Guru Nanak Dev Engineering College

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Approved by AICTE New Delhi and Affiliated to VTU Belagavi

Criterion 1 – Curricular Aspects

Department of Mechanical Engineering

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CERTIFICATE

Certify that the Mini project work entitled a bonafide work carried out by ABHISHEK PASARGI **(3GN20ME400)**, IMRAN **(3GN20ME402)**, MIRZA HUMAID BAIG (3GN20ME403), RASHED ALI **(3GN20ME407)** in partial fulfilment for the award of Bachelor of Engineering in **MECHANICAL ENGINEERING** from **Visvesvaraya Technological University, Belagavi during the year 2021-2022.** It is certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in the Report deposited in the departmental library. The project report has been approved as it satisfies the academic requirements in respect of Mini Project work prescribed for the said Degree.

Name & Signature of the Guide	Name & Signature of the HOD	Name &Signature of the Principal
PROF. RAM REDDY	**PROF. K.K. PRASAD**	**DR. DHANANJAY D MUKTEDAR PRINCIPAL** Guru Nanak Dev Engg. College BIDAR

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1. Dr. Sanjay Patil — 28/11/22
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ABSTRACT

This paper explores the working principle and applications of an Arduino board. This also explores on how it can be used as a tool for study and research works. Arduino board can provide a quick tool in development of VLSI test bench especially of sensors. Main advantages are fast processing and easy interface. Today, with increasing number of people using open-source software and hardware devices day after day, technology is forming a new dimension by making complicated things look easier and interesting. These open sources provide free or virtually low costs, highly reliable and affordable technology. This paper provides a glimpse of type of Arduino boards, working principles, software implementation and their applications.

Design of Traffic Light Control system using Arduino. In this project we will be using a set of lights and a push button. It will direct us for the crossing of road. Basically, we are designing a set of traffic Light system using Arduino board model R3 connecting breadboard with it and by programming the Arduino. The Arduino will be helping us to direct the cars when to be stopped by showing red light or turning on Red LED, and when the cars are set to go, by turning Green LED on. Arduino will tell us to do something when we change the state of the buttons, and that the Arduino is watching we can press the button to functions in code.

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CERTIFICATE

Certified that the Mini project entitled **"INTERFACING ULTRASONIC SENSOR WITH ARDUINO UNO"** a bonafide work carried out by **SHAIK MISBAUDDIN (3GN19ME035) , SHAIK SHAFI AHMED (3GN19ME036) , MD ISMAIL (3GN19ME014) , MD SADIQ AMAAN (3GN19ME015)** Students of **GURU NANAK DEV ENGINEERING COLLEGE , BIDAR** in partial fulfillment of the requirements for the award of the degree of Bachelor of Engineering in **MECHANICAL ENGINEERING** from **Visvesvaraya Technological University, Belagavi during the year 2021-22.** The Mini project report satisfies the academic requirements.

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ABSTRACT

The objective of this project is to design and manufacture the instrument which can measuregeometrical parameters (length, width, height) of component without using traditional or current measuring techniques. This instrument has various advantages over the traditional measuring instruments.it has less moving parts and requires less physical efforts to operate it. The instrument consists of most crucial part known as ultrasonic sensor, a circuit which is used to control the various components knows as Arduino and set of wiresMotion detection has become one of the great areas of research in the world. Many activities are carried out in the presence of motion. One of the research focus has been the use of Arduino Uno microcontroller, Ultrasonic sensor and many others to sense and measure distances. The goal is to measure and monitor human activity remotely, and using less manpower as much as possible. This study aimed at designing a sensor that can easily measure how far the object is, monitor change of distances as the object approach and give a light coded signal and a sound alarm. The hardware utilized included the Arduino Uno on a bread board interfaced with LEDs and Ultrasonic sensor. The program to run the circuit was developed using Arduino Uno and stored at the memory of the Arduino microcontroller. The study demonstrated that the designed sensor could be used to accurately determine the position of an approaching object and Simultaneously the sensor display visual LED signals set and color coded as for instance, distances less than 150 cm, 70 cm and 40cm corresponding to Green, Blue and Red LED lights respectively, while at the same time producing sound signals . Thus, this method of distance sensing and measurement is efficient and assures measurements of small distances precisely. This distance sensing and measurement system can get wide applications where proximity detection is required e.g. in industries and traffic departments.

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Certified that the Mini project entitled "STEPPER MOTOR CONTROL WITH ARDUINO UNO" a bonafide work carried out by MD FURQUAN AHMED (3GN19ME020), M.A RAZZAK (3GN19ME012) , MD AKIF QASAB (3GN19ME013) , SHAIK YASER PATEL (3GN19ME037) Students of GURU NANAK DEV ENGINEERING COLLEGE , BIDAR in partial fulfillment of the requirements for the award of the degree of Bachelor of Engineering in MECHANICAL ENGINEERING from Visvesvaraya Technological university, Belagavi during the year 2021-22. The Mini project report satisfies the academic requirements.

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ABSTRACT

This project presents the design of automatic PCB drilling machine. The design of low cost automatic PCB drilling machine is used to reduce cost, man power and increase accuracy, productivity. The aim of this project is to implement and develop a low cost PCB drilling machine based on Arduino controller, where the drill holes are automatically detected from a PCB layout. The main challenging task is to find the drill hole coordinate from PCB layout. G code software is used in this system. this work is operate the CNC machine G code is a standard machine language.

Key Words: — Arduino controller, stepper motor and stepper motor driver A4988

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This is certified that theminiproject work entitled "INTERFACING SINGLE LED WITH ARDUINO UNO" a bonafide work carried out bySAI KRISHNA (3GN19ME032), PRASHANT (3GN19ME029), SAWALE SHUBHAM (3GN19ME034), CHRIS WILLIAM (3GN19ME006)in partial fulfillment for the award of Bachelor of Engineering in MECHANICAL ENGINEERING from Visvesvaraya Technological University, Belagavi during the year 2022-2022. It is certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in the Report deposited in the departmental library. The project report has been approved as it satisfies the academic requirements in respect of Project work prescribed for the said Degree.

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ABSTRACT

It is the simple basic project created using Arduino. LED (Light Emitting Diode) is an electronic device, which emits light when the current passes through its terminals. LED's are used in various applications. It is also used as an ON/OFF indicator in different electronic devices.

In this project, we will connect the LED to the digital pin on the Arduino board. The LED will work as a simple light that can be turned ON and OFF for a specified durations

Arduino is an open-source hardware and software company, project, and user community that designs and manufactures single-board microcontrollers and microcontroller kits for building digital devices. Its hardware products are licensed under a CC BY-SA license, while software is licensed under the GNU Lesser General Public License (LGPL) or the GNU General Public License (GPL),permitting the manufacture of Arduino boards and software distribution by anyone. Arduino boards are available commercially from the official website or through authorized distributors

Arduino board designs use a variety of microprocessors and controllers. The boards are equipped with sets of digital and analog input/output (I/O) pins that may be interfaced to various expansion boards ('shields') or breadboards (for prototyping) and other circuits. The boards feature serial communications interfaces, including Universal Serial Bus (USB) on some models, which are also used for loading programs.

The microcontrollers can be programmed using the C and C++ programming languages, using a standard API which is also known as the Arduino language, inspired by the Processing language and used with a modified version of the Processing IDE. In addition to using traditional compiler toolchains, the Arduino project provides an integrated development environment (IDE) and a command line tool developed in Go.

The name Arduino comes from a bar in Ivrea, Italy, where some of the founders of the project used to meet. The bar was named after Arduin of Ivrea, who was the margrave of the March of Ivrea and King of Italy from 1002 to 1014.

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This is certified that the miniproject work entitled a bonafide work carried out by ARUNKUMAR (3GN19ME004), DATTAKUMAR (3GN19ME007), GANESH (3GN19ME008), KEDARNATH (3GN19ME010), in partial fulfillment for the award of Bachelor of Engineering in **MECHANICAL ENGINEERING** from **Visvesvaraya Technological University, Belagavi during the year 2021-2022**. It is certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in the Report deposited in the departmental library. The project report has been approved as it satisfies the academic requirements in respect of Project work prescribed for the said Degree.

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ABSTRACT

Various wearable computing devices face problems with their power supplies, communication channels, and placement. Conductive cloths can resolve these problems, but it is still difficult to know the positions of devices on the conductive fabric. Therefore, we have devised a method to detect the positions of such devices by using a camera. To detect the positions our method blinks the LEDs on the devices according to their ID. Additionally, we propose several methods to shorten the time for detection. An experimental evaluation confirmed that compared with conventional method our methods reduce the time to detect the positions of the devices.

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CERTIFICATE

This is certified that the mini-project work entitled "INTERFACING SERVO MOTOR WITH ARDUINO UNO" a bonafide work carried out by **CHANDRAKANTH SWAMY (3GN18ME014), D YELLESH (3GN18ME016), SACHIN (3GN18ME052), AKILESH (3GN18ME008)** in partial fulfillment for the award of Bachelor of Engineering in **MECHANICAL ENGINEERING** from **Visvesvaraya Technological University, Belagavi during the year 2021-2022**. It is certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in the Report deposited in the departmental library. The project report has been approved as it satisfies the academic requirements in respect of Project work prescribed for the said Degree.

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ABSTRACT

There are some special types of application of electrical motor where rotation of the motor is required for just a certain angle not continuously for long period of time. For these applications, some special types of motor are required with some special arrangement which makes the motor to rotate a certain angle for a given electrical input (signal). This is normally a simple motor which is controlled for specific angular rotation with the help of additional servomechanism (a typical closed loop feedback control system). Servo motor is a special type of motor which is automatically operated up to certain limit for a given command with help of error-sensing performance.

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Certified that the Mini project entitled **"SERVO MOTOR CONTROL WITH ARDUINO UNO"** a bonafide work carried out by **MD YAQUB IRSHAD (3GN19ME019) , MOHD AMAAN KASHIF (3GN19ME025) , MD UMAIR ALLTAMASH (3GN19ME018) , MOHAMMED IRFAN KHAN(3GN19ME021)** Students of **GURU NANAK DEV ENGINEERING COLLEGE , BIDAR** in partial fulfillment of the requirements for the award of the degree of Bachelor of Engineering in **MECHANICAL ENGINEERING** from Visvesvaraya **Technological university, Belagavi during the year 2021-22**. The Mini project report satisfies the academic requirements.

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ABSTRACT

We are going to **control a servo motor by ARDUINO UNO**. Servo Motors are used where there is a need for accurate shaft movement or position. These are not proposed for high speed applications. These are proposed for low speed, medium torque and accurate position application. These motors are used in robotic arm machines, flight controls and control systems.

SERVO MOTOR are available at different shapes and sizes. A servo motor will have mainly there wires, one is for positive voltage another is for ground and last one is for position setting. The RED wire is connected to power, Black wire is connected to ground and YELLOW wire is connected to signal.

A servo motor is a combination of DC motor, position control system, gears. The position of the shaft of the DC motor is adjusted by the control electronics in the servo, based on the duty ratio of the PWM signal the SIGNAL pin.

Simply speaking the control electronics adjust shaft position by controlling DC motor. This data regarding position of shaft is sent through the SIGNAL pin. The position data to the control should be sent in the form of PWM signal through the Signal pin of servo motor.

The frequency of PWM (Pulse Width Modulated) signal can vary based on type of servo motor. The important thing here is the DUTY RATIO of the PWM signal. Based on this DUTY RATION the control electronics adjust the shaft.

As shown in figure below, for the shaft to be moved to 9o clock the TURN ON RATION must be 1/18.ie. 1ms of ON time and 17ms of OFF time in a 18ms signal.

Be able to identify characteristics that distinguish a servo and a DC motor

Be able to describe the difference a conventional servo and a continuous rotation servo

Be able to use the Arduino Servo library to control servo position

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Certified that the Mini project entitled IR SENSOR { INFRARED PROXIMITY} SENSORS a bonafide work carried out by KUSHAL SINGH (3GN19ME009) ARJUN M JADHAV (3GN19ME003) & M MAHESH (3GN19ME011) OF SIXTH SEM Students of **GURU NANAK DEV ENGINEERING COLLEGE , BIDAR** in partial fulfillment of the requirements for the award of the degree of Bachelor of Engineering in **MECHANICAL ENGINEERING** from **Visvesvaraya Technological university, Belagavi during the year 2021-22.** The Mini project report satisfies the academic requirements.

26/07/2022

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SIGNATURE OF HOD
PROF. K.K. PRASAD

SIGNATURE OF COORDINATOR
DR. NAGRAJ R G

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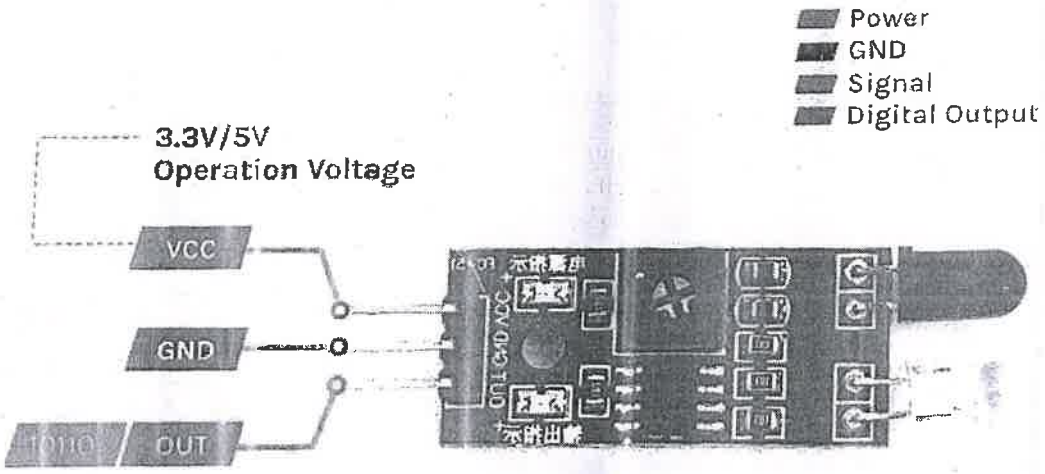
INTRODUCTION

An **infrared proximity sensor or IR Sensor** is an electronic device that emits infrared lights to sense some aspect of the surroundings and can be employed to detect the motion of an object. As this is a passive sensor, it can only measure infrared radiation. This sensor is very common in the electronic industry and if you've ever tried to design an obstacle avoidance robot or any other proximity detection-based system, chances are you already know about this module, and if you don't, then follow this article as here we will discuss everything about it.

IR Sensor

The IR sensor has a 3-pin connector that interfaces it to the outside world. The connections are as follows:



VCC is the power supply pin for the IR sensor which we connect to the 5V pin on the Arduino.

OUT pin is a 5V TTL logic output. LOW indicates no motion is detected; HIGH means motion is detected.

GND Should be connected to the ground of the Arduino.

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This is certified that the Mini-project work entitled INTERACTION WITH ARDUINO UNO & CONTROLLING SPEED OF DC MOTOR WITH LDR(Light -dependent resistor) A bonafide work carried out by **ASHWINI (3GN19ME005)**, PAVAN **(3GN20ME404)**, **PREMKUMAR (3GN20ME406)**, **VEERESH (3GN20ME408)**, in partial fulfillment for the award of Bachelor of Engineering in **MECHANICAL ENGINEERING** from **Visvesvaraya Technological University, Belagavi during the year 2021-2022.** It is certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in the Report deposited in the departmental library. The project report has been approved as it satisfies the academic requirements in respect of Project work prescribed for the said Degree.

Name & Signature of the Guide	Name & Signature of the HOD	Name & Signature of the PRINCIPAL
SHIVASHANKAR B.C.	PROF. K.K. PRASAD HEAD OF DEPARTMENT Mechanical Engineering Guru Nanak Dev Engineering College BIDAR-585 403 (Karnataka)	DR. RAVINDRA EKLARKAR PRINCIPAL Guru Nanak Dev Engg. College, Bidar

External Viva
Name of the examiners

Signature with date

(1) ..Dr. Sanjay Patil.... 28/7/22

(2) ..Dr. Nagaraj. R.G.... 28/7

PRINCIPAL
Guru Nanak Dev Engg. College, Bidar

INTRODUCTION

In this Arduino project, we are going to build an automatic Speed Controller of DC Motor using LDR with Arduino. This LDR based Arduino project slows down the speed of Motor as the intensity of light falling on LDR decreases and vice versa. **"Arduino Project| Motor speed control using LDR with Arduino"**

Working of LDR based motor speed control Arduino Project:

1. When light falls on LDR, the resistance of LDR changes. This change in resistance causes a change in voltage drop across LDR. Now since potentiometer is connected in series with LDR i.e, to Analog pin A0 to Ground, the voltage drop across it also changes. This change in voltage drop is received by Analog pin A0 in the form of analog value anywhere between 0 and 1023.

2. This received analog value is then converted to PWM value between 0 and 255 by Arduino using this piece of code:

y= map (x, 0, 1023, 0 255); // Mapping or converting the value bw minimum to maximum analog value to the corresponding pwm value

3. This PWM value is now given to the digital pin 6 initialized as an output pin and connected to the base of the transistor.

4. The code used to write this PWM value to pin 6 is:

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DEPARTMENT OF MECHANICAL ENGINEERING

CERTIFICATE

This is certified that the Mini-project work entitled "(**INTERACTION WITH ARDUINO UNO & CONTROLLING SPEED OF DC MOTOR WITH NPN TRANSISTOR)**" A bonafide work carried out by PREMDEEPA (3GN20ME405),HRITIK (3GN18ME018), MANOJ (3GN18ME023), AVINASH (3GN18ME012),in partial fulfillment for the award of Bachelor of Engineering in **MECHANICAL ENGINEERING** from **Visvesvaraya Technological University, Belagavi during the year 2021-2022.** It is certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in the Report deposited in the departmental library. The project report has been approved as it satisfies the academic requirements in respect of Project work prescribed for the said Degree.

Guide
Prof. DIGAMBAR BENNE.

co-ordinator
Dr.NAGARAJ .G

HOD
Prof. K.K. PRASAD

Principal
Dr. DHANANJAY .D.MUKTEDAR

External Viva

Name of the examiners	Signature with date
1) Shivaraj N	
2) B. Ramreddy	

PRINCIPAL
Guru Nanak Dev Engg. College, Bidar

ABSTRACT

This work presents a simple speed control application for a DC motor in laboratory use. The purpose of this application is to maintain the desired speed on a generator operating on the same axis to the motor.

Two small laboratory DC machines of 1kw and 300W nominal power have been used for testing the controller. Close loop control has been applied by using appropriate speed encoder. The controller functions as a DC chopper and PWM signal is produced by an Arduino UNO controller. The nominal input voltage was 200Volt, so igbt switching devices were used.

There are over voltage and over current protections and, moreover, a mode without speed metering is available (open loop control scheme).

A detailed analysis is provided on the equipment and the techniques that have been used for the control of the power electronic device. The scope of this work was to plan and test the controller, in terms of energy efficiency and economical operation.

This study presents the critical results of the tests focusing on the best operational point and discusses the related conclusions. The controller's operation was efficient in both low and high speeds that were tested.

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BIDAR-585403, KARNATAKA

DEPARTMENT OF MECHANICAL ENGINEERING

CERTIFICATE

This is certified that the mini-project work entitled INTERFACING OF DC MOTOR WITH ARDUINO bonafide work carried out by SIDDRAJ(3GN19ME038), SAINATH(3GN18ME054), SAGAR(3GN19ME031) SANGAMESHWAR(3GN19ME033) in partial fulfillment for the award of Bachelor of Engineering in MECHANICAL ENGINEERING from **Visvesvaraya Technological University, Belagavi during the year 2021-2022.** It is certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in the Report deposited in the departmental library. The project report has been approved as it satisfies the academic requirements in respect of Project work prescribed for the said Degree Name & Signature of the Name & Signature of the Name &Signature

Guide	HOD	Principal
DR. NAGRAJ R.G.	PROF. K.K. PRASAD	DR. DHANANJAY D MUKTEDAR

External Viva
Name of the examiners

(1)..Dr. Sanjay Patil

(2)..Dr. Nagraj R.G.

Signature with date

28/2/22

PRINCIPAL
Guru Nanak Dev Engg. College, Bidar

28/2

ABSTRACT

This work presents a simple speed control application for a DC motor in laboratory use. The purpose of this application is to maintain the desired speed on a generator operating on the same axis to the motor. One small laboratory DC machines of 1kw and 300W nominal power have been used for testing the controller. Close loop control has been applied by using appropriate speed encoder. The controller functions as a DC chopper and PWM signal is produced by an Arduino UNO controller. The nominal input voltage was 200Volt, so igbt switching devices were used. There are over voltage and over current protections and, moreover, a mode without speed metering is available (open loop control scheme). A detailed analysis is provided on the equipment and the techniques that have been used for the control of the power electronic device. The scope of this work was to plan and test the controller, in terms of energy efficiency and economical operation. This study presents the critical results of the tests focusing on the best operational point and discusses the related conclusions. The controller's operation was efficient in both low and high speeds that were tested.

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DEPARTMENT OF MECHANICAL ENGINEERING

CERTIFICATE

Certified that the Mini project entitled **"IR SENSOR WITH ARDUINO UNO"** a bonafide work carried out by **MOHD ASIFUDDIN (3GN19ME026) , MOHAMMED JAWAD (3GN19ME022) , MOHAMMED RIZWAN KHAN (3GN19ME023) , MOHD FAIZAN AHMED (3GN19ME027)** Students of **GURU NANAK DEV ENGINEERING COLLEGE , BIDAR** in partial fulfillment of the requirements for the award of the degree of Bachelor of Engineering in **MECHANICAL ENGINEERING** from **Visvesvaraya Technological university, Belagavi during the year 2021-22**. The Mini project report satisfies the academic requirements.

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Guru Nanak Dev Engg. College, Bidar

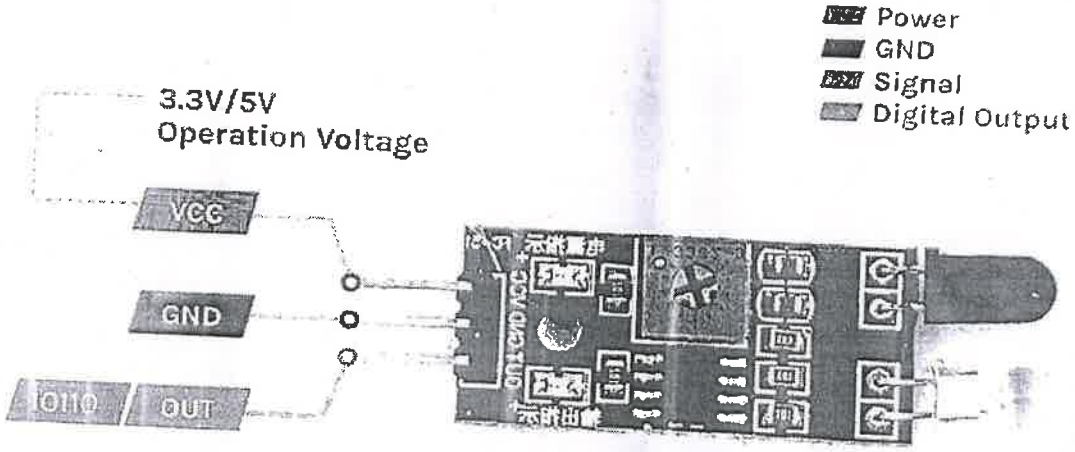
Signature of Guide	Signature of HOD	Signature of Principal
PROF. PARMESHWAR PATIL	PROF. K.K. PRASAD	Dr. DHANANJAY D MUKTEDAR

INTRODUCTION

An **infrared proximity sensor or IR Sensor** is an electronic device that emits infrared lights to sense some aspect of the surroundings and can be employed to detect the motion of an object. As this is a passive sensor, it can only measure infrared radiation. This sensor is very common in the electronic industry and if you've ever tried to design an obstacle avoidance robot or any other proximity detection-based system, chances are you already know about this module, and if you don't, then follow this article as here we will discuss everything about it.

IR Sensor

The IR sensor has a 3-pin connector that interfaces it to the outside world. The connections are as follows:



VCC is the power supply pin for the IR sensor which we connect to the 5V pin on the Arduino.

OUT pin is a 5V TTL logic output. LOW indicates no motion is detected; HIGH means motion is detected.

GND Should be connected to the ground of the Arduino.

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KARNATAKA

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DEPARTMENT OF MECHANICAL ENGINEERING

CERTIFICATE

This is certified that the Mini project entitled "IR SENSOR" a bonafide work carried out by **MOHD MUBASHIR (3GN18ME045), SHAIK MUZAMMIL HUSSAIN(3GN18ME057) MD YOUNUS (3GN18ME039) VINAYAK (3GN18ME072)** and bonafide student of **Guru Nanak Dev Engineering College, Bidar** in partial fulfillment of the requirements for the award of **Degree Bachelor of Engineering 6th semester in Mechanical Engineering by Visvesvaraya Technological University, Belagavi during the year 2021-2022.**

NAG
DR.NAGRAJ

Signature of giude.

PROF.K.K.PRASAD.

Signature of HOD

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Guru Nanak Dev Engg. College, Bidar

EXAMINERS:

1. Shivashankar DC

2. Gangadhar B

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Guru Nanak Dev Engg. College, Bidar

ABSTRACT:

With the new inventions and advancements in technology in the field of electronics, the desire to live a better life is increasing day-by-day. The new technologies have emerged in almost every sector/field like medical field, industries, telecommunication, and acronautics and now it has also entered in domestics' which is also known as home automation. Apart from their busy and hectic schedule, human beings want their day to day tasks to be done on a click of button. The new technologies and unique methodologies have tried to fulfil this wish of human beings to some extent by means of smart home or home automation. The main object of home automation is to provide a wireless communication link of the home appliances to the remote user and provide convenience and ease of work . There are several ways to automate home. This paper describes the design and implementation of home appliance controlling using IR sensors and arduito-nano single board microcontroller. Here, arduino-nano serves as the main controlling and monitoring unit. It accepts and decodes the signal received from TSOP1838 IR sensor and then the switching applications (tum on/of) is perform via Triac which is connected with optocoupler

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This is certified that the miniproject work entitled a bonafide work carried out by MOHAMMED YOUSUF PATEL (3GN19ME024), MD TANVEER (3GN19ME017), RAGHAVENDRA REDDY (3GN19ME030) in partial fulfillment for the award of Bachelor of Engineering in MECHANICAL ENGINEERING from **Visvesvaraya Technological University, Belagavi during the year 2021-2022.** It is certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in the Report deposited in the departmental library. The project report has been approved as it satisfies the academic requirements in respect of Project work prescribed for the said Degree.

Signature of the Guide	Signature of the HOD	Signature of Principal
PROF.SHIVSHANKAR .C	PROF. K.K. PRASAD	DR.DHANANJAY D MUKTEDAR

External Viva
Name of the examiners

(1).....

(2).....

Signature with date

.....

.....26/07

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ABSTRACT

The objective of this project is to design and manufacture the instrument which can measure geometrical parameters (length, width, height) of component without using traditional or current measuring techniques. This instrument has various advantages over the traditional measuring instruments.it has less moving parts and requires less physical efforts to operate it. The instrument consists of most crucial part known as ultrasonic sensor, a circuit which is used to control the various components knows as Arduino and set of wiresMotion detection has become one of the great areas of research in the world. Many activities are carried out in the presence of motion. One of the research focus has been the use of Arduino Uno microcontroller, Ultrasonic sensor and many others to sense and measure distances. The goal is to measure and monitor human activity remotely, and using less manpower as much as possible. This study aimed at designing a sensor that can easily measure how far the object is, monitor change of distances as the object approach and give a light coded signal and a sound alarm. The hardware utilized included the Arduino Uno on a bread board interfaced with LEDs and Ultrasonic sensor. The program to run the circuit was developed using Arduino Uno and stored at the memory of the Arduino microcontroller. The study demonstrated that the designed sensor could be used to accurately determine the position of an approaching object and Simultaneously the sensor display visual LED signals set and color coded as for instance, distances less than 150 cm, 70 cm and 40cm corresponding to Green, Blue and Red LED lights respectively, while at the same time producing sound signals . Thus, this method of distance sensing and measurement is efficient and assures measurements of small distances precisely. This distance sensing and measurement system can get wide applications where proximity detection is required e.g. in industries and traffic departments.

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CERTIFICATE

This is to certify that the mini project work entitled "INTERFACE SOUND SENSOR WITH ARDUINO UNO" is a bonafide work carried out by JIBRAN MOHAMMED (3GN18ME020), MD SHADAB PATEL (3GN19ME016), DANISH AHMED KHAN (3GN20ME401) in partial fulfilment of the requirements for the Bachelor's degree in MECHANICAL Engineering of the Visvesvaraya Technological University, Belagavi during the academic year 2021-2022.

.....
Signature of Guide
Prof. SANJAY PATIL

.....
Signature of HOD
Prof. PRASAD KRISHNAN

.....
Signature of Principle
Dr. DHANANJAY D MUKTEDAR

EXTERNAL VIVA:

Examiners: 1) Dr. Sanjay Patil 28/12/22 2) Dr. Nagaraj R.G.

PRINCIPAL
Guru Nanak Dev Engg. College, Bidar

34M8ME020

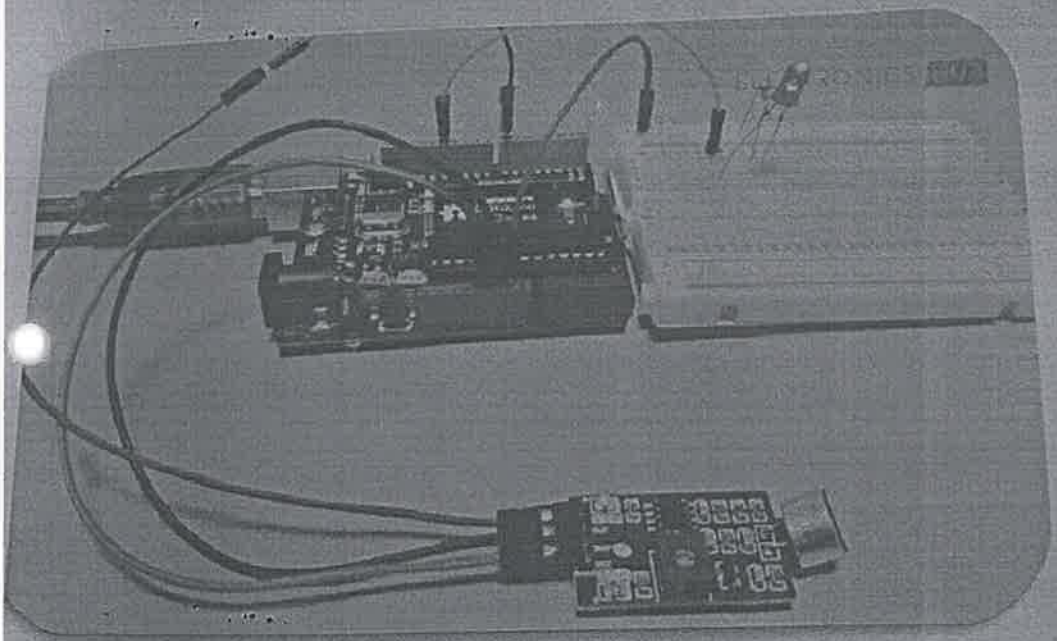
ntroduction

this project, I will be using a different Sound Sensor (although the idea is the same), which sensitive to sounds like loud voices, claps, snaps, thuds and taps.

/e live in a World of virtual assistants with voice interactions and they even make your aircut appointments!

nterfacing Sound Sensor with Arduino – Add Sound Detection to Arduino

this project, we will learn about a new Sensor called Sound Sensor or Sound Detector. lso, I will show you how to interface a Sound Sensor with Arduino and implement a Relay ontrol project using Arduino, Sound Sensor and a Relay Module.



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CERTIFICATE OF ACHIEVEMENT

We present this certificate to

Amar USN 3GN17ME005

in appreciation for your successful work as an intern at

KRITIKA TECHNICAL ACADEMY, NAGPUR

The industrial internship was conducted via online mode between

08 September 2021 TO **09 OCTOBER 2021.**

We wish all the best for your bright future!

Vijay K.

Er. VIJAY BHAMBRI
DIRECTOR

PRINCIPAL
Guru Nanak Dev Engineering College, Bidar

CERTIFICATE

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{ TECHNICAL TRAINING INSTITUTE}

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CERTIFICATE OF ACHIEVEMENT

We present this certificate to

MALLIKARJUN USN 3GN17ME027

in appreciation for your successful work as an intern at

KRITIKA TECHNICAL ACADEMY, NAGPUR

The industrial internship was conducted via online mode between

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We wish all the best for your bright future!

Vijay K..

Er. VIJAY BHAMBRI
DIRECTOR

PRINCIPAL
Guru Nanak Dev Engg. College, Bidar

LAHOTI MOTORS PVT. LTD.
Authorised Maruti Suzuki Dealer & Service Centre

MARUTI SUZUKI

Certificate of Internship

This is to certify that Mr./Ms. Mohammed Faizan Ahmed *bearing USN:* 3GN17ME039 *student of B.E. Department of Mechanical Engineering, GURUNANAK DEV Engineering College Bidar has successfully completed Internship on* **Vehicle Production & Repairing Method** *for the duration of 4 weeks from 25th August 2021 to 25th Sept. 2021 in Collaboration with Lahoti Motors Kalburagi. We wish you all the best for your future endeavours .*

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LAHOTI MOTORS PRIVATE LIMITED BIDAR
Director.
(Lahoti Motors)

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CERTIFICATE OF ACHIEVEMENT

We present this certificate to

Abhishek USN 3GN18ME001

in appreciation for your successful work as an intern at

KRITIKA TECHNICAL ACADEMY, NAGPUR

The industrial internship was conducted via online mode between

08 September 2021 TO 09 OCTOBER 2021.

We wish all the best for your bright future!

Vijay K..

Er. VIJAY BHAMBRI
DIRECTOR

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We present this certificate to

ABHISHEK USN:3GN18ME002

in appreciation for your successful work as an intern at

KRITIKA TECHNICAL ACADEMY, NAGPUR

The industrial internship was conducted via online mode between

08 September 2021 TO 09 October 2021.

We wish all the best for your bright future!

Vijay R..

Er. VIJAY BHAMBRI
DIRECTOR

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Guru Nanak Dev Engg. College, Bidar

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CERTIFICATE OF ACHIEVEMENT

This is to certify that ABHISHEK SURYAWANSHI, USN-3GN18ME003 has successfully completed the course TECHNICAL SKILL DEVELOPMENT INTERNSHIP AS PER INDUSTRY 4.0 from 8th April 2022 to 8th May 2022 via online mode.

We wish him good luck for his future endeavours.

Date of issue of certificate: 11th May 2022

Adress: C-16, Narmada Colony, Katol road, Nagpur

Vijay K..

Er. VIJAY BHAMBRI
DIRECTOR

Dhaur..

PRINCIPAL
Guru Nanak Dev Engg. College, Bidar

ENVIGAURD
Engineering and Turnkey Projects Pvt Ltd

81476 06843 | 99861 15839
www.envigaurd.com
envigaurd.blr@gmail.com

Date:05st Sept 2021

CERTIFICATE

This is to certify that Mr.Ajay Kumar (USN: 3GN18ME004) BE in Mechanical Engineering student from GND Engineering College Bidar. Has completed his internship on project for Hybrid and Electrical vehiclessystem. In our Establishment from 05-Sep-2021 to 05-Oct-2021.

During his internship Mr.Ajay Kumar has spent quality time With project team for resolving the issues and smooth execution of theproject.

Thanking You
Envigaurd Engineering and Turnkey Projects Pvt Ltd

Sangameshwar
Project Head

PRINCIPAL
Guru Nanak Dev Engg. College, Bidar

#27, 2, Mahadeshwarar agara Main Rd, Vishwaneedam, Herohalli, Cross, Bengaluru, Karnataka 560091

CERTIFICATE

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{TECHNICAL TRAINING INSTITUTE}

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CERTIFICATE OF ACHIEVEMENT

We present this certificate to

AJAY RAJ USN 3GN18ME005

in appreciation for your successful work as an intern at

KRITIKA TECHNICAL ACADEMY, NAGPUR

The industrial internship was conducted via online mode between

08 September 2021 TO 09 OCTOBER 2021.

We wish all the best for your bright future!

Vijay K..

Er. VIJAY BHAMBRI
DIRECTOR

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CERTIFICATE OF ACHIEVEMENT

We present this certificate to

AKASH USN:3GN18ME006

in appreciation for your successful work as an intern at

KRITIKA TECHNICAL ACADEMY, NAGPUR

The industrial internship was conducted via online mode between

08 September 2021 TO 09 October 2021.

We wish all the best for your bright future!

Vijay K..

Er. VIJAY BHAMBRI
DIRECTOR

PRINCIPAL
Guru Nanak Dev Engg. College, Bidar.

ENVIGAURD

Date:05th Sept 2021

CERTIFICATE

This is to certify that Mr.ARUN (USN:3GN18ME011) BE in Mechanical Engineering student from GND Engineering College Bidar. has completed his internship on project for Hybrid and Electrical vehiclessystem. in our Establishment from 05-Sep-2021 to 05-Oct-2021.

During his internship Mr. Arun has spent quality time with project team for resolving the issues and smooth execution of theproject.

Thanking You
Envigaurd Engineering and Turnkey Projects Pvt Ltd

Sangamesh
Project Head

PRINCIPAL
Guru Nanak Dev Engg. College, Bidar

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CERTIFICATE OF ACHIEVEMENT

We present this certificate to

BASAVKIRAN USN 3GN18ME013

in appreciation for your successful work as an intern at

KRITIKA TECHNICAL ACADEMY, NAGPUR

The industrial internship was conducted via online mode between

08 September 2021 TO 09 OCTOBER 2021.

We wish all the best for your bright future!

Vijay K.

Er. VIJAY BHAMBRI
DIRECTOR

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CERTIFICATE OF ACHIEVEMENT

We present this certificate to

CYRIL MARADONA USN:3GN18ME015

in appreciation for your successful work as an intern at

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The industrial internship was conducted via online mode between

08 September 2021 TO 09 October 2021.

We wish all the best for your bright future!

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Nanak Dev Engg. College, Bidar

Vijay K..

Er. VIJAY BHAMBRI
DIRECTOR

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We present this certificate to

J D MOHITRAJ USN:3GN18ME019

in appreciation for your successful work as an intern at

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The industrial internship was conducted via online mode between

08 September 2021 TO 09 October 2021.

We wish all the best for your bright future!

Vijay K..

Er. VIJAY BHAMBRI
DIRECTOR

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Guru Nanak Dev Engg. College, Bidar

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CERTIFICATE OF ACHIEVEMENT

We present this certificate to

Ketan Joshi USN 3GN18ME021

in appreciation for your successful work as an intern at

KRITIKA TECHNICAL ACADEMY, NAGPUR

The industrial internship was conducted via online mode between

08 September 2021 TO **09 OCTOBER 2021.**

We wish all the best for your bright future!

Vijay K.

Er. VIJAY BHAMBRI
DIRECTOR

PRINCIPAL
Guru Nanak Dev Engg. College, Bidar

Reg. No. 11/2010-11

AUTO CLUSTER BIDAR
Common Facility Center

Managed by :Mohammadabad special purpose vehicle (CFC) Association Bidar
Funded By : Ministry of MSME, Govt. of India and Dept. of Industries& Commerce, Govt. of Karnataka

Ref. No. CFC/GND/INT/53/2021

Date : 25-10-021

TO WHOM IT MAY CONCERN

This is to certify that Mr. M.A Junaid bearing USN: 3GN18ME022, student of Guru Nanak Dev Engineering college Bidar, Visvesvaraya technological university Belgaum, Karnataka. Has successfully completed One Month internship at **Auto Cluster Bidar**, from 10th Sep. to 21st Oct. 2021 under the guidance of Mr. Md. Faiyaz (Chief Engineer, Auto Cluster Bidar).

During the period of his internship program with us he had been exposed to different Automotive Manufacturing processes and was found diligent, hardworking and inquisitive.

We wish him every success in his life and career.

Authorized Signatory

25/10/2021

Md. Shaheriaz B.E, M-Tech, (PhD)
Managing Director
Auto Cluster Bidar

Mohammadabad Special Purpose Vehicle CFC Association Bidar (Auto Cluster Bidar)

PRINCIPAL
College, Bidar

OFFICE: Survey #45/1,Chowli Village Road, Near Mohammadabad Autonagar, Naubad, BIDAR-585401
Contact#:+91-9886016118,9341892980,9986097295
Email:clusterpatel2@gmail.com

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GURU NANAK DEV ENGINEERING COLLEGE, BIDAR

CERTIFICATE OF ACHIEVEMENT

We present this certificate to

MA SHAKAIB ANWAR USN 3GN18ME023

in appreciation for your successful work as an intern at

KRITIKA TECHNICAL ACADEMY, NAGPUR

The industrial internship was conducted via online mode between

08 September 2021 TO 09 OCTOBER 2021.

We wish all the best for your bright future!

Vijay K..

Er. VIJAY BHAMBRI
DIRECTOR

PRINCIPAL
Guru Nanak Dev Engg. College, Bidar

CERTIFICATE

KRITIKA TECHNICAL ACADEMY

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In association with

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CERTIFICATE OF ACHIEVEMENT

We present this certificate to

MAHMAD KAIF USN 3GN18ME026

in appreciation for your successful work as an intern at

KRITIKA TECHNICAL ACADEMY, NAGPUR

The industrial internship was conducted via online mode between

08 September 2021 TO 09 OCTOBER 2021.

We wish all the best for your bright future!

Vijay K.

Er. VIJAY BHAMBRI
DIRECTOR

PRINCIPAL
Guru Nanak Dev Engg. College, BIDAR

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CERTIFICATE OF ACHIEVEMENT

This is to certify that Mana Siddharood , USN-3GN18ME027
Has successfully completed the Course
TECHNICAL SKILL DEVELOPMENT INTERNSHIP AS PER INDUSTRY 4.0
From 8th Sept 2021 to 8th Oct 2022 via online mode.
We wish him Good Luck for his Future Endeavours.

Date of issue of certificate: 11th Oct 2022

Address: C-16,Narmada Colony, Katol road, Nagpur

Vijay K...

DIRECTOR
ER. VIJAY BHAMBRI

PRINCIPAL
Guru Nanak Dev Engg. College, Bidar

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CERTIFICATE OF ACHIEVEMENT

We present this certificate to

MD ABID AZHAR USN 3GN18ME029

in appreciation for your successful work as an intern at

KRITIKA TECHNICAL ACADEMY, NAGPUR

The industrial internship was conducted via online mode between

08 September 2021 TO 09 OCTOBER 2021.

We wish all the best for your bright future!

Vijay K.

Er. VIJAY BHAMBRI
DIRECTOR

PRINCIPAL
Guru Nanak Dev Engg. College, Bidar

CERTIFICATE

KRITIKA TECHNICAL ACADEMY

(TECHNICAL TRAINING INSTITUTE)

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GURU NANAK DEV ENGINEERING COLLEGE, BIDAR

CERTIFICATE OF ACHIEVEMENT

We present this certificate to

MD ADIL USN 3GN18ME030

in appreciation for your successful work as an intern at

KRITIKA TECHNICAL ACADEMY, NAGPUR

The industrial internship was conducted via online mode between

08 September 2021 TO 09 OCTOBER 2021.

We wish all the best for your bright future!

Vijay R.

Er. VIJAY BHAMBRI
DIRECTOR

PRINCIPAL
Guru Nanak Dev Engineering College, Bidar

KRITIKA TECHNICAL ACADEMY

{ TECHNICAL TRAINING INSTITUTE}

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GURU NANAK DEV ENGINEERING COLLEGE, BIDAR

CERTIFICATE OF ACHIEVEMENT

We present this certificate to

MD. FAHAD EHTESHAM USN:3GN18ME031

in appreciation for your successful work as an intern at

KRITIKA TECHNICAL ACADEMY, NAGPUR

The industrial internship was conducted via online mode between

08 September 2021 TO 09 October 2021.

We wish all the best for your bright future!

Vijay K..

Er. VIJAY BHAMBRI
DIRECTOR

PRINCIPAL
Guru Nanak Dev Engg. College, Bidar

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CERTIFICATE OF ACHIEVEMENT

We present this certificate to

MD. MASTA MAHAGOVI USN:3GN18ME034

in appreciation for your successful work as an intern at

KRITIKA TECHNICAL ACADEMY, NAGPUR

The industrial internship was conducted via online mode between

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We wish all the best for your bright future!

Vijay R..

Er. VIJAY BHAMBRI
DIRECTOR

PRINCIPAL
Guru Nanak Dev Engg. College, Bidar

KRITIKA TECHNICAL ACADEMY

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GURU NANAK DEV ENGINEERING COLLEGE, BIDAR

CERTIFICATE OF ACHIEVEMENT

We present this certificate to

MD. AMER IRFAN HUSSAIN USN:3GN18ME040

in appreciation for your successful work as an intern at

KRITIKA TECHNICAL ACADEMY, NAGPUR

The industrial internship was conducted via online mode between

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We wish all the best for your bright future!

Vijay K..

Er. VIJAY BHAMBRI
DIRECTOR

PRINCIPAL
...nak Dev Engg. ... Bidar

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CERTIFICATE OF ACHIEVEMENT

We present this certificate to

MOHAMMED JABER ALI USN:3GN18ME042

in appreciation for your successful work as an intern at

KRITIKA TECHNICAL ACADEMY, NAGPUR

The industrial internship was conducted via online mode between

08 September 2021 TO 09 October 2021.

We wish all the best for your bright future!

Vijay K..

Er. VIJAY BHAMBRI
DIRECTOR

PRINCIPAL
Guru Nanak Dev Engg.

Reg. No. 11/2010-11

AUTO CLUSTER BIDAR
Common Facility Center

Managed by :Mohammadabad special purpose vehicle (CFC) Association Bidar
Funded By : Ministry of MSME, Govt. of India and Dept. of Industries& Commerce, Govt. of Karnataka

Ref. No ACB/GNDEC/INT/93/2021-22 Date 04/10/2021

TO WHOM IT MAY CONCERN

This is to Certify that Mr. **Mohammed Rizwan Ladle** bearing USN: **3GN18ME043**, student of Guru Nanak Dev Engineering college Bidar, Visvesvaraya technological university Belgaum ,Karnataka. Has successfully completed One Month internship at **Auto Cluster Bidar,** from **06th Sept. to 04thOct. 2021** under the guidance of Mr. Md. Faiyaz (Chief Engineer, Auto Cluster Bidar).

During the period of his internship program with us he had been exposed to different Automotive Manufacturing processes and was found diligent, hardworking and inquisitive.

We wish him every success in his life and career.

Authorized Signatory

04/10/2021

Md. ShaheriazB.E. M-Tech. (PhD)
Managing Director
Auto Cluster Bidar

Mohammadabad Special Purpose Vehicle (CFC) Association Bidar ★ (Auto Cluster Bidar)

OFFICE: Survey #45/1,Chowli Village Road, Near Mohammadabad Autonagar, Naubad, BIDAR-585401
Contact#:+91-9886016118,9341892980,9986097295
Email:clusterpatel2@gmail.com

PRINCIPAL
Guru Nanak Dev Engg. College, Bidar

Reg. No. 11/2010-11

AUTO CLUSTER BIDAR
Common Facility Center

Managed by :Mohammadabad special purpose vehicle (CFC) Association Bidar
Funded By : Ministry of MSME, Govt. of India and Dept. of Industries& Commerce, Govt. of Karnataka

Ref. No ACB/GNDEC/INT/98/2021-2022 Date 04/10/2021

TO WHOM IT MAY CONCERN

This is to Certify that Mr. **Mohammed Shoaib Musharaf** bearing USN:**3GN18ME044,** student of Guru Nanak Dev Engineering college Bidar, Visvesvaraya technological university Belgaum ,Karnataka. Has successfully completed One Month internship at **Auto Cluster Bidar,** from **06th Sept. to 04thOct. 2021** under the guidance of Mr. Md. Faiyaz (Chief Engineer, Auto Cluster Bidar).

During the period of his internship program with us he had been exposed to different Automotive Manufacturing processes and was found diligent, hardworking and inquisitive.

We wish him every success in his life and career.

Authorized Signatory

Md. ShaheriazB.E, M-Tech, (PhD)
Managing Director
Auto Cluster Bidar

Mohammadabad Special Purpose Vehicle CFC Association Bidar (Auto Cluster Bidar)

OFFICE: Survey #45/1,Chowli Village Road, Near Mohammadabad Autonagar, Naubad, BIDAR-585401
Contact#:+91-9886016118,9341892980,9986097295
Email:clusterpatel2@gmail.com

Guru Nanak Dev Engg. College, Bidar

KRITIKA TECHNICAL ACADEMY

{ TECHNICAL TRAINING INSTITUTE}

In association with

GURU NANAK DEV ENGINEERING COLLEGE, BIDAR

CERTIFICATE OF ACHIEVEMENT

We present this certificate to

MOHD. RIZWAN USN:3GN18ME046

in appreciation for your successful work as an intern at

KRITIKA TECHNICAL ACADEMY, NAGPUR

The industrial internship was conducted via online mode between

08 September 2021 TO 09 October 2021.

We wish all the best for your bright future!

Vijay K..

Er. VIJAY BHAMBRI
DIRECTOR

PRINCIPAL
Guru Nanak Dev Engg. College, Bidar

CERTIFICATE

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GURU NANAK DEV ENGINEERING COLLEGE, BIDAR

CERTIFICATE OF ACHIEVEMENT

We present this certificate to

MOHD SAMEER SHAH USN 3GN18ME047

in appreciation for your successful work as an intern at

KRITIKA TECHNICAL ACADEMY, NAGPUR

The industrial internship was conducted via online mode between

08 September 2021 TO **09 OCTOBER 2021.**

We wish all the best for your bright future!

Vijay K.

Er. VIJAY BHAMBRI
DIRECTOR

··PAL

Guru Nana ... llege, Bidar

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CERTIFICATE OF ACHIEVEMENT

We present this certificate to

Paramdeep Singh USN 3GN18ME048

in appreciation for your successful work as an intern at

KRITIKA TECHNICAL ACADEMY, NAGPUR

The industrial internship was conducted via online mode between

08 September 2021 TO 09 OCTOBER 2021.

We wish all the best for your bright future!

Vijay K.

Er. VIJAY BHAMBRI
DIRECTOR

PRINCIPAL
G. College, Bidar

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CERTIFICATE OF ACHIEVEMENT

We present this certificate to

PRAJWAL DESHMUKH USN:3GN18ME049

in appreciation for your successful work as an intern at

KRITIKA TECHNICAL ACADEMY, NAGPUR

The industrial internship was conducted via online mode between

08 September 2021 TO 09 October 2021.

We wish all the best for your bright future!

PRINCIPAL
Guru Nanak Dev Engg. College, Bidar

Vijay K...

Er. VIJAY BHAMBRI
DIRECTOR

LAHOTI MOTORS PVT. LTD.
Authorised Maruti Suzuki Dealer & Service Centre

MARUTI SUZUKI

Certificate of Internship

This is to certify that Mr./Ms. **Raghavendra Reddy** *bearing USN:* **3GN18ME050**
student of B.E. Department of Mechanical Engineering, GURUNANAK DEV Engineering College Bidar has successfully completed Internship on **Vehicle Maintenance & Repairing Method** *for the duration of 4 weeks from 25th August 2021 to 25th Sept. 2021 in Collaboration with Lahoti Motors Kalburagi. We wish you all the best for your future endeavours .*

PRINCIPAL
Guru Nanak Dev Engg. College, Bidar

LAHOTI MOTORS PRIVATE LIMITED
Director
(Lahoti Motors)

SHAMRAJ
Enercon Technologies

Date – 18.10.2021

Certificate for Internship Program

This is on request of HOD/Principal Guru Nanak Dev Engineering College, Bidar Mr. Ritikesh Gokule USN NO – 3GN18ME051 was under Internship training program as a part of the course in our organization under our technical team of the manufacturing of boiling house equipment's for sugar mill & boiler equipment's for a period of Four weeks from sep 10.

He deserves all encouragement in his endeavor and I will wish him all success in his carries

General Manager
Kiran Gorwade
Date – 18.10.2021.

PRINCIPAL
College, Bidar

Head Office & Factory Address :-
Gut No.6,4,64 A/p.Chimbali
Tal.Khed. Dist.Pune-412105.
Maharashtra ,India.
Email : admin@shamrajenercon.com
Mobile No. +91 8792753447
Website : www.shamrajenercon.com

Regd.Office :- Plot No.422/B,CTS No.170,Flat No 204, Atharva Classic, Near Dashbhuja Ganpati, Paud Phata, Erandawana,Pune-411038.
Maharashtra ,India.

CERTIFICATE

KRITIKA TECHNICAL ACADEMY

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GURU NANAK DEV ENGINEERING COLLEGE, BIDAR

CERTIFICATE OF ACHIEVEMENT

We present this certificate to

SAGAR DHAGE USN 3GN18ME053

in appreciation for your successful work as an intern at

KRITIKA TECHNICAL ACADEMY, NAGPUR

The industrial internship was conducted via online mode between

08 September 2021 TO 09 OCTOBER 2021.

We wish all the best for your bright future!

Vijay R.

Er. VIJAY BHAMBRI
DIRECTOR

PRINCIPAL
Guru Nanak Dev Engg. College, Bidar

CERTIFICATE

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CERTIFICATE OF ACHIEVEMENT

We present this certificate to

Shaik Adnan Sameer USN 3GN18ME055

in appreciation for your successful work as an intern at

KRITIKA TECHNICAL ACADEMY, NAGPUR

The industrial internship was conducted via online mode between

08 September 2021 TO **09 OCTOBER 2021.**

We wish all the best for your bright future!

Vijay K.

Er. VIJAY BHAMBRI
DIRECTOR

PRINCIPAL
Guru Nanak Dev Engg. College, Bidar

SHAMRAJ
Enercon Technologies

Date – 18.10.2021

Certificate for Internship Program

This is on request of HOD/Principal Guru Nanak Dev Engineering College, Bidar Mr. ShivaKumar C.M USN NO – 3GN18ME058 was under Internship training program as a part of the course in our organization under our technical team of the manufacturing of boiling house equipment's for sugar mill & boiler equipment's for a period of Four weeks from 10th Sept 2021

He deserves all encouragement in his endeavor and I will wish him all success in his carries

General Manager
Kiran Gorwade
Date – 18.10.2021.

PRINCIPAL
Guru Nanak Dev Engg. College, Bidar

Head Office & Factory Address :-
Gut No.6,4,64 A/p.Chimbali
Tal.Khed. Dist.Pune-412105.
Maharashtra ,India.
Email : admin@shamrajenercon.com
Mobile No. +91 8792753447
Website : www.shamrajenercon.com

Regd.Office :- Plot No.422/B,CTS No.170,Flat No 204,
Atharva Classic, Near Dashbhuja Ganpati, Paud Phata,
Erandawana,Pune-411038.
Maharashtra ,India.

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CERTIFICATE OF ACHIEVEMENT

We present this certificate to

SHOEB ROSHAN USN:3GN18ME059

in appreciation for your successful work as an intern at

KRITIKA TECHNICAL ACADEMY, NAGPUR

The industrial internship was conducted via online mode between

08 September 2021 TO 09 October 2021.

We wish all the best for your bright future!

Vijay R..

Er. VIJAY BHAMBRI
DIRECTOR

KRITIKA TECHNICAL ACADEMY

{ TECHNICAL TRAINING INSTITUTE}

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GURU NANAK DEV ENGINEERING COLLEGE, BIDAR

CERTIFICATE OF ACHIEVEMENT

We present this certificate to

SIDDHAREDDY USN:18ME060

in appreciation for your successful work as an intern at

KRITIKA TECHNICAL ACADEMY, NAGPUR

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08 September 2021 TO 09 October 2021.

We wish all the best for your bright future!

PRINCIPAL

Guru Nanak Dev Engg. College, Bidar

Vijay K...

Er. VIJAY BHAMBRI

DIRECTOR

KRITIKA TECHNICAL ACADEMY
A TECHNICAL TRAINING INSTITUTE

CERTIFICATE OF ACHIEVEMENT

This is to certify that STANLEY CHRISTOPHER, USN-3GN18ME062
Has successfully completed the Course
TECHNICAL SKILL DEVELOPMENT INTERNSHIP AS PER INDUSTRY 4.0
From 8th Sept 2021 to 8th Oct 2022 via online mode.
We wish him Good Luck for his Future Endeavours.

Date of issue of certificate: 11th Oct 2022

Address: C-16,Narmada Colony, Katol road, Nagpur

Vijay K...

DIRECTOR
ER. VIJAY BHAMBRI

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{ TECHNICAL TRAINING INSTITUTE}

In association with

GURU NANAK DEV ENGINEERING COLLEGE, BIDAR

CERTIFICATE OF ACHIEVEMENT

We present this certificate to

SUDHAKAR USN:3GN18ME063

in appreciation for your successful work as an intern at

KRITIKA TECHNICAL ACADEMY, NAGPUR

The industrial internship was conducted via online mode between

08 September 2021 TO 09 October 2021.

We wish all the best for your bright future!

Vijay R..

Er. VIJAY BHAMBRI
DIRECTOR

PRINCIPAL
Guru Nanak Dev Engg. College, Bidar

KRITIKA TECHNICAL ACADEMY

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GURU NANAK DEV ENGINEERING COLLEGE, BIDAR

CERTIFICATE OF ACHIEVEMENT

We present this certificate to

SUNIL USN **3GN18ME064**

in appreciation for your successful work as an intern at

KRITIKA TECHNICAL ACADEMY, NAGPUR

The industrial internship was conducted via online mode between

08 September 2021 TO **09 OCTOBER 2021.**

We wish all the best for your bright future!

PRINCIPAL
Guru Nanak Dev Engg. College, Bidar

Vijay K..

Er. VIJAY BHAMBRI

KRITIKA TECHNICAL ACADEMY

A TECHNICAL TRAINING INSTITUTE

CERTIFICATE OF ACHIEVEMENT

This is to certify that Sunil Harkanchi , USN-3GN18ME065
Has successfully completed the Course
TECHNICAL SKILL DEVELOPMENT INTERNSHIP AS PER INDUSTRY 4.0
From 8th Sept 2021 to 8th Oct 2022 via online mode.
We wish him Good Luck for his Future Endeavours.

Date of issue of certificate: 11th Oct 2022

Address: C-16, Narmada Colony, Katol road, Nagpur

Vijay K..

DIRECTOR
ER. VIJAY BHAMBRI

ollege, Bidar

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CERTIFICATE OF ACHIEVEMENT

We present this certificate to

SYED ASIM ATHER USN:3GN18ME068

in appreciation for your successful work as an intern at

KRITIKA TECHNICAL ACADEMY, NAGPUR

The industrial internship was conducted via online mode between

08 September 2021 TO 09 October 2021.

We wish all the best for your bright future!

Vijay K..

Er. VIJAY BHAMBRI
DIRECTOR

PRINCIPAL
Guru Nanak Dev Engg. College, Bidar

CERTIFICATE

KRITIKA TECHNICAL ACADEMY

{TECHNICAL TRAINING INSTITUTE}

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GURU NANAK DEV ENGINEERING COLLEGE, BIDAR

CERTIFICATE OF ACHIEVEMENT

We present this certificate to

Syed Isamuddin USN 3GN18ME069

in appreciation for your successful work as an intern at

KRITIKA TECHNICAL ACADEMY, NAGPUR

The industrial internship was conducted via online mode between

08 September 2021 TO 09 OCTOBER 2021.

We wish all the best for your bright future!

Vijay K.

Er. VIJAY BHAMBRI
DIRECTOR

PRINCIPAL
Guru Nanak Dev Engg. College, Bidar

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CERTIFICATE OF ACHIEVEMENT

We present this certificate to

SYED REZVAN ALI USN:3GN18ME070

in appreciation for your successful work as an intern at

KRITIKA TECHNICAL ACADEMY, NAGPUR

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08 September 2021 TO 09 October 2021.

We wish all the best for your bright future!

Vijay K..

Er. VIJAY BHAMBRI
DIRECTOR

PRINCIPAL
Guru Nanak Dev Engg. College, Bidar

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CERTIFICATE OF ACHIEVEMENT

We present this certificate to

VISHNU RAMESH KALWE USN:3GN18ME074

in appreciation for your successful work as an intern at

KRITIKA TECHNICAL ACADEMY, NAGPUR

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08 September 2021 TO 09 October 2021.

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Vijay K..

Er. VIJAY BHAMBRI
DIRECTOR

PRINCIPAL
Guru Nanak Dev Engg. College, Bidar

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CERTIFICATE OF ACHIEVEMENT

We present this certificate to

KARAN JADHAV USN 3GN18ME075

in appreciation for your successful work as an intern at

KRITIKA TECHNICAL ACADEMY, NAGPUR

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Vijay K..

Er. VIJAY BHAMBRI
DIRECTOR

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CERTIFICATE OF ACHIEVEMENT

We present this certificate to

Mohit Choudhary USN 3GN18ME076

in appreciation for your successful work as an intern at

KRITIKA TECHNICAL ACADEMY, NAGPUR

The industrial internship was conducted via online mode between

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Vijay K.

Er. VIJAY BHAMBRI
DIRECTOR

PRINCIPAL
Guru N[illegible]g. College, Bidar

CERTIFICATE

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{TECHNICAL TRAINING INSTITUTE}

In association with

GURU NANAK DEV ENGINEERING COLLEGE, BIDAR

CERTIFICATE OF ACHIEVEMENT

We present this certificate to

Amar USN 3GN19ME400

in appreciation for your successful work as an intern at

KRITIKA TECHNICAL ACADEMY, NAGPUR

The industrial internship was conducted via online mode between

08 September 2021 TO 09 OCTOBER 2021.

We wish all the best for your bright future!

PRINCIPAL
Guru Nanak Dev Engg. College, Bidar

Er. VIJAY BHAMBRI
DIRECTOR

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CERTIFICATE

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CERTIFICATE OF ACHIEVEMENT

We present this certificate to

BASAVARAJ USN 3GN19ME401

in appreciation for your successful work as an intern at

KRITIKA TECHNICAL ACADEMY, NAGPUR

The industrial internship was conducted via online mode between

08 September 2021 TO 09 OCTOBER 2021.

We wish all the best for your bright future!

Vijay K..

Er. VIJAY BHAMBRI
DIRECTOR

PRINCIPAL
Guru Nanak Dev Engg. College, Bidar

CERTIFICATE

KRITIKA TECHNICAL ACADEMY

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In association with

GURU NANAK DEV ENGINEERING COLLEGE, BIDAR

CERTIFICATE OF ACHIEVEMENT

We present this certificate to

DILEEP USN 3GN19ME402

in appreciation for your successful work as an intern at

KRITIKA TECHNICAL ACADEMY, NAGPUR

The industrial internship was conducted via online mode between

08 September 2021 TO **09 OCTOBER 2021.**

We wish all the best for your bright future!

Vijay K..

Er. VIJAY BHAMBRI
DIRECTOR

Bidar

CERTIFICATE

KRITIKA TECHNICAL ACADEMY

{ TECHNICAL TRAINING INSTITUTE}

In association with

GURU NANAK DEV ENGINEERING COLLEGE, BIDAR

CERTIFICATE OF ACHIEVEMENT

We present this certificate to

MD MATHEEN USN 3GN19ME403

in appreciation for your successful work as an intern at

KRITIKA TECHNICAL ACADEMY, NAGPUR

The industrial internship was conducted via online mode between

08 September 2021 TO 09 OCTOBER 2021.

We wish all the best for your bright future!

Vijay K..

Er. VIJAY BHAMBRI
DIRECTOR

PRINCIPAL
Guru Nanak Dev Engg. College, Bidar

SLN : 9ME404

CERTIFICATE

KRITIKA TECHNICAL ACADEMY

{ TECHNICAL TRAINING INSTITUTE}

CERTIFICATE OF ACHIEVEMENT

We present this certificate to

Mehsan Bin Omer

in appreciation for your successful work as an intern at

KRITIKA TECHNICAL ACADEMY, NAGPUR

The industrial internship was conducted via online mode between

22 July 2021 TO **25August 2021.**

We wish all the best for your bright future!

PRINCIPAL
Nanak Dev Engg. College, Bidar

Vijay K.

Er. VIJAY BHAMBRI
DIRECTOR

KRITIKA TECHNICAL ACADEMY

{ TECHNICAL TRAINING INSTITUTE}

In association with

GURU NANAK DEV ENGINEERING COLLEGE, BIDAR

CERTIFICATE OF ACHIEVEMENT

We present this certificate to

MUDABBIR AHMED FAHEEM USN 3GN19ME405

in appreciation for your successful work as an intern at

KRITIKA TECHNICAL ACADEMY, NAGPUR

The industrial internship was conducted via online mode between

08 September 2021 TO 09 October 2021.

We wish all the best for your bright future!

Vijay K.

Er. VIJAY BHAMBRI
DIRECTOR

PRINCIPAL
Guru Nanak Dev Engg. College, Bidar

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{ TECHNICAL TRAINING INSTITUTE}

In association with

GURU NANAK DEV ENGINEERING COLLEGE, BIDAR

CERTIFICATE OF ACHIEVEMENT

We present this certificate to

Mudassir Ahmed Kareem USN 3GN19ME406

in appreciation for your successful work as an intern at

KRITIKA TECHNICAL ACADEMY, NAGPUR

The industrial internship was conducted via online mode between

08 September 2021 TO **09 OCTOBER 2021.**

We wish all the best for your bright future!

PRINCIPAL
Guru Nanak Dev Engg. College, Bidar

Vijay K..

Er. VIJAY BHAMBRI
DIRECTOR

KRITIKA TECHNICAL ACADEMY

{TECHNICAL TRAINING INSTITUTE}

In association with

GURU NANAK DEV ENGINEERING COLLEGE, BIDAR

CERTIFICATE OF ACHIEVEMENT

CERTIFICATE

We present this certificate to

Suryakant USN 3GN19ME407

in appreciation for your successful work as an intern at

KRITIKA TECHNICAL ACADEMY, NAGPUR

The industrial internship was conducted via online mode between

08 September 2021 TO 09 OCTOBER 2021.

We wish all the best for your bright future!

Vijay K..

Er. VIJAY BHAMBRI
DIRECTOR

PRINCIPAL
Guru Nanak Dev Engg. College, Bidar

CERTIFICATE

KRITIKA TECHNICAL ACADEMY

{TECHNICAL TRAINING INSTITUTE}

In association with

GURU NANAK DEV ENGINEERING COLLEGE, BIDAR

CERTIFICATE OF ACHIEVEMENT

We present this certificate to

Udesh USN 3GN19ME408

in appreciation for your successful work as an intern at

KRITIKA TECHNICAL ACADEMY, NAGPUR

The industrial internship was conducted via online mode between

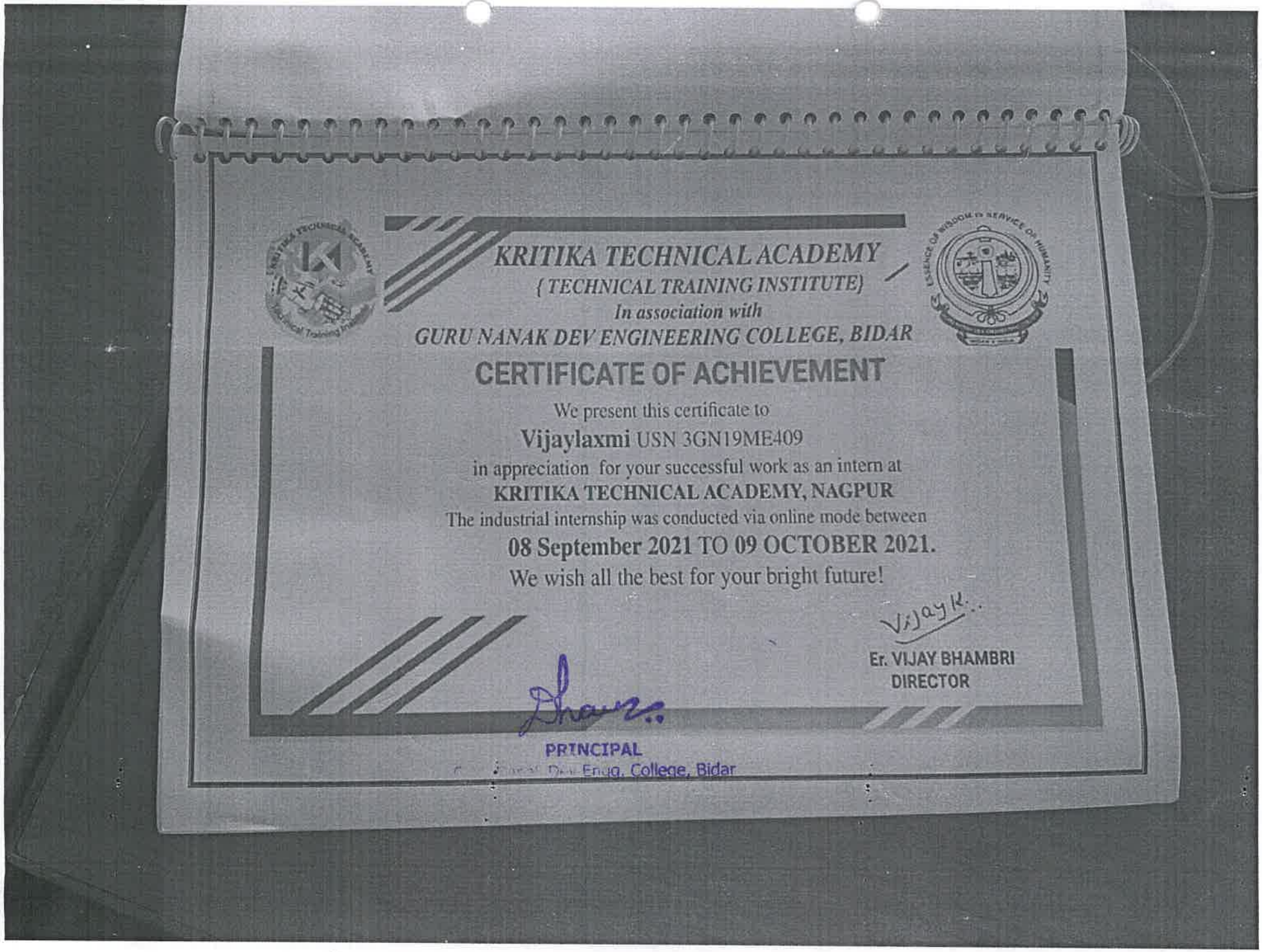
08 September 2021 TO 09 OCTOBER 2021.

We wish all the best for your bright future!

Vijay R.

Er. VIJAY BHAMBRI
DIRECTOR

PRINCIPAL
Guru Nanak Dev Engg. College, Bidar



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