

Department : Pure and Applied Physics				
Academic Year : 2021-22				
Sr. No.	Programme Code	Name of the Programme		
01.	B. Sc. (Electronics)	Dissertation/ Project Work Followed by Seminar (PS/ELECT/PD)		

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### Department of Pure & Applied Physics Guru Ghasidas Vishwavidyalaya, Bilaspur (C.G.) India (A central University Established by the Central Universities Act 2009 No. 25 of 2009)

A

#### **Project Report**

## On "Automatic Street Light System"

#### Submitted for Partial Fulfillment of the requirement for the Degree of

#### **Bachelor of Science in Electronics**

#### Under the Guidance

#### Dr. R.K. PANDEY

Assistant Professor Department of Pure & Applied physics Guru Ghasidas Vishwavidyalaya, Bilaspur (C.G.), 495009 INDIA

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#### ALOK JOSHI

B.SC.(Electronics)VI Semester Roll No. – 19209905 Enrollment No.– GGV/19/7024



Department of Pure & Applied Physics Guru Ghasidas Vishwavidyalaya, Bilaspur (C.G.) India (A central University Established by the Central Universities Act 2009 No. 25 of 2009)

### **DECLARATION**

I hereby declare that the work presented in the project entitled "Automatic Street Light System" submitted to the partial fulfillment of Bachelor of Science in Electronic has been performed in the Department of Pure & Applied Physics, Guru Ghasidas Vishwavidyalaya, Bilaspur (C.G.), 495009 under the Guidance of **Dr. R.K. Pandey** is truly carried out by me.

The work presented in this dissertation is original and remain intellectual property of Department of Pure and Applied Physics, Guru Ghasidas Vishwavidyalaya, Bilaspur (C.G.), 495009, INDIA.

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### Department of Pure & Applied Physics Guru Ghasidas Vishwavidyalaya, Bilaspur (C.G.) India (A central University Established by the Central Universities Act 2009 No. 25 of 2009)

## **CERTIFICATE**

This is to certify that the thesis entitled, "Automatic Street Light Control System" submitted by Alok Joshi in the partial fulfillment for the requirements for the award of Bachelor of Science Degree in Electronic at Department of Pure and Applied Physics, Guru Ghasidas Vishwavidyalaya (A Central University), Bilaspur (C.G.), 495009, INDIA is an authentic work carried out by him under my supervision and guidance.

Date: ......

Dr. R.K. Pandey

Assistant Professor Department of Pure & Applied physics

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#### **APPROVAL CERTIFICATE**

This is the certify that the project entitled "Automatic Street Light Control System" submitted by Alok Joshi is approved for the award of Bachelor of Science in Electronics.

Date: .....

**Dr. M.N. Tripathi** Head of the Department Department of Pure & Applied Physics Guru Ghasidas Vishwavidyalaya, Bilaspur (C.G.), 495009, INDIA

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- 1. Introduction
- 2. Principal
- 3. Block Diagram & Circuit Diagram
- 4. Component Description
- 5. Components Used In Circuit
- 6. Working
- 7. Uses of this project
- 8. Conclusion and scope
- 9. Bibliography

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A Project Report

# on "safe transportation route"

## Submitted for Partial Fulfillment of the requirement for the Degree of

## **Bachelor of Science in Electronics**

Under the Guidance

Associate Professor

Department of Pure & Applied

Bilaspur (C.G.), 495009 INDIA

Guru GhasidasVishwavidyalaya,

Submitted by

Dr. pradeep das

physics

Ayan thakur

B.Sc. (Electronics)VI Semester

Roll No. - 19209910 Enrollment No.- GGV/19/7047

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### DECLARATION

I hereby declare that the work presented in the project entitled "SAFE TRANSPOTATION ROUTE" submitted to the partial fulfillment of Master of Science in Electronic has been performed in the Department of Pure & Applied Physics, Guru GhasidasVishwavidyalaya, Bilaspur (C.G.), 495009 under the Guidance of Dr. PRADEEP DAS carried out by me.

The work presented in this dissertation is original and remain intellectual property of Department of Pure and Applied Physics, Guru GhasidasVishwavidyalaya, Bilaspur (C.G.), 495009, INDIA.

AYAN THAKUR

Date: .....

গ্রন্থ বুঁই এল্যুব্রেখন পাঁমিকি বিপাদ Deot. of Pure & Applied Physics তুরু যাধীরাগ বিশ্ববিধালয Cure Chasidas Vishwavidyalaya বিয়ালম্ব (চ.ম.)/Bilaspur (C.S.) B.Sc. (Electronics) VI Semester Roll No. – 19209910 Enrollment No. – GGV/19/7047



# CERTIFICATE

This is to certify that the thesis entitled, **"Safe transportation route "** submitted by **Ayan thakur** in the partial fulfillment for the requirements for the award of bachelor of Science Degree in Electronic at Department of Pure and Applied Physics, Guru GhasidasVishwavidyalaya (A Central University), Bilaspur (C.G.), 495009, INDIA is an authentic work carried out by him under my supervision and guidance.

Dr. pradeep das Date: ..... Department of Pure & Applied physics

Associate Professor

(A central University Established by the Cantral Universities Act 2009 Mo. 25 of 2009)

#### APPROVAL CERTIFICATE

This is the certify that the project entitled **"safe transportation route "**submitted by AYAN THAKUR is approved for the award of Master of Science in Electronic.

Dr. M.N TRIPATHI Head of the Department Date: ..... Department of Pure & Applied Physics Guru GhasidasVishwavidyalaya, Bilaspur (C.G.), 495009, INDIA

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# **REGULATED POWER SUPPLY**

# **BACHELOR OF SCIENCE IN ELECTRONICS**

BY

# **DEWENDRA DEWANGAN**

# ROLL NO-19209912

# **6TH SEM ELECTRONICS**

# **SUPERVISIOR**

# **DR.SP.PATEL**



विभागाध्यक्ष/H.O.D. शुद्ध एवं अनुप्रयुक्त भौतिकी विभाग Dept. of Pure & Applied Physics गुरु घासीदास विश्वविद्यालय Guru Ghasidas Vishwavidyalaya बिलासपुर (छ.ग.)/Bilaspur (C.G.)

# DEPARTMENT OF PURE AND APPLIED PHYSICS



(A central university established by the universities acts 2009 no.25 of 2009)

# **FORWARDING CERTIFICATE**

This is the certify that **Dewendra Dewangan** has carried out the project in Department of pure and applied physics, Guru Ghasidas Vishwavidyalaya, cg, on the topic, "Regulated power supply". This project is submitted for the partial fulfillment of requirement of the Degree of B.sc. in Electronics is forwarded to examiner for evalution.

I wish Him Every Success Life.

शुद्ध एवं अनुप्रयुक्त भौतिकी विभाग Dept. of Pure & Applied Physics रू घासीदास विश्वविद्यालय Guru Ghasidas Vishwavidyalaya बिलासपुर (छ.ग.)/Bilaspur (C.G.)

# Prof. M.N. TRIPATHI

Head of Department

Department of pure & applied physics

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# **CERTIFICATE**

This is the certify that thesis entiled. "Regulated Power Supply" submitted by Dewendra Dewangan in the partial fulfillment for the requirement for the award of Bachelor of Science Degree in Electronics at Department of pure and applied Physics, Guru Ghasidas Vishwavidyalaya(A Central University) bilaspur c.g 495001, INDIA is an authentic work carried out by film under my supervision and guidance.

To the best of my knowledge, the matter embodied in the

Thesis has not been submitted to any other university/insitute for the awarded of Degree of Diploma.

Dr. S.P.Patel

Department of pure & applied physics

Date.....

विभागाध्यक्ष/H.O.D. शुद्ध एवं अनुप्रयुक्त भौतिकी विभाग Dept. of Pure & Applied Physics गुरु घासीदास विश्वविद्यालय Guru Ghasidas Vishwavidyalaya बिलासपुर (छ.ग.)/Bilaspur (C.G.)

(A central university established by the universities acts 2009no.25 of 2009)

# **DECLARATION**

Herby declare that the work presented in the project entitled "Regulated Power Supply" submitted to the partial fulfillment of Bachelor of Science (Hon's in Electronics has been performed in the Department of pure &applied physics) Guru Ghasidas Vishwavidyalaya, bilaspur (c.g) under the guidance of **Dr. S.P. Patel** is truly carried out by me.

The work presented in this dissertation is original and

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विभागाध्यक्ष / H.O.D. शुद्ध एवं अनुप्रयुक्त भौतिकी विभाग Dept. of Pure & Applied Physics गुरू घासीदास विश्वविद्यालय Guru Ghasidas Vishwavidyalaya बिलासपुर (छ.ग.)/Bilaspur (C.G.)

# Dewendra Dewangan

B.sc (Electronics)6th semester

Roll no. - 19209912

Enrollment no- GGV/19/7062

Date.....

# <u>CONTENTS</u>

- introduction
- Stages of power conversion
- Component requirement
- Component description
- Circuit diagram
- Component at a glance
- After complete project
- Working principle
- Advantage
- Application
  Conclusion

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# Guru Ghasidas Vishwavidyalaya

(A Central University Established by Central Universities Act 2009 No. 25 of 2009)



# Submitted in partial fulfillment of the requirement For the

In

# **Electronics**

То

Guru Ghasidas Vishwavidyalaya Bilaspur (C.G) India

**By Garima Singh** 

19209915

**Under The Guidance Of** 

Dr. Shalinta Tigga

**Department of pure and applied physics** 

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# **GURU GHASIDAS VISHWAVIDYALAYA BILASPUR** DEPARTMENT OF PURE AND APPLIED PHYSICS (A central university established by the universities acts 2009 no.25 of 2009)

# FORWARDING CERTIFICATE

This is the certify that Garima Singh has carried out the project in Department of pure and applied physics, Guru Ghasidas Vishwavidyalaya, cg, on the topic, **"Humidity And Temperature Monitoring Sensor using Arduino ".** This project is submitted for the partial fulfillment of requirement of the Degree of B.sc. in Electronics is forwarded to examiner for evaluation.

> Dr. Shalinta Tigga Mam Department of pure &applied physics Guru Ghasidas Vishwavidyalaya, Bilaspur(C.G.)495001

Date.....

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# **GURU GHASIDAS VISHWAVIDYALAYA BILASPUR**

(A central university established by the universities acts 2009no.25 of 2009)

# CERTIFICATE

This is the certify that thesis entitled. "**Humidity And Temperature Monitoring Sensor using Arduino** " submitted by Garima Singh in the partial fulfillment for the requirement for the award of Bachelor of Science Degree in Electronics at Department of pure and applied Physics, Guru Ghasidas Vishwavidyalaya (A Central University) Bilaspur C.G 495001, INDIA is an authentic work carried out by film under my supervision and guidance.

To the best of my knowledge, the matter embodied in the Thesis has not been submitted to any other university/institute for the awarded of Degree of Diploma.

> Dr. Shalingta Tigga Department of pure & applied physics

Date.....

विभागाध्यक्ष/H.O.D. शुद्ध एवं अनुप्रयुक्त भौतिकी विभाग Dept. of Pure & Applied Physics गुरु घासीदास विश्वविद्यालय Guru Ghasidas Vishwavidyalaya बिलसपुर (छ.ग.)/Bilaspur (C.G.)



(A central university established by the universities acts 2009no.25 of 2009)

# DECLARATION

I Hereby declare that the work presented in the project entitled **"Humidity And Temperature Monitoring Sensor using Arduino** " submitted to the partial fulfillment of Bachelor of Science (Hon's in Electronics has been performed in the Department of pure & applied physics) Guru Ghasidas Vishwavidyalaya, Bilaspur (C.G) under the guidance of **Dr. Shalingta Tigga** is truly carried out by me.

The work presented in this dissertation is original and remain intellectual property of Department of pure and applied physics, Guru Ghasidas Vishwavidyalaya, Bilaspur (C.G) 495001 INDIA.

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B.sc (Electronics)6th semester Roll no. - 19209915 Enrollment no- GGV/19/7073

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विभागाध्यस/H.O.D. शुद्ध एवं अनुप्रयुक्त भौतिकी विभाग Dept. of Pure & Applied Physics गुरु घासीदास विश्वविद्यालय Guru Ghasidas Vishwavidyalaya बिलासपुर (इ.स.)/Bilaspur (C.G.)

# **CONTENTS :-**

- 1. Product used
- 2. Block Diagram
- 3. Introduction
- 4. Objective
- 5. Materials and Method
- Arduino
- Sensor
- IDE
- Setup/Connection
- 6. Coding
- 7. Result
- 8. Conclusion

Mppath विभागाध्यक्ष/H.O.D. शुद्ध एवं अनुप्रयुक्त भौतिकी विभाग Dept. of Pure & Applied Physics गुरु घासीदास विश्वविद्यालय Guru Ghasidas Vishwavidyalaya बिलासपुर (छ.ग.)/Bilaspur (C.G.)



#### **Department of Pure & Applied Physics**

#### Guru Ghasidas Vishvavidyalaya, Bilaspur (C.G.), India

(A Central University Established by Central Universities Act 2009 No. 25 of 2009)

#### Project Report

#### <u>On</u>

#### "Spectroscopy and its Application"

#### Submitted for

#### Partial Fulfillment of the Requirement for the Degree of

**Bachelor of Science** 

<u>In</u>

#### **Electronics**

Under the Guidance :

Submitted By:

DR. S. YADAV Assistant Professor Department of pure & Applied Physics Guru Ghasidas Vishwavidyalaya, Bilaspur (C.G), 495009, INDIA JANARDAN RATHORE B.sc (Electronics) VI Semester Roll No – 19209918 ENROLL NO – GGV/19/7085

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#### Session 2021-22

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#### **DECLARATION**

I hereby declare that the work present in the project entitle "Spectroscopy

And It's Application" submitted as partial fulfillment of M.SC Electronics have been preformed in

the Department of Pure And Applied Physics , GURU GHASIDAS VISHWAVIDYALAYA, BILASPUR

under the supervision of **DR. S. YADAV**, Department of Pure & Applied Physics GGV, BILASPUR(C.G).

The work present In the project dissertation is original will remain intellectual property of Department.

विभागाध्यक्ष/H.O.D. शुद्ध एवं अनुप्रयुक्त भौतिकी विभाग Dept. of Pure & Applied Physics नुरु घासीदास विश्वविदालय Guru Ghasidas Vishwavidyalaya बिलासपुर (छ.ग.)/Bilaspur (C.G.) JANARDAN RATHORE B.Sc. (Electronics) VI SEM ROLL NO – 19209918 ENROLL NO – GGV/19/7085

Session 2021-22

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## **FORWARDING CIRTIFICATE**

This is to certify that **JANARDAN RATHORE** has carried out the project in Department of Pure And Applied Physics, Guru Ghasidas Vishwavidyalaya (A Central University), Bilaspur(C.G),495009 at Topic "Spectroscopy And It's Application".

This project is submitted for the partial fulfillment of requirements of the degree of M.Sc. In Electronics is forwarded to examiner for evaluation.

I wishes him every success in life.

विभागाध्यक्ष/H.O.D. शुद्ध एवं अनुप्रयुक्त भौतिकी विभाग Dept. of Pure & Applied Physics नुरु घासीदास विश्वविद्यालय Guru Ghasidas Vishwavidyalaya बिलासपुर (छ.ग.)/Bilaspur (C.G.) DR. M. N. TRIPATHI

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#### Session 2021-22

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#### **CERTIFICATE**

This is to certify that **JANARDAN RATHORE** has carried out the topic **"Spectroscopy and It's Application"** in the Department of Pure and Applied Physics, Guru Ghasidas Vishwaavidyalaya, Bilaspur under the my supervision. She has worked diligently meticulously and methodically and collected the literature very sincerely and carefully. During this project work she has learnt few of analytical technique of communication & modulation. To the best of our knowledge the work presented in this project is original and has not been submitted anywhere. I recommended the project report to be forwarded to the respective examiner for evaluation. I wish her all success in her life & carrier.

DATE - \_\_\_\_\_

विभागाध्यक्ष /H.O.D. शुद्ध एवं अनुप्रयुक्त भौतिकी विभाग Dept. of Pure & Applied Physics गुरु घासीदास विश्वविद्यालय Guru Ghasidas Vishwavidyalaya बिलासपुर (छ.ग.)/Bilaspur (C.G.)

> DR. S. YADAV Assistant Professor Department of pure & Applied Physics Guru Ghasidas Vishwavidyalaya, Bilaspur(C.G),495009,INDIA

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# Analysis of Power Converter and Smart Power Factor Correction of FULL WAVE RECTIFIER

# K.GIRISH KUMAR (18209020)



mbipathi

विभागाध्यक्ष/H.O.D. द्र एवं अनुप्रयुक्त भौतिकी विभाग t. of Pure & Applied Physics गुकु घासीदास विआविद्यालय

Departmenter of Blasser Verwald Departme & Applied

# *Physics GURU GHASIDAS VISHWAVIDYALAYA (2020-2021)*

Analysis of Power Converter and Smart Power Factor Correction of FULL WAVE RECTIFIER

A Thesis submitted in partial fulfillment of the requirements for the degree of Bachelor of Science (Electronics)

By

K.GIRISH KUMAR (18209020)

Under the guidance of



विभागाध्यक्षं/H.O.D. शुद्ध एवं अनुप्रयुक्त भौतिकी विभाग Dept. of Pure & Applied Physics गुरू घासीदास विश्वविद्यालय Guru Ghasidas Vishwavidyalaya बिलासपुर (छ.न.)/Bilaspur (C.G.) Dr. SHALINTA TIGGA (Assistant Professor)



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# CERTIFICATE

This is to certify that the thesis entitled " Analysis of Power Converter and Smart Power Factor Correction

FULL WAVE RECTIFIER", submitted by K.GIRISH KUMAR (Roll. No. 18209020) is in partial fulfilment of the requirements for the award of Bachelor of SCIENCE(ELECTRONICS) during session 2020- 2021 at <u>GURU GHASIDAS UNIVERSITY</u> <u>BILASPUR C.G.</u>

A bonafide record of research work was carried out by them under my supervision and guidance.

The candidate have satisfied all the prescribed requirements.

**GUIDED BY** 

विभागाध्यक्ष/H.O.D. शुद्ध एवं अनुप्रयुक्त भौतिकी विभाग Dept. of Pure & Applied Physics गुरु घासीदास विश्वविद्यालय Guru Ghasidas Vishwavidyalaya बिलासपुर (छ.न.)/Bilaspur (C.G.)

SUBMITTED BY

### Dr. SHALINTA TIGGA ASSISTANT PROFESSOR

### K.GIRISH KUMAR 18209020

# DEPARTMENT OF PURE AND APPLIED PHYSICS GURU GHASIDAS UNIVERSITY BILASPUR CHHATTISGARH 495009 **Declaration**

I do hereby declare that thesis titled "Analysis of Power Converter and Smart Power Factor Correction of FULL WAVE RECTIFIER" is submitted to Department of PURE & APPLIED PHYSICS of GURU GHASIDAS UNIVERSITY BILASPUR in partial fulfillment of Bachelor of Science in Electronics. This is my original work and was not submitted anywhere else for award of any other degree or any other publication.

विभागाध्यक्ष / H.O.D

भुद्ध एवं अनुप्रयुक्त भौतिकी विभाग Dept. of Pure & Applied Physics गुरू घासीदास विश्वविद्यालय Guru Ghasidas Vishwavidyalaya बिलासपुर (छ.ग.)/Bilaspur (C.G.)

# heat issue in machine and high total harmonic distortion.



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# Introduction

At present time there is an increasing demand for efficient systems whenever we talk about power consumptions and so to keep up with these demands engineers have been coming forward developing efficient conversion techniques and also been able to design circuits with high efficiency. However, technology in this field is still improving with facing new challenges everyday.

Applications of power electronics range in size from a white a switched mode power supply in an AC adapter, battery and a supply of a supp

गुरु घासीदास विश्वविद्यालय Guru Ghasidas Vishwavidyalaya बिलासपुर (छ.ग.)/Bilaspur (C.G.)

# **LIFI(LIGHT FIDELITY)**



# **Department of Pure and Applied Physics**

# GURU GHASIDAS VISHWAVIDYALAYA

( A Central University)

# Session:-(2021-22)

SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS OF THE

DEGREE OF

## **BACHELOR OF SCIENCE IN ELECTRONICS**

Submitted by:

#### KARRA MANISHA

Roll No. - 19209922

# Enrollment-GGV/19/7094

## Under the supervision of:

**RAVINDRA KUMAR** 

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# **Forwarding Certificate**

This is to certify that **KARRA MANISHA** has carried out the project in Department of Pure and Applied Physics, Guru Ghasidas Vishwavidyalaya, (C.G.), on the Topic, **"LIFI (LIGHT FIDELITY)".** This project is submitted for the partial fulfillment of Requirements of the Degree of B.Sc. in Electronics is forwarded to examiner for evaluation.

I wish Him Every Success in Life.

PURE AND APPLIED PHYSICS, GGV, BILASPUR, CHHATTISGARH

विभागाध्यक्ष / H.O.D. शुद्ध एवं अनुप्रयुक्त भौतिकी विभाग Dept. of Pure & Applied Physics गुरू घासीदास विश्वविद्यालय Guru Ghasidas Vishwavidyalaya बिलासपुर (छ.ग.)/Bilaspur (C.G.)



Certificate

दिस विश्वविद्यालय, बिल

RU GHASIDAS VISHWAVIDYALAYA, BILASPU

(A Central University established by the Central University Act 2009 No. 25 of 2009

This is to be certified that KARRA MANISHA student of B.Sc. VI Semester, Department of Pure and Applied Physics, Guru Ghasidas Vishwavidyalaya Bilaspur, have completed his Project entitled "LIFI (LIGHT FIDELITY)". He has submitted his Project Report for the partial fulfillment of the curriculum of the Degree of B.Sc. Electronics (VI Sem) from GGV. During this project work he has learned about digital RF power amplifier board(3puls 3whatts ), speaker( 4 Ohm, 3W),2 battery, Solar cell, connecting wire ,. I recommend the project report to be forwarded for evaluation. I wish him all success in his life and career.

Date:-

शुद्ध एवं अनुप्रयुक्त भौतिकी विभाग Dept. of Pure & Applied Physics गुरु घासीदास विश्वविद्यालय Guru Ghasidas Vishwavidyalaya बिलासपुर (छ.ग.)/Bilaspur (C.G.)

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# Declaration

I hereby declare that the work present in the project entitled "LIFI (LIGHT FIDELITY)" submitted as partial fulfillment of B.Sc. Electronics have been performed in the Department of Pure And Applied Physics, Guru Ghasidas Vishwavidyalaya, Bilaspur under the supervision of **DR. RAVINDRA KUMAR** Department of Pure & Applied Physics GGV Bilaspur, (C.G.).

विभागाध्यक्ष/H.O.D. शुद्ध एवं अनुप्रयुक्त भौतिकी विभाग Dept. of Pure & Applied Physics गुरु घासीदास विश्वविद्यालय Guru Ghasidas Vishwavidyalaya बिलासपुर (छ.ग.)/Bilaspur (C.G.) KARRA MANISHA B.Sc. VI Semester, Electronics Roll no.- 19209922 Enrollment no.- GGV/19/7094
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• Advantages of lifi

•Limitation of lifi

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#### **PROJECT REPORT**

ON

#### FUNDAMENTAL & INTRODUCTION OF MICROPROCESSOR AND MICROCONTROLLER

#### Submitted for

Partial Fulfilment of Requirement for the Degree of

2021-22

**Bachelor of Science** 

In Electronics



#### DEPARTMENT OF PURE AND APPLIED PHYSICS

#### GURU GHASIDAS CENTRAL UNIVERSITY KONI, BILASPUR (C.G.) INDIA

(A Central University Established by the Central Universities Act 2009, no.25 of 2009)

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#### **SUBMITTED BY:-**

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#### CERTIFICATE

This is to certify that the report entitled "INTRODUCTION OF MICROPROCESSOR" and carried out by MANI RAM of department of pure and applied physics, GGV, Bilaspur (C.G.) for the partial fulfilment of the requirement for degree of BECHELOR OF SCEINCE IN ELECTRONICS, at GGV, BILASPUR is absolutely carried out under my supervision and guidance.

.....

.....

Profe. M.N. TRIPATHI

Department of Pure and Applied Physics

Head of Department

Pure And Applied Physics

Guru Ghasidas Central University bilaspur (C.G.)

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#### DECLARATION

I have declare that the project work entitled "INTRODUCTION AND FUNDAMENTAL OF MICROPROCESSOR" submitted to "DR. JAI SHINGH SIR", is a project report of the work done by me under the guidance of "DR. JAI SHINGH SIR", this project work submitted in partial fulfilment foe GGV. The result embodied in this thesis have not been submitted to any

other.

.....

MANI RAM

B.Sc. Elelctronics VI Semester Roll No.- 19209929 Enroll No.- GGV/19/7112

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Department of Pure & Applied Physics Guru Ghasidas Vishwavidyalaya, Bilaspur (C.G.) India (A central University Established by the Central Universities Act 2009 No. 25 of 2009)

A

**Project Report** 

On " Single Axis Solar Tracker"

Submitted for Partial Fulfillment of the requirement for the Degree of

#### **Bachelor of Science in Electronics**

Under the Guidance

#### Dr. R. K Pandey

Associate Professor Department of Pure & Applied physics Guru Ghasidas Vishwavidyalaya, Bilaspur (C.G.), 495009 INDIA

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#### Submitted by

#### Mohan mayank chauhan

B.Sc. Electronics VI semester Roll No. – 19209931 Enrollment No.– GGV/19/7118



Department of Pure & Applied Physics Guru Ghasidas Vishwavidyalaya, Bilaspur (C.G.) India (A central University Established by the Central Universities Act 2009 No. 25 of 2009)

### **DECLARATION**

I hereby declare that the work presented in the project entitled "Single Axis Solar Tracker" submitted to the partial fulfillment of Bachelor of Science in Electronic has been performed in the Department of Pure & Applied Physics, Guru Ghasidas Vishwavidyalaya, Bilaspur (C.G.), 495009 under the Guidance of **Dr. R. K Pandey is** truly carried out by me.

The work presented in this dissertation is original and remain intellectual property of Department of Pure and Applied Physics, Guru Ghasidas Vishwavidyalaya, Bilaspur (C.G.), 495009, INDIA.

Date: .....

विभागाध्यक्ष /H.O.D. शुद्ध एवं अनुप्रयुक्त भौतिकी विभाग Dept. of Pure & Applied Physics गुरु घासीदास विश्वविद्यालय Guru Ghasidas Vishwavidyalaya बिलासपुर (छ.न.)/Bilaspur (C.G.) Mohan Mayank Chauhan

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#### Department of Pure & Applied Physics Guru Ghasidas Vishwavidyalaya, Bilaspur (C.G.) India (A central University Established by the Central Universities Act 2009 No. 25 of 2009)

#### **CERTIFICATE**

This is to certify that the thesis entitled, "Single Axis Solar Tracker" submitted by Mohan mayank chauhan in the partial fulfillment for the requirements for the award of Master of Science Degree in Electronic at Department of Pure and Applied Physics, Guru Ghasidas Vishwavidyalaya (A Central University), Bilaspur (C.G.), 495009, INDIA is an authentic work carried out by him under my supervision and guidance.

Date: .....

विभागाध्यक्षं/H.O.D. शुद्ध एवं अनुप्रयुक्त भौतिकी विभाग Dept. of Pure & Applied Physics गुरु घारीदास विश्वविद्यालय Guru Ghasidas Vishwavidyalaya बिलासपुर (छ.ग.)/Bilaspur (C.G.) Dr. R. K Pandey

Associate Professor Department of Pure & Applied physics



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(A central University Established by the Central Universities Act 2009 No. 25 of 2009)

#### **APPROVAL CERTIFICATE**

This is the certify that the project entitled "Single Axis Solar Tracker" submitted by Mohan mayank chauhan is approved for the award of Master of Science in Electronic.

Date: .....

विभागाध्यक्ष /H.O.D शुद्ध एवं अनुप्रयुक्त भौतिकी विभाग

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Dr. M. N Tripathi Head of the Department

Department of Pure & Applied Physics Guru Ghasidas Vishwavidyalaya, Bilaspur (C.G.), 495009, INDIA

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## **CHAPTER-1**

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- WORKING PRINCIPAL
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- ADVANTEGES OF SOLAR TRACKER
- DISADVANTAGES OF SOLAR TRACKER
- PRECAUTION
- RESULT
- CONCLUSION

विभागाध्यक्ष/H.O.D. शुद्ध एवं अनुप्रयुक्त भौतिकी विभाग Dept. of Pure & Applied Physics गुरु घासीदास विश्वविद्यालय Guru Ghasidas Vishwavidyalaya बिलासपुर (छ.न.)/Bilaspur (C.G.)

# **AUTOMATIC TRAFFIC LIGHT CONTROL**

# SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS OF THE DEGREE

OF

## **BACHELOR OF SCIENCE IN ELECTRONICS**

Submitted by

## **NIKHIL SHARMA**

Roll No.:18209031

Under the supervision of

## Dr. MP SHARMA

(Assistant Professor)



Department of Pure and Applied Physics GURU GHASIDAS VISHWAVIDYALAYA

Session: 2021

विभागाध्यक्ष/H.O.D. शुद्ध एवं अनुप्रयुक्त भौतिकी विभाग Dept. of Pure & Applied Physics नुरु घासीदास विश्वविद्यालय Guru Ghasidas Vishwavidyalaya बिलासपुर (छ.ग.)/Bilaspur (C.G.)



गुरू घासीदास विश्वविद्यालय, बिलासपुर GURU GHASIDAS VISHWAVIDYALAYA, BILASPUR (A Central University established by the Central University Act 2009 No. 25 of 2009)

# Certificate

This is to be certified that **Mast. NIKHIL SHARMA** student of B.sc VI Semester , Department of Pure and Applied Physics, Guru Ghasidas Vishwavidyalaya Bilaspur , have completed his project entitled **"AUTOMATIC TRAFFIC LIGHT CONTROL".** He has submitted his project report for the partial fulfillment of the curriculum of the Degree of Bachelor of Science (VI Sem) from GGV. During this project work he has learned about the 555 timer IC, IC4017 resistor capacitor and its application to the best power knowledge. I recommend the project report to be forwarded for evaluation. I wish him all success in his life and career.

Date:

विभागाध्यक्ष/H.O.D. शुद्ध एवं अनुप्रयुक्त भौतिकी विभाग Dept. of Pure & Applied Physics गुरू घासीदास विश्वविद्यालय Guru Ghasidas Vishwavidyalaya बिलासपुर (छ.ग.)/Bilaspur (C.G.) Dr. MP. SHARMA Assistant Professor Physics Department



# Forwarding Certificate

This is to certify that **Mast.NIKHIL SHARMA** has carried out the project in Department of Pure and Applied Physics, Guru Ghasidas Vishwavidyalaya, on the Topic, **"AUTOMATIC TRAFFIC LIGHT CONTROL"**. This project is submitted for the partial fulfillment of Requirements of the Degree of B.sc. in Electronics is forwarded to examiner for evaluation.

I wish Him Every Success in Life.

umpipati

विभागाध्यक्ष /H.O.D. शुद्ध एवं अनुप्रयुक्त भौतिकी विभाग Dept. of Pure & Applied Physics गुरु घासीदास विश्वविद्यालय Guru Ghasidas Vishwavidyalaya बिलासपुर (छ.ग.)/Bilaspur (C.G.) Prof. P.K. BAJPAI HEAD OF DEPARTMENT DEPT. OF PURE & APPLIED PHYSICS GGV, BILASPUR CHHATTISGARH

# Declaration

I hereby declare that the work present in the project entitled *"Automatic Traffic light control"* submitted as partial fulfillment of B.Sc. Electronics have been performed in the Department of Pure And Applied Physics , Guru Ghasidas Vishwavidyalaya, Bilaspur under the supervision of Dr. MP. SHARMA Assistant professor, Department of Pure & Applied Physics GGV Bilaspur, CG.

विभागाध्यक्ष / H.O.D. शुद्ध एवं अनुप्रयुक्त भौतिकी विभाग Dept. of Pure & Applied Physics गुरु घासीदास विश्वविद्यालय Guru Ghasidas Vishwavidyalaya बिलासपुर (छ.ग.)/Bilaspur (C.G.)

NIKHIL SHARMA B.Sc. ELECTRONICS VI SEM.

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## "Designing The Digital Clock By using ARDUINO"

Submitted in partial fulfillment of the requirements of the

Degree of

Bachelor of science(electronics)

Ву

Prachi kesharwani

Roll no:19209934

Supervisor: P. RAMBABU



**Department of Pure & Applied Physics** 

**GURU GHASIDAS VISHWAVIDYALAYA** 

<u>(2021-2022)</u>

विभागाध्यक्ष/H.O.D. शुद्ध एवं अनुप्रयुक्त भौतिकी विभाग Dept. of Pure & Applied Physics गुरु घासीदास विश्वविद्यालय Guru Ghasidas Vishwavidyalaya बिलासपुर (छ.ग.)/Bilaspur (C.G.) <u>GURU GHASIDAS VISHWAVIDYALAYA</u> (A CENTRAL UNIVERSITY) <u>DEPARTMENT OF</u> <u>PURE & APPLIED PHYSICS</u> <u>CERTIFICATE</u>



It is certified that the work contained in the thesis titled **"DIGITAL CLOCK"** by Prachi Kesharwani has been carried out in under my Supervision and that this work has not been submitted else where for a degree.

<u>M.N.Tripathi</u>

H. O. D.

<u>P. Rambabu</u>

Supervisor

विभागाध्यक्ष/H.O.D. शुद्ध एवं अनुप्रयुक्त भौतिकी विभाग

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# Pure and applied physics department GURU GHASIDAS VISHVAVIDHYALAYA

## APPROVAL CERTIFICATE

This report entitled laser security system using **"Designing the DIGITAL CLOCK by Using ARDUINO"**. Prachi kesharwani is approved for the degree of Bachelor of Science Hon's in Electronics.

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# Pure and applied physics Department GURU GHASIDAS VISHWAVIDYALAYA

## ACKNOWLEDGEMENT

We feel great pleasure to acknowledge all those involved in the process of our Education and research. In the first place we would like to record our deep and Sincere gratitude to Our incharge, prof. P.RamBabu for his supervision, advice, Guidance, and crucial contribution, which made him a backbone of this project. His understanding, encouraging and personal guidance have provided a good Basis for the present project. His involvement with his originality has triggered And nourished our in tellectual maturity that we will benefit from , for a long time To come. We wish to express our gratitude towards our all teachers , who Helped us through out our course work. We extend our acknowledgement to our Labmates , labstaff , who are directly or indirectly involved in carrying out the Project work.

विभागाध्यक्षं/H.O.D शुद्ध एवं अनुप्रयुक्त भौतिकी विभाग

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#### Project on "AUTOMATIC OPEN CLOSE DOOR SYSTEM USING ARDUINO UNO" Submitted to

Guru Ghasidas Vishwavidyalaya, Bilaspur (C.G.)



# SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENT OF THE DEGREE

Of

#### BACHELOR OF SCIENCE IN ELECTRONICS

Department of Pure and Applied Physics

By Mr. Praful Vaishnav

B.Sc. (Electronics)

Under the supervision

of

Dr. Pradip Das (Assistant

Professor) Department of Pure and

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Guru Ghasidas Vishwavidyalaya, Bilaspur (C.G.)

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Automatic open close door system Using Arduino UNO

## DECLARATION

I hereby declare that the thesis titled "AUTOMATIC OPEN CLOSE DOOR SYSTEM USING ARDUINO UNO" is submitted to Department of Pure and Applied Physics in partial fulfillment of BACHELOR OF SCIENCE IN ELECTRONICS. This is my original work and was not submitted anywhere else for award of any other degree or any other publication.

Dr. Pradip Das (Supervisor)

Praful Vaishnav BSc(Hons)Electronics Roll.No. 19209935 Enrollment No: GGV/19/7147

Date: 04/05/2022

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Automatic open close door system Using Arduino UNO

## APPROVAL

The project report on "AUTOMATIC OPEN CLOSE DOOR SYSTEM USING ARDUINO UNO"" submitted by Praful Vaishnav of the Department of Pure and Applied Physics, University Bilaspur Central has been accepted as satisfactory for the partial fulfillment of the requirement for of BACHELOR OF **SCIENCE** degree IN the ELECTRONICS and approved as to its style and contents. The project report has been approved by the following members of the project defense committee.

Dr. M.N TRIPATHI

Head Of Department Pure and Applied Physics

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Automatic open close door system Using Arduino UNO

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# **TWO DIGIT OBJECT COUNTER**

## **BACHELOR OF SCIENCE IN ELECTRONICS**

BY

**PRASOON PATHAK** 

ROLL. NO. :- 19209936

**6**<sup>TH</sup> SEM ELECTRONICS

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**Dr. T. TRIVEDI** 



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**GURU GHASIDAS VISHWAVIDYALAYA** 



## **Department of Pure and Applied physics**

## GURU GHASIDAS VISHWAVIDYALAYA BILASPUR

(A Central university Established by the central universities acts 2009 No. 25 of 2009)

## FORWARDING CERTIFICATE

This is the certify that **PRASOON PATHAK** has carried out the project in Department of Pure and Applied Physics, Guru Ghasidas Vishwavidyalaya,CG, on the topic, "**OBJECT COUNTER**". This project is submitted for the partial fulfillment of Requirement of the Degree of B.Sc in Electronics is forwarded to examiner for evalution.

I wish Him Every Succes in Life.

H.O.D विभागाध्यक्ष शुद्ध एवं अनुप्रयुक्त भौतिकी विभाग Dept. of Pure & Applied Physics गुरु घासीदास विश्वविद्यालय Guru Ghasidas Vishwavidyalaya बिलासपुर (छ.ग.)/Bilaspur (C.G.)

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Head of department

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### CERTIFICATE

This is a certify that thesis entitled "OBJECT COUNTER" submitted by **Prasoon Pathak** in the partial fulfillment for the requirements for the award of Bachelor of Science Degree in Electronics at Department of Pure and Applied Physics, Guru Ghasidas Vishwavidyalaya (A central university) bilapur c.g. 495001, INDIA is an authentic work carried out by film under my supervision and guldance

To the best of my knowledge, the matter embodied in the thesis has not been submitted to any other University/Institute for the award of Degree of Diploma.

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विभागाध्यक्ष/H.O.D. शुद्ध एवं अनुप्रयुक्त भौतिकी विभाग Dept. of Pure & Applied Physics गुरु घासीदास विश्वविद्यालय Guru Ghasidas Vishwavidyalaya बिलासपुर (छ.ग.)/Bilaspur (C.G.)

#### Dr. T. Trivedi

Department of pure and applied physics

Date.....

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(A Central university Estabilished by the central universities acts 2009 No. 25 of 2009)

## DECLARATION

I Hereby declare that the work presented in the project entitled "**OBJECT COUNTER**" submitted to the partial fulfillment of Bachelor of Science (Hon's in Electronics has been performed in the Department of Pure and applied physics, Guru Ghasidas Vishwavidyalaya ,bilaspur (c.g.) under the guidance of **Dr. T. Trivedi** is trully carried out by me

The work presented in this dissertation is original and remain intellectual property of department of Pure and applied physics, Guru Ghasidas Vishwavidyalaya, bilaspur (c.g.) 495001 INDIA

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B.Sc. (Electronics) 6<sup>th</sup> semester

Roll no- 19209936

Enrollment No.- GGV/19/7151

Date.....

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# LOGIC GATES USING TRANSISTOR

# SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUEREMENTS

## BACHELOR OF SCIENCE IN ELECTRONICS

# Submitted by PRATIKSHA SAHU ROLL NO.- 19209937

## Under the supervision of

# PROF. S.P.PATEL SIR

(Assistant Professor)



# Department of Pure and Applied Physics

# **GURU GHASIDAS VISHWAVIDYALAYA**

# Session: 2021-22

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This is to certify that pratiksha sahu has carried out the project in Department of Pure and Applied Physics, Guru GhasidaS Vishwavidyalaya, on the Topic, logic gates using transistor This project is submitted for the partial fulfillment of Requirements of the Degree of B.sc. in Electronics is forwarded to examiner for evaluation.

## I wish Him Every Success in Life.

bath विभागाध्यक्षं/H.O.D

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(Head Of Department)

Dept.:-PURE AND APPLIED PHYSICS GGV BILASPUR (C.G)



This is to be certified that pratiksha sahu dent of Bac VI Semester,

completed his project entitled logic gates using transistor. She has

submitted his project report for the partial fulfillment of the curriculum of the Degree of Bachelor of Science (VI Som) from GGV. During this project work she has learned about the SSS timer IC, resistor ,LDR ,Relay and its application to the best power knowledge. I recommend the project report to be forwarded for evaluation. I wish him all success in his life and career.

Date: 30.04.2022

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PROF. S.P.PATEL SIR

DEPT. OF PURE & APPLIED PHYSICS

GGV, BILASPUR CHHATTISGARH

## 'Virtual Laboratory and Virtual Learning'

by

Priyank Singh

B.Sc. Honours- Electronics (Sem. VI)

विभागाध्यक्ष/H.O.D. शुद्ध एवं अनुप्रयुक्त भौतिकी विभाग Dept. of Pure & Applied Physics गुरु घासीदास विश्वविद्यालय Guru Ghasidas Vishwavidyalaya बिलासपुर (छ.ग.)/Bilaspur (C.G.)

#### **Certificate**

This is to certify that the work contained in the thesis entitled

'Virtual Laboratory and Virtual Learning'

submitted by Priyank Singh (Roll No. 19209939) for the degree of

<u>B.Sc. Honours, Electronics</u> from Guru Ghasidas Central University, Bilaspur, is a record of bonafide research work carried out by him under direct supervision and guidance by Dr.Dinesh Kumar Uthra during the Academic Year 2019-2022.

I consider that the thesis has reached the standards and fulfils the requirements of the rules and regulations relating to the nature of the degree. The contents embodied in the thesis have not been submitted for the award of any other degree or diploma at this or any other university.

**Priyank Singh** 

**B.Sc Honours- Electronics (Semester-6)** 

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# A PROJECT REPORT ON WIRELESS POWER TRANSFER



## DEPARTMENT OF PURE & APPLIED PHYSICS GURU GHASIDAS CENTRAL UNIVERSITY BILASPUR C.G.

SUBMITTED TO :-

#### SUBMITTED BY :-

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# INTRODUCTION

The Wireless Electricity Transfer concept is not new. It was first demonstrated by Nikola Tesla in the year 1890. Nikola Tesla introduced electrodynamics induction or resonant inductive coupling by lighting up three light bulbs from the distance of 60 feet from the power source. We have also built a Mini Tesla Coil to transfer the energy.

Wireless Electricity Transfer or WET is a process to supply power through an air gap without using any wires or physical link. In this wireless system, the transmitter device generates a time-varying or high-frequency electromagnetic field, which transmits power to receiver device without any physical connection. The receiver device extracts power from the magnetic field and supplies it to electrical load. Therefore, to convert the electricity to an electromagnetic field, two coils are used as transmitter coil and receiver coil. The transmitter coil is powered by alternating current and creates a magnetic field, which is further converted into a usable voltage across the receiver coil.

 In this project, we will build a basic low powered wireless transmitter circuit to glow an LED.

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#### **AUTOMATIC STREET LIGHT CONTROL**

SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUEREMENTS OF THE DEGREE

#### **BACHELOR OF SCIENCE IN ELECTRONICS**

#### Submitted by

#### **RAKESH KUMAR DHURVE**

Roll No.:19209941

Under the supervision of

### DR. SHALINTA TIGGA

(Assistant Professor)



### **Department of Pure and Applied Physics**

### **GURU GHASIDAS VISHWAVIDYALAYA**

Session: 2021-22

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### Certificate

This is to be certified that **RAKESH KUMAR DHURVE** student of B.sc VI Semester Department of Pure and Applied Physics, Guru Ghasidas VishwavidyalayaBilaspur , have completed his project entitled "**AUTOMATICSTREET LIGHT CONTROL**". He has submitted his project report for the partial fulfillment of the curriculum of the Degree of Bachelor of Science (VI Sem) from GGV. During this project work he has learned about the 555 timer IC, resistor ,LDR ,Relay and its application to the best power knowledge. I recommend the project report to be forwarded for evaluation. I wish him all success in his life and career.

Date:....

विभागाध्यक्ष/H.O.D. शुद्ध एवं अनुप्रयुक्त भौतिकी विभाग Dept. of Pure & Applied Physics गुरू घासीदास विश्वविद्यालय Guru Ghasidas Vishwavidyalaya बिलासपुर (छ.ग.)/Bilaspur (C.G.)

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PROFESSER

**DEPT. OF PURE & APPLIED** 

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CHHATTISGARH



# Forwarding Certificate

This is to certify that *RAKESH KUMAR DHURVE* has carried out the project in Department of Pure and Applied Physics, Guru Ghasidas Vishwavidyalaya, on the Topic, "*AUTOMATIC STREET LIGHT CONTROL*". This project is submitted for the partial fulfillment of Requirements of the Degree of B.sc. in Electronics is forwarded to examiner for evaluation.

I wish Him Every Success in Life.

#### DR. MADHVENDRA NATH TRIPATHI

HEAD OF

**DEPARTMENT DEPT. OF** 

**PURE & APPLIED PHYSICS** 

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# Declaration

I hereby declare that the work present in the project entitled *"Automatic Street light control"* submitted as partial fulfillment of B.Sc. Electronics have been performed in the Department of Pure And Applied Physics, Guru GhasidasVishwavidyalaya, Bilaspur under the supervision of **Dr. SHALINTA TIGGA** Assistant professor, Department of Pure & Applied Physics GGVBilaspur,CG.

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# **CELL PHONE DETECTOR**

SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS OF THE DEGREE

OF

### **BACHELOR OF SCIENCE IN ELECTRONICS**

Submitted by:

### SAMINA

Roll No. - 19209944

### **Under the supervision of:**

# Dr. SANDHYA YADAV



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# **Department of Pure and Applied Physics**

### GURU GHASIDAS VISHWAVIDYALAYA

Session :- (2021-22)



### **Forwarding Certificate**

This is to certify that **SAMINA** has carried out the project in Department of Pure and Applied Physics, Guru Ghasidas Vishwavidyalaya, (C.G.), on the Topic, **"CELL PHONE DETECTOR".** This project is submitted for the partial fulfillment of Requirements of the Degree of B.Sc. in Electronics is forwarded to examiner forevaluation.

I wish Hervery Success in Life.

विभागाध्यक्ष/H.O.D. शुद्ध एवं अनुप्रयुक्त भौतिकी विभाग Dept. of Pure & Applied Physics गुरु घासीदास विश्वविद्यालय Guru Ghasidas Vishwavidyalaya बिलासपुर (छ.ग.)/Bilaspur (C.G.) DR. M. N. Tripathi Associate Professor Head of the department PURE ANDAPPLIEDPHYSICS, G.G.V. BILASPUR CHHATTISGARH.



# Certificate

This is to be certified that **SAMINA** student of B.Sc. VI Semester, Department of Pure and Applied Physics, Guru Ghasidas Vishwavidyalaya Bilaspur, have completed his Project entitled "**CELL PHONE DETECTOR**". She has submitted herProject Report for the partial fulfillment of the curriculum of the Degree of B.Sc. Electronics (VI Sem.) from GGV. During this project work she has taught about 555 Timer IC, BC548 Transistor, and CA3130 Op-Amp Resistors, Capacitors, LED, breadboard, connecting wire, and power supply. I recommend the project report to be forwarded for evaluation. I wish him all success in her life andcareer.

Date:-

शुद्ध एवं अनुप्रयुक्त भौतिकी विभाग Dept. of Pure & Applied Physics गुरु घासीदास विश्वविद्यालय Guru Ghasidas Vishwavidyalaya बिलासपुर (छ.ग.)/Bilaspur (C.G.)

DR. SANDHYA YADAV Department of Pure and Applied physics

GGV, Bilaspur, (C.G.)



# **Declaration**

I hereby declare that the work present in the project entitled "CELL PHONE DETECTOR" submitted as partial fulfillment of B.Sc. Electronics have been performed in the Department of Pure And Applied Physics, Guru Ghasidas Vishwavidyalaya, Bilaspur under the supervision of **Dr. Sandhya Yadav**, (Assistant Professor) Department of Pure & Applied Physics G.G.V. Bilaspur, (C.G.).

विभागाध्यक्ष /H.O.D

विभागाध्यक्ष/ H.O.D. शुद्ध एवं अनुप्रयुक्त भौतिकी विभाग Dept. of Pure & Applied Physics गुरु घासीदास विश्वविद्यालय Guru Ghasidas Vishwavidyalaya बिलासपुर (छ.ग.)/Bilaspur (C.G.) SAMINA B.Sc. VI Semester, Electronics Roll no.:- 19209944 Enrollment Id:- GGV/19/7181

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- ➢ OBJECTIVE
- CIRCUIT DIAGRAM
- ➢ RF SIGNAL GENERATOR
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- REQUIRED COMPONENTS
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  - ✓ CA3130 Op-Amp
  - ✓ BC548 Transistor
  - ✓ Buzzer
  - ✓  $2x 1K\Omega$  Resistors
  - ✓  $2x 2.2M\Omega$  Resistors
  - ✓ 15KΩ Resistor
  - ✓ 12KΩ Resistor
  - ✓  $2x \ 100 \text{K}\Omega$  Resistors
  - ✓ 47pF Capacitor
  - ✓ 22µF Capacitor
  - ✓  $2x 0.1 \mu F$  Capacitor
  - ✓ 2x 22pF Capacitor
  - ✓ 0.01µF Capacitor
  - ✓ 4.7µF Capacitor
  - ✓ ON-OFF Switch
  - $\checkmark$  2x LEDs
  - ✓ 9V Battery
  - ✓ Battery Connector
  - ✓ Breadboard
  - ✓ Connecting Wires
  - ✓ Antenna

विभागाध्यक्ष/H.O.D. शुद्ध एवं अनुप्रयुक्त भौतिकी विभाग Dept. of Pure & Applied Physics गुरु घासीदास विश्वविद्यालय Guru Ghasidas Vishwavidyalaya बिलासपुर (छ.ग.)/Bilaspur (C.G.)

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विभागाध्यक्ष/H.O.D. शुद्ध एवं अनुप्रयुक्त भौतिकी विभाग Dept. of Pure & Applied Physics गुरु घासीदास विश्वविद्यालय Guru Ghasidas Vishwavidyalaya बिलासपुर (छ.ग.)/Bilaspur (C.G.)

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# Department of pure and applied physics Guru Ghasidas Vishwavidyalaya Bilaspur (C.G.) India

(A Central University Established by Central Universities Act 2009 No. 25 of 2009)



Submitted in partial fulfillment of the requirement

For the

Award of Bachelor of Science Degree

Electronics

То

In

Guru Ghasidas Vishwavidyalaya Bilaspur (C.G) India

By Shobha Gupta 19209948

**Under the Guidance of** 

Mr. Ravindra Kumar

Mmbiba.

विभागाध्यक्ष/H.O.D. शुद्ध एवं अनुप्रयुक्त भौतिकी विभाग Dept. of Pure & Applied Physics गुरु घासीदास विश्वविद्यालय Guru Ghasidas Vishwavidyalaya बिलासपुर (छ.ग.)/Bilaspur (C.G.)

Department of pure and applied physics

Guru Ghasidas Vishwavidyalaya Bilaspur (C.G) India 2022



# **Department of Pure and Applied Physics**

### Guru Ghasidas Vishwavidyalaya Bilaspur (C. G.) India

(A Central University Established by Central Universities Act 2009 No. 25 of 2009)

### DECLARATION

I hereby declare that the project work entitled "AUDIO POWER AMPLIFIER" submitted to the Department of Pure and Applied Physics, Guru Ghasidas Vishwavidyalaya Bilaspur (C.G.) India, is a record of an original work done by me under the guidance of Mr. Ravindra Kumar, Assistant Professor Adhoc, Department of Pure and Applied Physics, Guru Ghasidas Vishwavidyalaya Bilaspur (C.G.) India.

This project is submitted in the partial fulfillment for the award of the degree of Bachelor of Science in Electronics. The results embodied in this thesis have not been submitted to any other University or Institute for the award of any degree or diploma.

M.N. Tripathy

Head of Department

Department of pure and Applied

Physics

Guru Ghasidas Vishwavidyalaya

विभागाध्यक्ष/H.O.D. शुद्ध एवं अनुप्रयुक्त भौतिकी विभाग Dept. of Pure & Applied Physics गुरु घासीदास विश्वविद्यालय Guru Ghasidas Vishwavidyalaya बिलासपुर (छ.न.)/Bilaspur (C.G.)

Shobha Gupta 19209948 B.Sc. VI semester, Electronics Bilaspur (C.G.)- 495009, India



### **Department of Pure and Applied Physics**

### Guru Ghasidas Vishwavidyalaya Bilaspur (C. G.) India

(A Central University Established by Central Universities Act 2009 No. 25 of 2009)

# Forwarding Certificate

This is to certify that Mr. Ravindra Kumar has carried out the following project Entitled as "Audio Power Amplifier". This project is submitted for the partial fulfillment of requirements of the degree of B.SC. in Electronics is forwarded to examiner(s) for examiner(s) for evaluation

of Pure & Applied Physic nasidas Vishwavidyalaya पुर (छ.ग.)/Bilaspur (C.G.)

Mr. Ravindra Kumar Assistant Professor (Adhoc) Department of Pure and Applied Physics Guru Ghasidas Vishwavidyalaya



### **Department of Pure and Applied Physics**

### Guru Ghasidas Vishwavidyalaya Bilaspur (C. G.) India

(A Central University Established by Central Universities Act 2009 No. 25 of 2009)

### CERTIFICATE

This is to certify that Shobha Gupta has carried out the project on the topic "AUDIO POWER AMPLIFIER" in the Department of Pure and Applied Physics, Guru Ghasidas Vishwavidyalaya, Bilaspur under my supervision. She has worked diligently and methodically and has collected the literature very sincerely and carefully. To the best of our knowledge, the work presented in this project is original and has not been submitted anywhere. I recommend the project report to be forwarded to the respective examiners for evaluation. I wish her all success in her life & career.

Submitted by

Shobha Gupta, 19209948

B.Sc. VI semester, Electronics

भौतिकी विभाग Pure & Applied Physics

विभागाध्यक्षे/ H.O.D. शुद्ध एवं अनुप्रयुक्त भौतिकी विभाग Dept. of Pure & Applied Physics गुरु घासीदास विश्वविद्यालय Guru Ghasidas Vishwavidyalaya बिलासपुर (छ.ग.)/Bilaspur (C.G.) supervised by Mr. Ravindra Kumar,

Assistant Professor Adhoc.

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#### 'Automatic On-Off Light Switch Using Phototransistors'

by

Shruti Sharma

B.Sc Honours- Electronics (Semester- VI)

umpipatui

विभागाध्यक्ष/H.O.D. शुद्ध एवं अनुप्रयुक्त भौतिकी विभाग Dept. of Pure & Applied Physics गुरु घासीदास विश्वविद्यालय Guru Ghasidas Vishwavidyalaya बिलासपुर (छ.ग.)/Bilaspur (C.G.)

#### <u>Certificate</u>

This is to certify that the work contained in the thesis entitled "Automatic On-Off Light Switch Using Phototransistors",

submitted by Shruti Sharma (Roll No. 19209951) for the degree of

<u>B.Sc Honours, Electronics</u> from Guru Ghasidas Central University, Bilaspur, is a record of bonafide research work carried out by her under direct supervision and guidance by **Dr. Shalinta Tigga** during the Academic Year 2019-2022.

I consider that the thesis has reached the standards and fulfils the requirements of the rules and regulations relating to the nature of the degree. The contents embodied in the thesis have not been submitted for the award of any other degree or diploma at this or any other university.

विभागाध्यक्ष /H.O.D शुद्ध एवं अनुप्रयुक्त भौतिकी विभाग

शुद्ध एवं अनुप्रयुक्त भौतिकी विभाग Dept. of Pure & Applied Physics नुरु घासीदास विश्वविद्यालय Guru Ghasidas Vishwavidyalaya बिलासपुर (छ.ग.)/Bilaspur (C.G.)

Research Supervisor

Dr. Shalinta Tigga

Professor - Dept. of Pure

and Applied Physics

Head of Department Dr. MN Tripathi Dept. of Pure and Applied Physics

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#### **PROJECT ON**

# "AUTOMATIC HAND SANITIZER USING IR SENSOR TO PREVENT THE DISEASE OF CORONA VIRUS"

Submitted To

#### **GURU GHASIDAS VISHWAVIDYALAYA, BILASPUR (C.G.)**

(A central University Established by the Central Universities Act 2009 No. 25 of 2009)



#### SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENT OF THE DEGREE

Of

#### **BACHELOR OF SCIENCE IN ELECTRONICS**

In

Department of Pure & Applied Physics

By

#### SUBODH DEWANGAN

B.Sc (Hons.) Electronics

Under the Supervision of

#### Dr. Sandhya Yadav

विभागाध्यक्ष/H.O.D. शुद्ध एवं अनुप्रयुक्त भौतिकी विभाग Dept. of Pure & Applied Physics गुरु घासीदास विश्वविद्यालय Guru Ghasidas Vishwavidyalaya बिलासप्र (छ.न.)/Bilaspur (C.G.)

(Assistant Professor)

Department of Pure & Applied Physics

Guru Ghasidas Vishwavidyalaya, Bilaspur (C.G.)

(2021-22)

I hereby declare that the thesis titled "AUTOMATIC HAND SANITIZER USING IR SENSOR TO PREVENT THE DISEASE OF CORONA VIRUS" is submitted to Department of Pure and Applied Physics in partial fulfilment of BACHELOR OF SCIENCE IN ELECTRONICS. This is my original work and was not submitted anywhere else for award of any other degree or any other publication.

Dr. Sandhya Yadav

(Supervisor)

**Subodh Dewangan** 

B.Sc.(Hons.) Electronics 6<sup>th</sup> Semester

Roll No:- 19209954

Enrollment No. :- GGV/19/7213

Date :- 18-03-2022

शुद्ध एवं अनुप्रयुक्त भौतिकी विभाग गुरु घासीदास विश्वविद्यालय

Dept. of Pure & Applied Physics Guru Ghasidas Vishwavidyalaya बिलासपुर (छ.ग.)/Bilaspur (C.G.)

# APPROVAL

The project report on "AUTOMATIC HAND SANITIZER USING IR SENSOR TO PREVENT THE DISEASE OF CORONA VIRUS" submitted by Subodh Dewangan, of the Department of Pure and Applied Physics, Central University Bilaspur has been accepted as satisfactory for the partial fulfilment of the requirement for the degree of BACHELOR OF SCIENCE IN ELECTRONICS and approved as to its style and contents. The project report has been approved by the following members of the project defense committee.

शद एवं अनुप्रयुक्त भौतिकी विभाग Dept. of Pure & Applied Physics गुरु घासीदास विश्वविद्यालय Guru Ghasidas Vishwavidyalaya बेलासपुर (छ.ग.)/Bilaspur (Ć.G.

#### Dr. M.N. Tripathi

(Associate Professor)

Head

Department of Pure and Applied Physics

Guru Ghasidas Vishwavidyalaya Bilaspur (C.G), 495009, INDIA

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### Project on

# **BCD TO 7-SEGMENT DISPLAY**

Submitted In

Partial fulfillment of the requirements of the degree of

### **BACHELOR OF SCIENCE (ELECTRONICS)**

By

### VIVEK KUMAR SAHU

Roll No. - 19209958

Under the Supervision of

#### Mr. DIVYA PRAKASH SARVANSH

(Assistant Professor)



विभागाध्यक्ष/H.O.D. शुद्ध एवं अनुप्रयुक्त भौतिकी विभाग Dept. of Pure & Applied Physics गुरु घासीदास विश्वविद्यालय Guru Ghasidas Vishwavidyalaya बिलासपुर (छ.ग.)/Bilaspur (C.G.)

### Department of Pure and Applied Physics GURU GHASIDAS VISHWAVIDYALAYA, BILASPUR

(A Central University Established by the Central Universities Act, 2009)

**SESSION 2021-2022** 

### **DECLARATION**

I hereby declare that the project entitled "BCD To 7 – Segment Display" submitted to the department of Pure & Applied Physics, GURU GHASIDAS CENTRAL UNIVERSITY, BILASPUR (C.G.) affiliated to the partial fulfillment of the requirement for the award of BACHELOR OF SCIENCE in ELECTRONICS is a result of original work carried out by me. This work is original and has not been submitted so for in part or full for any other university or institute.

विभागाध्यक्ष / H.O.D. शुद्ध एवं अनुप्रयुक्त भौतिकी विभाग Dept. of Pure & Applied Physics गुरु घासीदास विश्यविद्यालय Guru Ghasidas Vishwavidyalaya बिलासपुर (छ.ग.)/Bilaspur (C.G.)

Date:-....

#### VIVEK KUMAR SAHU

#### **ROLL NO - 19209958**

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#### **CERTIFICATE BY GUIDE**

This is to certify that **VIVEK KUMAR SAHU** bearing enrollment No - GGV/19/7239 has developed this project titled "**BCD to 7-Segment Display**" for GURU GHASIDAS VISHWAVIDYALAYA as partial fulfillment for the award 10f degree of BACHELOR OF SCIENCE (Electronics).

বিধানাগ্ৰেন) ন.O.D. शुद्ध एवं अनुप्रयुक्त भौतिकी विभाग Dept. of Pure & Applied Physics गुरु घासीदास विश्वविद्यालय Guru Ghasidas Vishwavidyalaya बिलासपुर (छ.ग.)/Bilaspur (C.G.)

Date : 22 March, 2022

GUIDED BY

#### Place : Bilaspur

#### Mr. DIVYAPRAKASH SARVANSH

(Assistant Professor)

## FORWARD CERTIFICATE

This is to certify that VIVEK KUMAR SAHU is a student of Bachelor of Science (B.Sc in electronics), has carried out the project work as mentioned in this report entitled "**BCD to 7- Segment Display**" during his 6<sup>th</sup> semester of studies in Bachelor of Science (B.Sc in Electronics) as a part of curriculum for obtaining the degree of B.Sc from the GGV,BILASPUR(C.G.) to which the institute is affiliated. This certificate issued by the undersigned does not cover any responsibility regarding the statement made and work carried out by the concerned student. The current dissertation is hereby being forwarded for evaluation for the purpose for which it has been submitted.

I wish Him Every success in Life.

शुद्ध एवं अनुप्रयुक्त भौतिकी विभाग Dept. of Pure & Applied Physics गुरु घासीदास विश्वविद्यालय Guru Ghasidas Vishwavidyalaya बिलासपुर (छ.न.)/Bilaspur (C.G.)

#### MR.DIVYA PRAKASH SARVANSH

(Department of Pure and Applied Physics) GGU Bilaspur (C.G.)

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FIRE ALARM



#### **GURU GHASIDAS VISHWVIDYALA BILASPUR**

#### SUBMITTED IN PARTIAL FULFULMENTS OF REUIRMENTS OF THE DEGREE

BACHLOR OF SCIENCE IN ELECTRONICS

SUBMITTED BY YASHODA NAG

ROLL NO. 19209959

UNDER THE SUPERVISION OF

M:RAVINDRA KUMAR

ASSISTANTPROFESSOR(Ad-hoc)

DEPARTMENT OF PURE AND APPLIED PHYSICS

GURU GHASIDAS VISHWAVIDYALAYA BILASPUR

SESSION : 2021-22

विभागाध्यक्ष/H.O.D. शुद्ध एवं अनुप्रयुक्त भौतिकी विभाग Dept. of Pure & Applied Physics गुरू घारीदास विश्वविद्यालय Guru Ghasidas Vishwavidyalaya बिलासपुर (छ.न.)/Bilaspur (C.G.)

# **CERTIFICATE**

This is to certified that <u>YASHODA NAG</u> students of bsc 6 th semester department of pure and applied physics gurughasidas vishwavidyalaya bilaspur have completed her project fire alarm device using senser she has submitted her project for the partial fulfilment of the curriculam of the degree of the bachelor science 6 th semester from ggv during this proeject work she has learned about the . I recommend the project report to be forwarded for evolution .i wish her all success in her life and carrier .

Date -4-05-2022

विभागाध्यक्ष/H.O.D. शुद्ध एवं अनुप्रयुक्त भौतिकी विभाग Dept. of Pure & Applied Physics गुरु घासीदास विश्वविद्यालय Guru Ghasidas Vishwavidyalaya बिलासपुर (छ.ग.)/Bilaspur (C.G.)

Mr. RAVINDRA KUMAR

ASSISTANCE PROFESSOR (Ad-hoc)

DEPARTMENT OF PURE AND

APPLIED PHYSICS

### FORWORDING CERTIFICATE

This is to certified that **Yashoda nag** has carried out the project in department of pure and applied physic guru gasidas vishwavidyalaya on the topic fire alarm using sensor this project is submitted for the partial fulfilment of the requirement of the degree of bsc.in electronics is forwarded to examiner for evaluation

निभागाच्यक्ष/H.O.D. शुद्ध एवं अनुप्रयुक्त भौतिकी विभाग Dept. of Pure & Applied Physics गुरु घासीदास विश्वविद्यालय Guru Ghasidas Vishwavidyalaya बिलासपुर (छ.ग.)/Bilaspur (C.G.)

Dr. M.N. tripathi ( Head of department )

Department pure and applied

physics



I here by declare that the work present in the project entitled fur alarm using sensor submitted as partial fulfilment of **Bsc.electronics** have been performed in the department of **PURE AND APPLIED PHYSICS GURU GHASIDAS VISHWAVIDYALAYA** under the supervision **of Mr. RAVINDRA KUMAR** Assistance professor of department of pure and applied physics

विभागाध्यक्ष/H.O.D. शुद्ध एवं अनुप्रयुक्त भौतिकी विभाग Dept. of Pure & Applied Physics नुरु घासीदास विश्वविदालय Guru Ghasidas Vishwavidyalaya बिलासपुर (छ.ग.)/Bilaspur (C.G.)

Yashoda nag Bsc electronics 6th sem.

Roll no. 19209959

Enrolment no. ggv/19/7242

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umpipathi

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