK" is a bonafide record of the project work done by HARIKRISHNAN R & ANTONY RONALD CORREYA during the sixth semester in the year 2016-2019 at Sacred Heart College, Thevara in partial fulfilment of the requirement for the award of Bachelor's degree in Physics from M.G University, Kottayam.

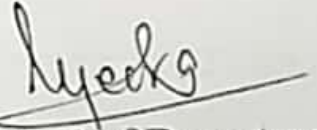
Class No: 4540 & 4542

Regd No: 16UPHY4540 & 16UPHY4542



Teacher in charge

Prof. Siby Mathew



Head of Department

Prof. V.M George



Department of Physics  
Sacred Heart College, Thevara.



**SACRED HEART COLLEGE (AUTONOMOUS)**

**Thevara, Kochi – 682 013**



**SACRED  
HEART  
COLLEGE**  
Autonomous



**DEPARTMENT OF PHYSICS**

**CERTIFICATE**

This is to certify that the project report titled “**BIDIRECTIONAL VISITOR COUNTER**” is a bonafide record of the work done by **VANDANA S** and **VIDULA J** of final year B.Sc. Physics towards the fulfillment of the requirement for the award of the Degree of Bachelor of Science under our supervision during the academic year 2018– 2019.

Handwritten signature of Dr. Siby Mathew in blue ink.

**SIGNATURE**

**Dr.SIBY MATHEW**

**ASSOCIATE PROFESSOR**

**DEPARTMENT OF PHYSICS**

Handwritten signature of Dr. V.M. George in blue ink.

**SIGNATURE**

**Dr.V.M.GEORGE**

**HEAD OF DEPARTMENT**

**DEPARTMENT OF PHYSICS**

DATE :

PLACE: THEVARA



MARCH 2019



SACRED  
HEART  
COLLEGE  
Autonomous



**SACRED HEART COLLEGE (AUTONOMOUS)**

**THEVARA, KOCHI-682013**

**DEPARTMENT OF PHYSICS**

**CERTIFICATE**

This to certify that the project report titled "AUTOMATIC STREETLIGHT USING ARDUINO UNO" is a bonafide record of the work done by KIRAN BABU (16UPHY4543), VINEETH T V (16UPHY4557) of final year B.Sc Physics under our supervision during the academic year 2018-2019.

Signature

A handwritten signature in black ink, appearing to read 'V M George'.

**Prof. V M GEORGE**  
HOD PHYSICS

Signature

A handwritten signature in blue ink, appearing to read 'Siby Mathew'.

**Dr. SIBY MATHEW**





DEPARTMENT OF PHYSICS  
SACRED HEART COLLEGE, THEVARA


**CERTIFICATE**

This is to certify that this report on "Colour Separation using Arduino and TCS3200 Colour Sensor" is a bona fide record of the project work done by ANAND MENON and ARUN VARADARAJAN during the sixth semester in the year 2018-19 at Sacred Heart College, Thevara in a partial fulfillment of the requirement for the award of Bachelor's degree in Physics from M. G. University, Kottayam.



**Dr. Siby Mathew**

Professor-in-Charge



**Prof. V. M. George**

Head of the Department





**CERTIFICATE**

This is to certify that the project report titled ' DATA TRANSFER THROUGH LIGHT (LI-FI)- LIGHT FIDELITY ) ' is a bonafide record of the work done by VISHNU VJUU of final year BSc Physics under our supervision during the academic year 2018 - 2019 of Sacred Heart College Thevara in partial fulfillment of B.Sc. Physics degree course of Mahatma Gandhi University Kottayam .



**SIGNATURE**

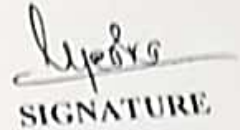
**Dr. SIBI MATHEW**

**ASSOCIATE PROFESSOR**

**DEPARTMENT OF PHYSICS**

**SACRED HEART COLLEGE,**

**THEVARA**



**SIGNATURE**

**Prof. V.M. GEORGE**

**HEAD**

**DEPARTMENT OF PHYSICS**

**SACRED HEART COLLEGE,**

**THEVARA**


**DATE:**

**PLACE: THEVARA**



**CERTIFICATE**

This is to certify that the project work entitled "Density based automated Traffic Signal Using Arduino" is an authentic record of work carried out by AKHIL V. ARJUN PRAKASH K, under the guidance of DCS Robotics, Aluva during the period of 2018-2019 in partial fulfillment of the degree of Bachelor of Science in Physics Of Mahatma Gandhi University



Dr . Siby Mathew

Department of Physics

SH College Thevara

Place:

Date :



Department of Physics

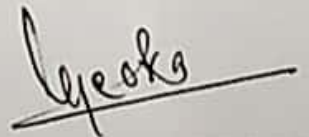
Sacred Heart College, Thevara

# CERTIFICATE

This is to certify that the project report titled "ACOUSTIC LEVITATOR" is a bonafide record of the work done by the following students, Amala Tomy, Abinaya A Kamath and Agatha Cyriac, under my guidance at the Department of Physics, Sacred Heart College, Thevara in partial fulfilment of B.Sc Physics degree course of Mahatma Gandhi University Kottayam.



**Dr.SIBY MATHEW**  
Associate Professor  
Department of physics  
Sacred Heart College, Thevara



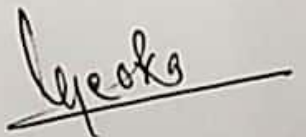
**Prof. V.M.GEORGE**  
Head  
Department of Physics  
Sacred Heart College, Thevara

## CERTIFICATE

This is to certify that the project report titled "ACOUSTIC LEVITATOR" is a bonafide record of the work done by the following students, Amala Tomy, Abinaya A Kamath and Agatha Cyriac, under my guidance at the Department of Physics, Sacred Heart College, Thevara in partial fulfilment of B.Sc Physics degree course of Mahatma Gandhi University Kottayam.



Dr.SIBY MATHEW  
Associate Professor  
Department of physics  
Sacred Heart College, Thevara



Prof. V.M.GEORGE

Head

Department of Physics  
Sacred Heart College, Thevara





SACRED  
HEART  
COLLEGE  
Autonomous



DEPARTMENT OF PHYSICS  
CERTIFICATE

This is to certify that the project report titled "ALCOHOL BREATH ANALYZER" is a bonafide record of the work done by **VARGHESE FRANCIS** and **KRISHANANUNILM** of final year B.Sc. Physics under our supervision during the academic year 2018-2019.

SIGNATURE

Dr. SIBY MATHEW

ASSOCIATE PROFESSOR,

DEPARTMENT OF PHYSICS

DATE: 19-04-2019

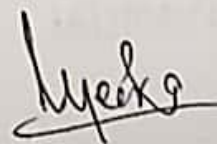
PLACE: THEVARA

## CERTIFICATE

This is to certify that the project work entitled "SOIL MOISTURE SENSOR USING ARUDINO" is the bonafide work done by THOMAS D POOMATTAM and ASWIN V SANTHOSH under my guidance at the Department of Physics, Sacred Heart College, Thevara in partial fulfilment of BSc Physics degree course of Mahatma Gandhi University Kottayam.



Dr Siby Mathew  
Asst. Professor  
Department of Physics  
Sacred Heart College, Thevara



Prof. V M George  
Head of the Department  
Department of Physics  
Sacred Heart College, Thevara

# CERTIFICATE

2

This is to certify that the printed work entitled 'AUTOMATIC DOOR BELL USING OBJECT DETECTION' the bonafide work done by Lakshmi V Bhat & Supriya S under my guidance at the department of Physics, Sacred heart College, Thevara in partial fulfilment of B.Sc. Physics degree course of Mahatma Gandhi University Kottayam.

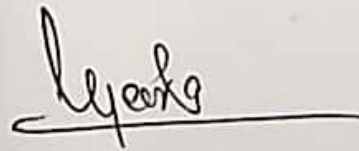


Dr. SIBY MATHEW

Associate Professor

Department of physics

Sacred Heart College, Thevara



Prof. V.M. GEORGE

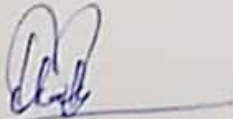
Associate Professor

Department of Physics

Sacred Heart College, Thevara

## CERTIFICATE

This is to certify that the project work entitled "**CORDLESS FREQUENCY MODULATION MIC**" is an authentic record of work carried out by DAYANA JOY of final B.Sc Physics for the year 2016-2019, Sacred Heart College, Thevara and submitted in partial fulfillment of requirement to award the degree of Bachelor of Science in Physics of Mahatma Gandhi University, Kottayam.

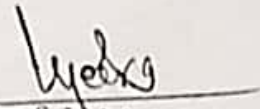


Dr. SIBY MATHEW

Class-in-charge

Department of Physics

Sacred Heart College, Thevara



Prof. V.M. GEORGE

Head of the Department

Department of Physics

Sacred Heart College, Thevara



## CERTIFICATE

This is to certify that the project work entitled "CORDLESS FREQUENCY MODULATION MIC" is an authentic record of work carried out by DAYANA JOY of final B.Sc Physics for the year 2016-2019, Sacred Heart College, Thevara and submitted in partial fulfillment of requirement to award the degree of Bachelor of Science in Physics of Mahatma Gandhi University, Kottayam.

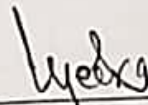


Dr. SIBY MATHEW

Class-in-charge

Department of Physics

Sacred Heart College, Thevara



Prof. V.M. GEORGE

Head of the Department

Department of Physics

Sacred Heart College, Thevara

# CERTIFICATE

This is to certify that the project report titled "MOISTURE VARIABLES" is a bonafide record of the work done by Arathy Anilkumar of final year B.Sc. Physics under our supervision during the academic year 2018 – 2019.



**SIGNATURE**

**Dr. SIBY MATHEW**

**ASSOCIATE PROFESSOR**

**DEPARTMENT OF PHYSICS**

**SIGNATURE**

**Dr. V.M.GEORGE**

**HEAD OF DEPARTMENT**

**DEPARTMENT OF PHYSICS**



SACRED  
HEART  
COLLEGE  
Autonomous



SACRED HEART COLLEGE (AUTONOMOUS)  
THEVARA, KOCHI - 14  
Tel: 0484-266330  
Fax: 0484-266313  
Email ID: [office@shcollege.ac.in](mailto:office@shcollege.ac.in)  
[www.shcollege.ac.in](http://www.shcollege.ac.in)

## CERTIFICATE

This is to certify that the Project Work titled "CELL PHONE DETECTOR" is a bona fide work of Ms. Irin Babu and Ms. Niranjana N carried out in partial fulfillment of the requirements for the award of the degree of B.Sc. Physics of Mahatma Gandhi University under my guidance. This project work is original and not submitted earlier for the award of any degree/diploma or assistantship of any other University / Institution.

Dr. Siby Mathew

Associate Professor,

Department of Physics,

Sacred Heart College Thevara, Koch

Place: Thevara

Date: 17-04-2019



# **ARDUINO CAR-BLUETOOTH CONTROL CAMERA**

**ANNIE JACOB 16UPHY4531**  
**RITU MARY POLY PARAMBI 16UPHY4541**  
**ANAGHA JOBY 16UPHY4566**

**SACRED HEART COLLEGE, THEVARA**



**PROJECT REPORT submitted to Mahatma Gandhi  
University, Kottayam in partial fulfilment of the  
requirements for the award of the degree of  
Bachelor of Science in PHYSICS**

**JAN 2019**  
**DEPARTMENT OF PHYSICS**

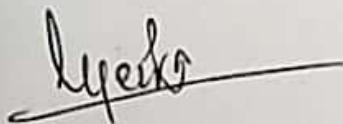
SACRED HEART COLLEGE  
THEVARA

CERTIFICATE

This is to certify that this report on "ARDUINO CAR-BLUETOOTH CONTROL" is a bonafide record of the project work done by ANNIE JACOB, RITU MARY POLY PARAMBI, and ANAGHA JOBY during the sixth semester in the year 2019 at Sacred Heart college, Thevara in partial fulfilment of the requirement for the award of bachelor's degree in physics from MG University, Kottayam.

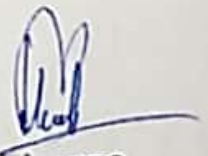
Annie Jacob	-16UPHY4531
Ritu Mary Poly Parambi	-16UPHY4541
Anagha joby	-16UPHY4566





Head of the Department

V.M. George  
Associate Professor  
Dept of Physics  
Sacred Heart  
College, Thevara.



Teacher In charge  
Dr. Siby Mathew  
Associate Professor  
Dept of PHYSICS  
Sacred Heart  
College, Thevara

**BIDIRECTIONAL VISITOR COUNTER**  
**PROJECT REPORT**

Submitted by,

VANDANA S -16UPHY4538

VIDULA J -16UPHY4520

in partial fulfillment for the award of the degree

of

**BACHELOR OF SCIENCE**

in

**PHYSICS**



**SACRED HEART COLLEGE (AUTONOMOUS)**  
**THEVARA, KOCHI - 682 013**

**APRIL 2019**

Affiliated to Mahatma Gandhi University



**SACRED HEART COLLEGE (AUTONOMOUS)**

Thevara, Kochi – 682 013



**SACRED  
HEART  
COLLEGE**  
Autonomous



**DEPARTMENT OF PHYSICS**

**CERTIFICATE**

This is to certify that the project report titled “**BIDIRECTIONAL VISITOR COUNTER**” is a bonafide record of the work done by **VANDANA S** and **VIDULA J** of final year B.Sc. Physics towards the fulfillment of the requirement for the award of the Degree of Bachelor of Science under our supervision during the academic year 2018– 2019.

Handwritten signature of Dr. Siby Mathew in blue ink.

**SIGNATURE**

**Dr.SIBY MATHEW**

**ASSOCIATE PROFESSOR**

**DEPARTMENT OF PHYSICS**

Handwritten signature of Dr. V.M. George in blue ink.

**SIGNATURE**

**Dr.V.M.GEORGE**

**HEAD OF DEPARTMENT**

**DEPARTMENT OF PHYSICS**

DATE :

PLACE: THEVARA



# **Blind stick Using Arduino**

**HARIKRISHNAN R**

Regd No: 16UPHY4540

**&**

**ANTONY RONALD CORREYA**

Regd No: 16UPHY4542

**Submitted to Mahatma Gandhi University in partial fulfilment of  
The requirement for the award of the degree of**

**Bachelor of Science in Physics**



**DEPARTMENT OF PHYSICS  
SACRED HEART COLLEGE  
THEVARA, COCHIN**

DEPARTMENT OF PHYSICS  
SACRED HEART COLLEGE, THEVARA

CERTIFICATE

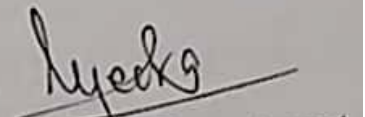
This is to certify that this report on "BLIND STICK" is a bonafide record of the project work done by HARIKRISHNAN R & ANTONY RONALD CORREYA during the sixth semester in the year 2016-2019 at Sacred Heart College, Thevara in partial fulfilment of the requirement for the award of Bachelor's degree in Physics from M.G University, Kottayam.

Class No: 4540 & 4542

Regd No: 16UPHY4540 & 16UPHY4542



Teacher in charge  
Prof. Siby Mathew



Head of Department  
Prof. V.M George

Department of Physics  
Sacred Heart College, Thevara.





# HOME AUTOMATION USING ARDUINO UNO

PROJECT REPORT

Submitted by

ALFRED MANUEL

REG NO: 16UPHY4555

LEON NOBLE

REG NO:16UPHY4505

ROSE VENEETHA BIVERA

REG NO:16UPHY4553

in partial fulfillment of the award of the degree of

## BACHELOR OF SCIENCE

IN

## PHYSICS



SACRED  
HEART  
COLLEGE  
Autonomous



**SACRED HEART COLLEGE (AUTONOMOUS)**  
**THEVARA, KOCHI-682013**

**MARCH 2019**



**SACRED  
HEART  
COLLEGE**  
Autonomous



**SACRED HEART COLLEGE (AUTONOMOUS)**

**THEVARA, KOCHI-682013**

**DEPARTMENT OF PHYSICS**

**CERTIFICATE**

This to certify that the project report titled "HOME AUTOMATION USING ARDUINO UNO" is a bonafide record of the work done by ALFRED MANUEL (16UPHY4555), LEON NOBLE (16UPHY4505), ROSE VENEETHS BIVERA (16UPHY4553) of final year B.Sc Physics under our supervision during the academic year 2018-2019.

Signature

A handwritten signature in black ink, appearing to read 'V M George', written over a horizontal line.

Signature

A handwritten signature in blue ink, appearing to read 'Siby Mathew', written over a horizontal line.

**Prof. V M GEORGE**

**Dr. SIBY MATHEW**

**HEAD OF THE DEPARTMENT**

**ASSOCIATE PROFESSOR**

**DEPARTMENT OF PHYSICS**

**DEPARTMENT OF PHYSICS**

DATE:

PLACE: THEVARA



# **ANTI-BAG SNATCHING ALARM**

**SHISHIRA S NAIR**

**Reg No:16UPHY4564**

**2018-19**

**Project report submitted to Mahatma Gandhi University, Kottayam  
in partial fulfilment for award of the degree of**

***Bachelor of Science (Physics)***



**Department of Physics**

**SACRED HEART COLLEGE (AUTONOMOUS), THEVARA**



## CERTIFICATE

This is to certify that the project report titled "ANTI-BAG SNATCHING ALARM" is a bonafide record of the work done by SHISHIRA S NAIR under my guidance at the Department of Physics, Sacred Heart College, Thevara in partial fulfilment of B.Sc Physics degree course of Mahatma Gandhi University Kottayam.

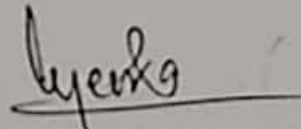


**Dr.SIBY MATHEW**

**Associate Professor**

**Department of Physics**

**Sacred Heart College, Thevara**



**Prof.V M GEORGE**

**Head of**

**Department of Physics**

**Sacred Heart College, Thevara**

# **AUTOMATIC STREETLIGHT USING ARDUINO UNO**

**PROJECT REPORT**

**Submitted by**

**KIRAN BABU(16UPHY4543)**

**VINEETH T V(16UPHY4557)**

**in partial fulfillment of the award of the degree of**

## **BACHELOR OF SCIENCE**

**IN**

## **PHYSICS**



**SACRED  
HEART  
COLLEGE**  
Autonomous



**SACRED HEART COLLEGE (AUTONOMOUS)**

**THEVARA, KOCHI-682013**



SACRED  
HEART  
COLLEGE  
Autonomous



**SACRED HEART COLLEGE (AUTONOMOUS)**

**THEVARA, KOCHI-682013**

**DEPARTMENT OF PHYSICS**

**CERTIFICATE**

This to certify that the project report titled "AUTOMATIC STREETLIGHT USING ARDUINO UNO" is a bonafide record of the work done by KIRAN BABU (16UPHY4543), VINEETH T V (16UPHY4557) of final year B.Sc Physics under our supervision during the academic year 2018-2019.

Signature

**Prof. V M GEORGE**  
HOD PHYSICS

Signature

**Dr. SIBY MATHEW**





# PROJECT REPORT

*Colour Separation using Arduino and TCS3200 Colour sensor*

Project work done by

**ANAND MENON**

**ARUN VARADARAJAN**

Reg. No.: 16UPHY4537

Reg. No.: 16UPHY4535

**SACRED HEART COLLEGE, THEVARA**

**COCHIN- 682013**



**SACRED  
HEART  
COLLEGE**  
Autonomous



*Project report submitted to M G University in partial fulfillment of the requirement for the award of*

**BACHELOR OF SCIENCE**

**In Physics**

DEPARTMENT OF PHYSICS  
SACRED HEART COLLEGE, THEVARA

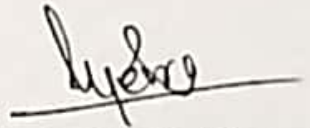
**CERTIFICATE**

This is to certify that this report on "Colour Separation using Arduino and TCS3200 Colour Sensor" is a bona fide record of the project work done by ANAND MENON and ARUN VARADARAJAN during the sixth semester in the year 2018-19 at Sacred Heart College, Thevara in a partial fulfillment of the requirement for the award of Bachelor's degree in Physics from M. G. University, Kottayam.



**Dr. Siby Mathew**

Professor-in-Charge



**Prof. V. M. George**

Head of the Department



**DATA TRANSFER THROUGH LIGHT  
(LI-FI - LIGHT FIDELITY)**

**VISHNU VIJU**

**Reg No: 16UPHY4527**

**2018-19**

**Project report submitted to Mahatma Gandhi University, Kottayam  
in partial fulfillment for award of the degree of**

**BACHELOR OF SCIENCE**

**in**

**PHYSICS**



**SACRED  
HEART  
COLLEGE**  
Autonomous



**Department of Physics**

**SACRED HEART COLLEGE THEVARA (AUTONOMOUS)**



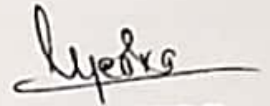
**CERTIFICATE**

This is to certify that the project report titled ' DATA TRANSFER THROUGH LIGHT ( Li-Fi :- LIGHT FIDELITY ) ' is a bonafide record of the work done by VISHNU VIJU of final year BSc Physics under our supervision during the academic year 2018 – 2019 of Sacred Heart College Thevara in partial fulfillment of B.Sc. Physics degree course of Mahatma Gandhi University Kottayam .



**SIGNATURE**

**Dr. SIBI MATHEW**  
**ASSOCIATE PROFESSOR**  
**DEPARTMENT OF PHYSICS**  
**SACRED HEART COLLEGE,**  
**THEVARA**



**SIGNATURE**

**Prof. V.M. GEORGE**  
**HEAD**  
**DEPARTMENT OF PHYSICS**  
**SACRED HEART COLLEGE,**  
**THEVARA**

**DATE:**

**PLACE: THEVARA**



**Density Based Automated Traffic Signal Using Arduino**

**A Project By**

**AKHIL V**

**Register No:16UPIIY4519**

**ARJUN PRAKASH K**

**Register No:16UPIIY4548**

**Under The Guidance Of**

**DCS Robotics, Aluva**

**Submitted to Mahatma Gandhi University in partial fulfillment of**

**The requirement for the award of the degree of**

**Bachelor of Science in Physics**



**DEPARTMENT OF PHYSICS**  
**SAVRED HEART COLLEGE, THEVARA, COCHIN**

**CERTIFICATE**

This is to certify that the project work entitled "Density based automated Traffic Signal Using Arduino" is an authentic record of work carried out by AKHIL V. ARJUN PRAKASH K, under the guidance of DCS Robotics, Aluva during the period of 2018-2019 in partial fulfillment of the degree of Bachelor of Science in Physics Of Mahatma Gandhi University

Place:

Date :



Dr . Siby Mathew

Department of Physics

SH College Thevara



Department of Physics

Sacred Heart College, Thevara



# ACOUSTIC LEVITATOR

*A project work by,*

*Amala Tomy            4503*

*Abinaya A Kamath   4511*

*Agatha Cyriac        4568*

Project report submitted to Mahatma Gandhi University, Kottayam, in partial fulfilment for award of the degree of

*Bachelor of Science (Physics)*

2016-2019



Department of Physics  
SACRED HEART COLLEGE (AUTONOMOUS),  
THEVARA.

# CERTIFICATE

This is to certify that the project report titled "ACOUSTIC LEVITATOR" is a bonafide record of the work done by the following students, Amala Tomy, Abinaya A Kamath and Agatha Cyriac, under my guidance at the Department of Physics, Sacred Heart College, Thevara in partial fulfilment of B.Sc Physics degree course of Mahatma Gandhi University Kottayam.

**Dr.SIBY MATHEW**  
Associate Professor  
Department of physics  
Sacred Heart College, Thevara



**Prof. V.M.GEORGE**  
Head  
Department of Physics  
Sacred Heart College, Thevara

# ALCOHOL BREATH ANALYZER

## PROJECT REPORT

Submitted by,

**VARGHESE FRANCIS AND KRISHANANUNNI.M**

**REG NO: 16UPHY4567 AND 16UPHY4547**

In partial fulfilment for the award of the degree

of

**BACHELOR OF SCIENCE**

in

**PHYSICS**



SACRED  
HEART  
COLLEGE  
Autonomous



SACRED HEART COLLEGE (AUTONOMOUS)

THEVARA, KOCHI - 682 013

MARCH 2019

SACRED HEART COLLEGE (AUTONOMOUS)

THEVARA, KOCHI - 682 013





SACRED  
HEART  
COLLEGE  
Autonomous



DEPARTMENT OF PHYSICS

CERTIFICATE

*This is to certify that the project report titled " ALCOHOL BREATH ANALYZER " is a bonafide record of the work done by VARGHESE FRANCIS and KRISHANANUNNI.M of final year B.Sc. Physics under our supervision during the academic year 2018-2019.*

A handwritten signature in blue ink, appearing to read 'Dr. Siby Mathew', with a horizontal line underneath.

SIGNATURE

Dr. SIBY MATHEW

ASSOCIATE PROFESSOR,

DEPARTMENT OF PHYSICS

DATE: 19-04-2019

PLACE: THEVARA

# SOIL MOISTURE SENSOR USING ARDUINO.

---

## PROJECT REPORT

Submitted by:

ASWIN V SANTHOSH 4546  
THOMAS D POOMATTAM 4565

In partial fulfillment for the degree of  
Bachelor of science(Physics)



Department of Physics

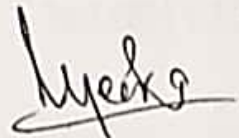
Sacred Heart College(Autonomous),Thevara

## CERTIFICATE

This is to certify that the project work entitled "SOIL MOISTURE SENSOR USING ARUDINO" is the bonafide work done by THOMAS D POOMATTAM and ASWIN V SANTHOSH under my guidance at the Department of Physics, Sacred Heart College, Thevara in partial fulfilment of BSc Physics degree course of Mahatma Gandhi University Kottayam.



Dr Sibi Mathew  
Asso. Assistant Professor  
Department of Physics  
Sacred Heart College, Thevara



Prof. V M George  
Head of the Department  
Department of Physics  
Sacred Heart College, Thevara



# **AUTOMATIC DOOR BELL USING OBJECT DETECTION**

**LAKSHMI V BHAT**  
**Reg No: 16UPHY4561**  
**SUPRIYA S**  
**Reg No: 16UPHY4509**  
**2018-19**

**PROJECT REPORT SUBMITTED TO MAHATMA GANDHI UNIVERSITY  
KOTTAYAM IN PARTIAL FULFILLMENT FOR THE DEGREE OF:**

**BACHELOR OF SCIENCE (PHYSICS)**



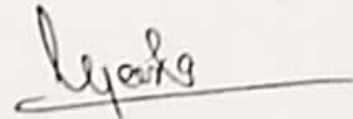
**DEPARTMENT OF PHYSICS**  
**SACRED HEART COLLEGE, THEVARA**

## CERTIFICATE

This is to certify that the printed work entitled 'AUTOMATIC DOOR BELL USING OBJECT DETECTION' the bonafide work done by Lakshmi V Bhat & Supriya S under my guidance at the department of Physics, Sacred heart College, Thevara in partial fulfilment of B.Sc. Physics degree course of Mahatma Gandhi University Kottayam.



Dr. SIBY MATHEW  
Associate Professor  
Department of physics  
Sacred Heart College, Thevara



Prof. V.M.GEORGE  
Associate Professor  
Department of Physics  
Sacred Heart College, Thevara

# MOISTURE VARIABLES

## PROJECT REPORT

Submitted by,  
**ARATHY ANILKUMAR**  
REG NO :16UPHY4554  
2018-19

in partial fulfillment for the award of the degree of  
BACHELOR OF SCIENCE  
in  
PHYSICS



**SACRED HEART COLLEGE (AUTONOMOUS)**  
**THEVARA, KOCHI - 682 013**



## CERTIFICATE

This is to certify that the project report titled "MOISTURE VARIABLES" is a bonafide record of the work done by Arathy Anilkumar of final year B.Sc. Physics under our supervision during the academic year 2018 – 2019.



A handwritten signature in blue ink, appearing to be "Siby Mathew", written over a horizontal line.

SIGNATURE

Dr. SIBY MATHEW

ASSOCIATE PROFESSOR

DEPARTMENT OF PHYSICS

A handwritten signature in blue ink, appearing to be "V.M. George", written over a horizontal line.

SIGNATURE

Dr. V.M.GEORGE

HEAD OF DEPARTMENT

DEPARTMENT OF PHYSICS

DATE :

PLACE : THEVARA

# **CELL PHONE DETECTOR**

**Dissertation Submitted to  
Department of Physics,  
Sacred Heart College (Autonomous), Thevara  
affiliated to  
Mahatma Gandhi University, Kottayam  
In partial fulfillment of the requirements for the award of the degree of  
Bachelor of Science in Physics**



**BY**

**NAME: IRIN BABU | NIRANJANA N  
REGISTER NO: 16UPHY4516 | 16UPHY4552**

**UNDER THE GUIDANCE OF  
DR. SIBY MATHEW  
DEPARTMENT OF PHYSICS,  
SACRED HEART COLLEGE (Autonomous)  
THEVARA, KOCHI**



SACRED HEART COLLEGE (AUTONOMOUS)  
THEVARA, KOCHI - 13  
Tel: 9484-2063390  
Fax: 9484-2063913  
Email ID: office@shcollege.ac.in  
www.shcollege.ac.in

# CERTIFICATE

*This is to certify that the Project Work titled "CELL PHONE DETECTOR" is a bona fide work of Ms. Irin Babu and Ms. Niranjana N carried out in partial fulfillment of the requirements for the award of the degree of B.Sc. Physics of Mahatma Gandhi University under my guidance. This project work is original and not submitted earlier for the award of any degree/diploma or assistantship of any other University / Institution.*

Dr. Siby Mathew

Associate Professor,

Department of Physics,

Sacred Heart College Thevara, Kochi

Place: Thevara

Date: 17-04-2019



# BLUETOOTH CONTROLLED AND OBSTACLE AVOIDING ARDUINO ROVER

A Project By

NEENU MATHEW

REGISTER NUMBER:16UPHY4562

SUBMITTED TO MAHATMA GANDHI UNIVERSITY, KOTTAYAM  
IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF

THE DEGREE OF  
BACHELOR OF SCIENCE IN PHYSICS



SACRED  
HEART  
COLLEGE  
Autonomous



DEPARTMENT OF PHYSICS

SACRED HEART COLLEGE

THEVARA, KOCHI-682 013, KERALA, INDIA

2019

## CERTIFICATE

This is to certify that the project work entitled "BLUETOOTH CONTROLLED AND OBSTACLE AVOIDING ARDUINO ROVER" is an authentic record of work carried out by NEENU MATHEW (REG. NO. 16UPHY4562), under my guidance and supervision, in the department of physics, Sacred Heart College, Thevara, during the period 2018-2019 in partial fulfilment of the degree of Bachelor of Science in Physics of Mahatma Gandhi University, Kottayam. I further certify that no part of the work embodied in this project work has been submitted for the award of any other degree or diploma.



Dr. Siby Mathew

Associate Professor

Department of Physics

Sacred Heart (Autonomous) College

Thevara

Place:

Date:

**SUN TRACKING SOLAR PANEL**

**PROJECT REPORT**

**SUBMITTED BY:**

**JYOTHISJOBY 4550**

**ANSHA JOSE 4533**

**IN PARTIAL FULFILMENT FOR THE DEGREE OF  
BACHELOR OF SCIENCE (PHYSICS)**



**SACRED  
HEART  
COLLEGE**  
Autonomous



**DEPARTMENT OF PHYSICS**

**SACRED HEART COLLEGE (AUTONOMOUS), THEVARA**

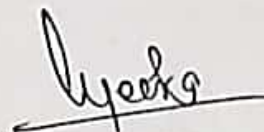


**CERTIFICATE**

This is to certify that the project work entitled "SUN TRACKING SOLAR PANEL" is the bonafide work done by JYOTHS JOBY and ANSHA JOSE under my guidance at the Department of Physics, Sacred Heart College, Thevara in partial fulfilment of BSc Physics degree course of Mahatma Gandhi University Kottayam.



Dr sibymathew  
Assistant Professor  
Department of Physics  
Sacred Heart College  
,Thevara



Dr V M George  
Head of Department  
Department of Physics  
Sacred Heart College  
,Thevara

# CORDLESS FREQUENCY MODULATION MIC

A project work by

DAYANA JOY

Reg. No.16UPHY4549

Under the guidance of

Dr. Siby Mathew

Department of Physics

Sacred Heart College, Thevara

Submitted to Mahatma Gandhi University in partial fulfillment of the requirement for the award of  
the degree of Bachelor of Science in Physics

2016-2019



DEPARTMENT OF PHYSICS

SACRED HEART COLLEGE

THEVARA, COCHIN

**Project report**

## CERTIFICATE

This is to certify that the project work entitled "**CORDLESS FREQUENCY MODULATION MIC**" is an authentic record of work carried out by DAYANA JOY of final B.Sc Physics for the year 2016-2019, Sacred Heart College, Thevara and submitted in partial fulfillment of requirement to award the degree of Bachelor of Science in Physics of Mahatma Gandhi University, Kottayam.

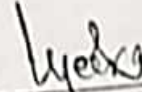


Dr. SIBY MATHEW

Class-in-charge

Department of Physics

Sacred Heart College, Thevara



Prof. V.M. GEORGE

Head of the Department

Department of Physics

Sacred Heart College, Thevara