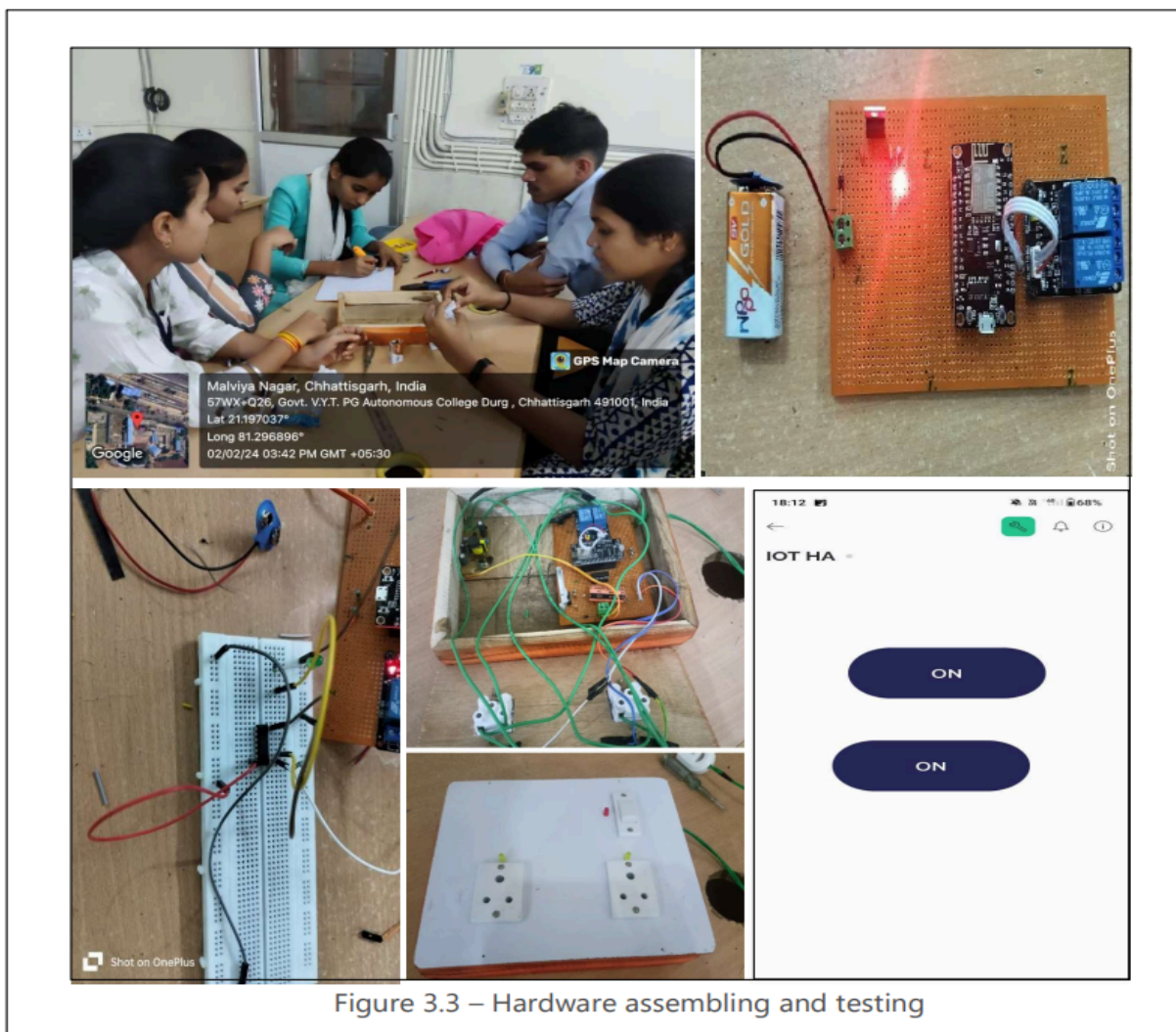


SKILL DEVELOPMENT PROGRAM 18 January to 07 February 2024

A skill development program organized by department of physics on 18-01-2024 to 07-02-2024 funded by PM-USHA for M.Sc. IV Semester student. Under this Program student construct working model these are the following

(1) IOT BASED HOME AUTOMATION- Bhimeshwari, Deseema, Kavita Sahu, Khumendra and Neema

Home automation refers to the automatic way to control of house hold appliances, there are various systems used for home automation that is based on different microcontrollers and take different parameters to monitor and control the home appliances. The system providing facility to control of home appliances by IoT sensor and other communication devices efficiently.



Working: - We can control home appliances wirelessly using this switch board from distance. When we press on the ON button displayed on the app for the device 1, The light is switched ON. This light can be switched OFF, by pressing the same button again. Similarly, when the user presses on the ON button displayed on the app for the device 2 the light switched ON, the light can be switched OFF pressing same button again. The app for the device 2 the light switched ON; the light can be switched OFF pressing same button again.

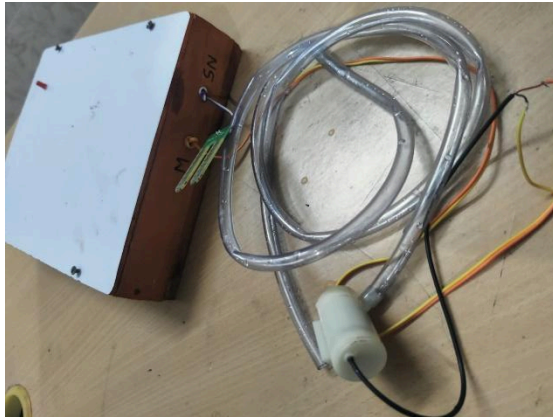
APPLICATION: - For controlling home appliances wirelessly from distance.

(2) REAL DATA SOIL MONITORING SYSTEM -by Kushal Salecha, Jhalak Verma, Kavyansh Sahu and Bhuneshwari

Introduction: This system measures the soil moisture level of the soil. It is an IoT based system, so it is connected with internet. The soil moisture level can be seen using BlynkIoT mobile app and also the water pump can be remotely controlled using the same app.

Working: This system is using Esp8266 wi-fi module as microcontroller, which is connected to a soil moisture sensor. The sensor reads the soil moisture level and send data to ESP8266 sends this data to the user interface like mobile, computer etc. There is a switch in user interface to control the water pump so we can water the plant by turning on the switch.

Applications: · Automatic irrigation: The system can be used to automatically irrigate crops, gardens, and lawns. This can help to save water and ensure that plants are getting the right amount of water. · Saves water: The system can help to save water by automatically irrigating plants only when they need it.



(3)Real Time Digital Clock Pannel Board - By Tejashvi, Rahul, Gamini and Lachchandai

Hardware Setup: The digital clock consists of a microcontroller (such as Arduino or Raspberry Pi), a real-time clock (RTC) module, and a display unit (LED, LCD, or OLED display).

Internet Connectivity: The microcontroller is connected to the internet using Wi-Fi, Ethernet, or other connectivity options.

Time Synchronization: The microcontroller retrieves the current time from an NTP (Network Time Protocol) server over the internet.

Display: The current time obtained from the NTP server is displayed on the digital display unit.

Updating Time: The clock periodically synchronizes with the NTP server to ensure accurate timekeeping.

User Interface (optional): Some clocks may have additional features such as alarm settings, temperature display, etc. Overall, the clock continuously updates itself by retrieving the current time from the internet, ensuring it remains accurate.

Application

1. This clock is used in data logging applications.
2. It can be used in time stamps
3. As an alarm and timer.
4. As a simple clock in houses, offices etc.
5. It is also used in: -
 - a) Institute
 - b) Hospitals
 - c) Park
 - d) Railway Stations
 - e) Bus Stations
 - f) Shopping mall
 - g) Public place
 - h) Score board



(4)Agriculture solar insert trapper _ By Vaman Lal, Payal, Minakshi, Lalita and Vibha

Solar insect trapper is a solar powered product use for trapping insects and flies.

Solar insect traps are important for several reasons.

- Firstly, they provide an environmentally friendly alternative to using pesticides, which can have adverse effects on people, animals, and the environment.
- Secondly, solar insect traps can efficiently control mosquitoes, which are carriers of infectious diseases, in areas where there is a high risk of infection.
- Additionally, solar insect traps can be used in terrains with limited access to power supply, such as rice fields and forests, allowing for effective monitoring and control of flying insects.
- Furthermore, solar insect traps have a simple structure, long service life, and good insect trapping effect, making them an effective tool for insect control.
- Overall, solar insect light traps offer a sustainable and effective solution for managing insect pests while minimizing the negative impacts on the environment and human health.





(5) SOLAR BASED SMART PHONE CHARGER – By Vishvjit , Eswari, Khomeshwari, Kavita and Kareena

PRINCIPLE: The Solar-Based Smartphone Charger operates on the principle of photovoltaics. Solar cells within the charger directly convert sunlight into electricity. By harnessing solar energy through built-in solar panels, the charger transforms sunlight into electrical energy, enabling the charging of smartphones.

WORKING: A solar smartphone charger utilizes solar panels to capture sunlight and convert it into electrical energy. This energy can either be stored in a battery or directly used to charge a phone via a USB connection. The charger typically incorporates photovoltaic cells that absorb sunlight, generating electricity through the photovoltaic effect. This eco-friendly solution facilitates phone charging even in off-grid locations or areas with limited access to conventional power sources.

APPLICATION: A solar-based smartphone charger finds utility in various scenarios, including:

- **Outdoor Activities:** Ideal for camping, hiking, or any outdoor pursuits where access to traditional power outlets is scarce.
- **Emergency Situations:** Provides a reliable power source during power outages or emergencies when electricity is unavailable.
- **Traveling:** Convenient for maintaining smartphone charge while on the move, particularly in remote or rural areas.
- **Sustainability:** Promotes the adoption of renewable energy sources for daily technological requirements, reducing dependence on fossil fuels.
- **Education:** Serves as a practical tool for teaching about renewable energy and sustainability by demonstrating the application of solar power in charging devices.





PROJECT REPORT

ON

“AUTOMATIC ALARMING SYSTEM FOR TRAIN”

SUBMITTED TO

GOVT. V.Y.T.PG. AUTONOMOUS COLLEGE DURG (C.G.)



MASTER OF SCIENCE IN PHYSICS

GUIDED BY

Dr. Santosh Mishra

SUBMITTED BY

Asha Sonwani



Session 2023-2024

DEPARTMENT OF PHYSICS

GOVT. V.Y.T.PG. AUTONOMOUS COLLEGE DURG (C.G.)



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BHILAI HOUSE, G.E. ROAD, DURG (CHHATTISGARH), INDIA

(SETH BALKRISHAN MEMORIAL)



No. BIT/IDEA LAB /2023/ INT / 01

Date: 15th NOV 2023

Certificate Of Completion



This is to certify that **ASHA SONWANI**, 1st Semester M.Sc. (Physics), Govt. V.Y.T. Post Graduate Autonomous College, Durg, C.G., has successfully completed her Internship with AICTE IDEA Lab BIT, Durg from October 18th, 2023 to November 15th, 2023, held at Bhilai Institute of Technology, Durg, C.G.

Best wishes for all future endeavors.

Dr. Arun Arora

Chief Mentor, IDEA Lab
BIT, Durg (C.G.)

Dr. Pawan Kumar Patnaik

Coordinator, IDEA Lab
BIT, Durg (C.G.)

ACKNOWLEDGMENT

In Present day technology can become the “wings” that will allow the educational world to fly further and faster than ever before- if we allow it. Technology has the potential to revolutionize education because they are like two coins of the same side, without which it is impossible to imagine the comprehensive development of any country.

We are incredibly grateful to the principal of **GOVT. V.Y.T.PG. Autonomous college durg**, Dr. M.A. Siddiqui sir who permitted us to attend this internship program at Bhilai institute of technology.

Also, thankful **PM-USHA** for providing fund to us, so that we can able to succeed to making the project.

Furthermore, we would like to express our gratitude to Dr. Jageet kaur Saluja Ma'am “**Head of the Physics Department**”, for providing us with this amazing chance to participate in the internship program.

We express our sincere gratitude to Dr. R.N. Singh Sir, Dr. Anita Shukla Ma'am, Dr. Siddheshwari Chandraker Ma'am, Dr. Abhishek Mishra Sir, Dr. Kusumanjali Deshmukh Ma'am, Mr. Bhupendra Das Sir and Mr. Neeraj Yadav Sir, for your invaluable guidance during our project.

24 students from M.Sc. Previous participated in a group of 4 students for this internship program. We created a total of **6 project** using our creativity and gained a lot of knowledge.

It was a very good time for us to learn something new and innovative, which will help us a lot in making more projects in the future, so that we can also contribute toward achieving the goal of **ViksitBhart@2047**.

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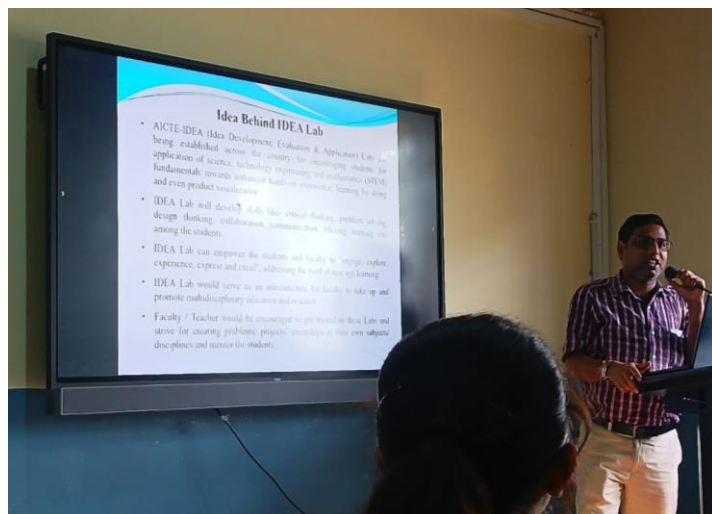
A BRIEF OVERVIEW OF THE INTERNSHIP PROGRAM

The Bhilai Institute of Technology (BIT) Durg is well-known for its aesthetically pleasing campus, excellent instructors with a wealth of experience, and committed staff.



We all had the wonderful opportunity to participate in an internship program at **IDEA LAB**, which ran from **October 18, 2023, to November 15, 2023.**

Throughout the course of this internship program, we attended numerous technical workshops where we learned about Arduino and LDR and observed a variety of machines, including those that printed cups, t-shirts, laser cut objects, 3D prints, and many other things.



3D PRINTER

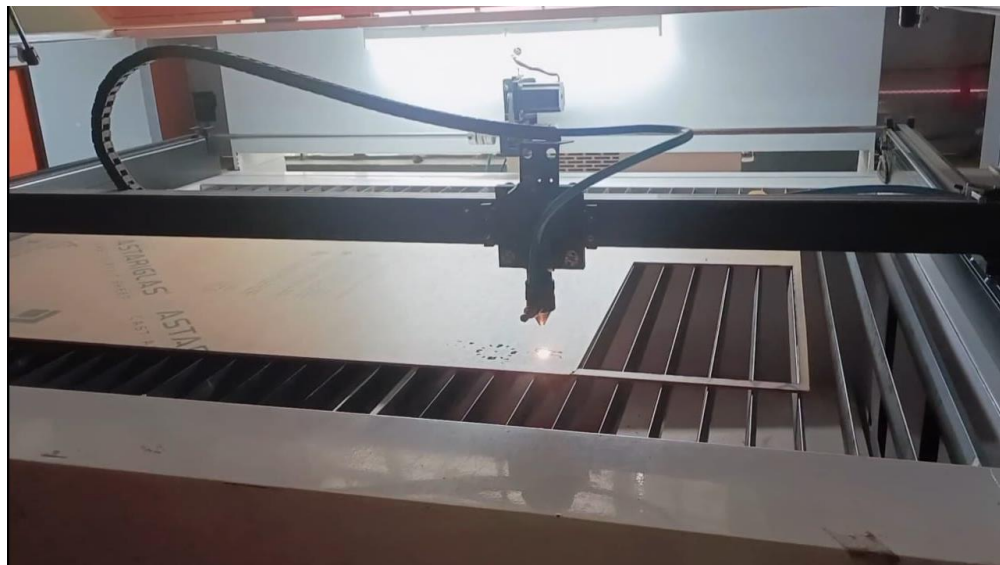
3D printing is a process in which a digital model is turned into a tangible, solid, three-dimensional object, usually by laying down many successive, thin layers of a material. 3D printing has become popular so quickly because it makes manufacturing accessible to more people than ever before.



[3D Printer](#)

LASER CUTTING MACHINE

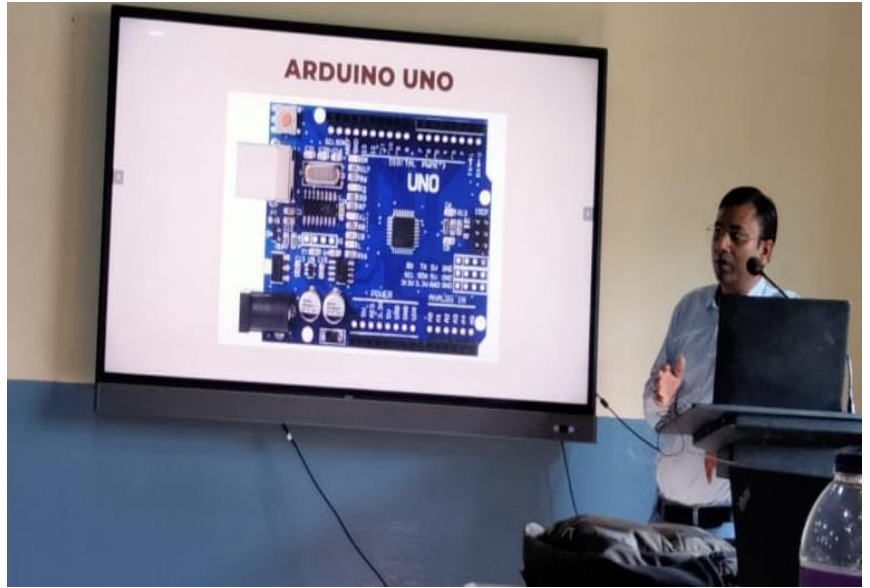
Laser cutting is mainly a thermal process in which a focused laser beam is used to melt material in a localized area. A co-axial gas jet is used to eject the molten material and create a kerf. A continuous cut is produced by moving the laser beam or workpiece under CNC control.



[Laser Cutting Machine](#)

ARDUINO

The Arduino Uno comes with USB interface, 6 analog input pins, 14 I/O digital ports that are used to connect with external electronic circuits. Out of 14 I/O ports, 6 pins can be used for PWM output. It allows the designers to control and sense the external electronic devices in the real world.



Arduino is an Italian 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 the 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.



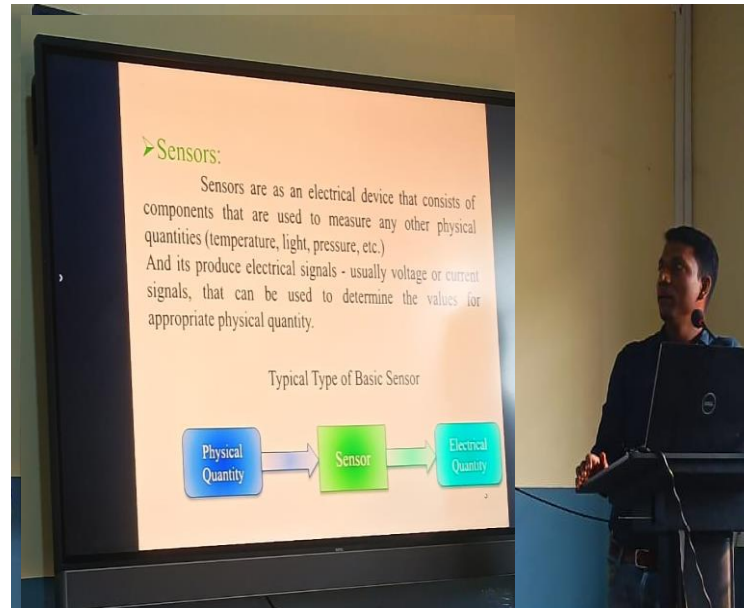
[Arduino Nano](#)



[Arduino Uno](#)

SENSORS

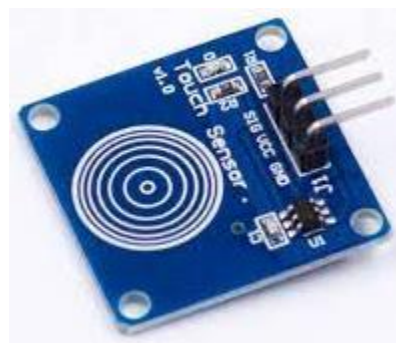
A sensor is a device that detects the change in the environment and responds to some output on the other system. A sensor converts a physical phenomenon into a measurable analog voltage converted into a human -readable display or transmitted for reading or further processing.



One of the best-known sensors is the microphone, which converts sound energy to an electrical signal that can be amplified, transmitted, recorded, and reproduced. Sensors are used in our everyday lives.



Ultrasonic Sensor



Touch Sensor

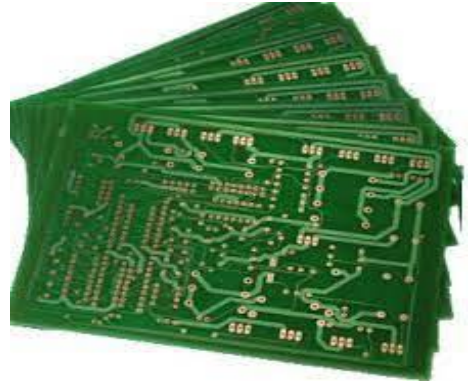


Color Sensor

PCB (PRINTED CIRCUIT BOARD)



PCBs are made by isolating the surface copper foil conductive layer through the board base insulation material, which allows current to flow through various components along a pre-designed route.

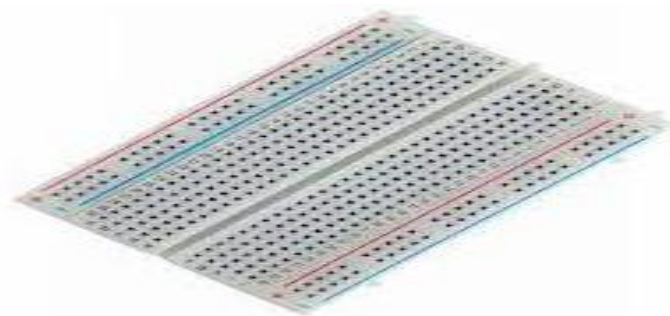


Ultimately achieving functions such as power making, amplification, attenuation, modulation, demodulation, and coding.

PCB (Printed Circuit Board)

BREAD BOARD

A breadboard (sometimes called a plug block) is used for building temporary circuits. It is useful to designers because it allows components to be removed and replaced easily. It is useful to the person who wants to build a circuit to demonstrate its action, then to reuse the components in another circuit.



Bread Board

INTRODUCTION

Our Project is design strategy for an Arduino-based safety system to prevent railway accidents. When a train is 500 meters away from an object (a person or an animal), this railway accident prevention safety system commands the person or animal if it is on the track.

In this system, a high-frequency sound wave is transmitted by an ultrasonic sensor, which then waits for the sound to return before calculating the distance based on the required amount of time. In order to alert people to the impending arrival of a train, an ultrasonic sensor works by scanning for and identifying the vehicle.

It then sends a signal to a buzzer to generate an alarm on the railway track. Keywords – Arduino, Ultrasonic Sensor, Buzzer, DC Servomotor, LED Lights. To prevent accidents on the rails, at crossings, etc.

So, the project here is the detection of trains approaching the track. Arduino, an ultrasonic sensor, and a buzzer are used in this.

The train that is approaching the track is detected by this ultrasonic sensor-based technology. The proposed technology locates the train using ultrasonic sensors. A sensor placed between 500 meters or at our discretion can detect the arrival of the train.

OUR PROJECT (AUTOMATIC ALARMING SYSTEM FOR TRAIN)

Under the direction of pro. Santosh Mishra, LAB Guru at **Idea lab, BIT Durg**, we created a working project on “**Automatic Alarming system for train**” or “**safety system for living beings**” during the internship program.

Avoiding Railroad Accidents, we are presenting A project using an Arduino ultrasonic sensor-based safety system our aim is to avoid accidents on train tracks. We are aware that the country's most popular mode of transit is rail. Accidents are happening more frequently at the railway crossing.



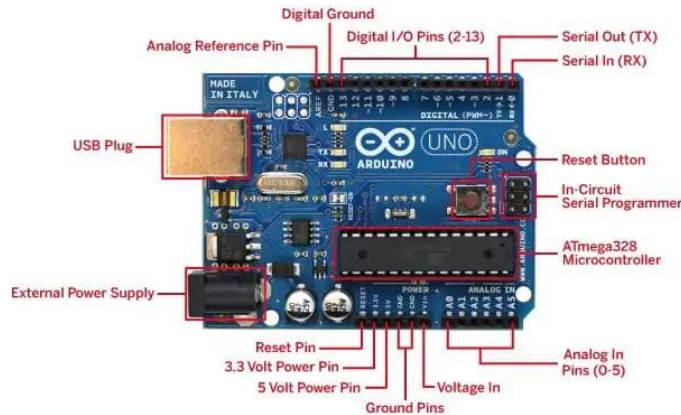
Which can be used in a simple and easy way to reduce the increase in train accidents so that precious human lives and other valuable can be saved.

The components we use in our project – Arduino uno, ultrasonic sensor, led buzzer etc.

ARDUINO UNO

Arduino Uno is a microcontroller board based on the microchip Atmega328P. A Micro controller comprises of an incredible CPU.

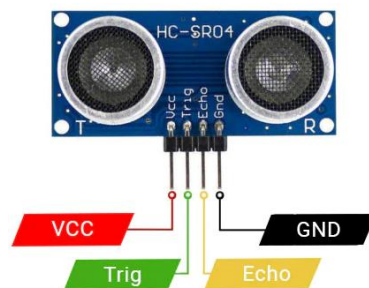
Primarily combined with memory different I/O interfaces, for example, parallel port clock, ADC and DAC coordinates and to a solitary silicon chip.



Arduino Uno

ULTRASONIC SENSOR

An ultrasonic Sensor transmits ultrasonic waves into the air and detects reflected waves from an object. There are many applications for ultrasonic sensor such as in instructions alarm systems, automatic door openers and backup sensors for automobile etc.



Ultrasonic Sensor

LED (LIGHT EMITTING DIODE)

Light Emitting Diodes (LEDs) are very useful as indicators to show when something is on, LEDs work at low voltage and take very little current which makes them ideal for low power circuits.



LED

BUZZER

A buzzer or beeper is an audio signaling device. Generally, it is powered through DC voltage and used in timers, alarm devices, printers, alarms, computers, etc.



Buzzer

WORKING

All the components of the system are connected with the control unit. The power supply supplies the power to the control unit. The ultrasonic sensors are used to detect the obstacles in the train path. Ultrasonic sensors work on a principle similar to sonar which evaluates distance of a target by interpreting the echoes from ultrasonic sound waves.



By employing an Arduino-based safety system to generate an alarm through a buzzer, any obstruction (people) can be alerted and made aware that a train is approaching them at a distance, preventing accidents on the railway track.



A train's location is found and tracked using an ultrasonic sensor. Alarms are generated at the track using buzzers. An ultrasonic sensor was employed as a proximity switch to warn individuals when a train was approaching from a distance of approximately 500 meters away. The ultrasonic sensor automatically blinks a red light and makes a buzzing sound when something blocks it.

DEMONSTRATION OF OUR PROJECT

&

CERTIFICATION DAY

Last but not least, the big day arrived. We presented our project to all of the IDEA LAB instructors, including Drs. Santosh Mishra, Anil Kumar, Pro. Kauleshwar Prasad, Anupam Agrwal, Mrs. Suchitra Panday, and Puspendra Singh.



They were really impressed with our work. They gave us motivation and support to carry on with these initiatives and model making.

HIGHLIGHTS OF OUR INTERNSHIP PROGRAM



MY FEEDBACK

We had the chance to work with a variety of Machines in this program, including a 3D printer and a laser cutting machine, among many others. We visit Idea Lab and get familiar with the machine and how it operates.

During this internship course, I learned incredibly cheaply how to come up with unique ideas for models. The internship programme taught me a lot, but what I like most about it was how we worked together as a team and exchanged ideas. I had a terrific experience all around. I gained a lot of knowledge over this internship programme, including coding and soldering, among many other things.



**A
PROJECT REPORT
ON
INTERNSHIP PROGRAM AT IDEA LAB BIT DURG CHHATTISGARH
SUBMITTED TO
GOVT. V. Y. T. PG. AUTONOMOUS COLLEGE DURG**



GUIDED BY

PRO. ANUPAM AGRAWAL

PRESENTED BY

ASHISH KUMAR

AARYAN THAKUR

RUPESH THAKUR

VAISHALI TMRAKAR

(M.Sc. PREVIOUS)

SESSION 2023 – 24

DEPARTMENT OF PHYSICS

GOVT. V. Y. T. PG. AUTONOMOUS COLLEGE DURG (C.G.)



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This is to certify that **ASHISH KUMAR SAHU**, 1st Semester M.Sc. (Physics), Govt. V.Y.T. Post Graduate Autonomous College, Durg, C.G., has successfully completed his Internship with AICTE IDEA Lab BIT, Durg from October 18th, 2023 to November 15th, 2023, held at Bhilai Institute of Technology, Durg, C.G.

Best wishes for all future endeavors.


Dr. Arun Arora
Chief Mentor, IDEA Lab
BIT, Durg (C.G.)


Dr. Pawan Kumar Patnaik
Coordinator, IDEA Lab
BIT, Durg (C.G.)



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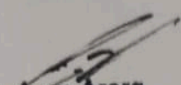
Date: 15th NOV 2023


Certificate Of Completion



This is to certify that **ARYAN**, 1st Semester M.Sc. (Physics), Govt. V.Y.T. Post Graduate Autonomous College, Durg, C.G., has successfully completed his Internship with AICTE IDEA Lab BIT, Durg from October 18th, 2023 to November 15th, 2023, held at Bhilai Institute of Technology, Durg, C.G.

Best wishes for all future endeavors.


Dr. Arun Arora
Chief Mentor, IDEA Lab
BIT, Durg (C.G.)


Dr. Pawan Kumar Patnaik
Coordinator, IDEA Lab
BIT, Durg (C.G.)



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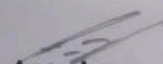
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Certificate Of Completion

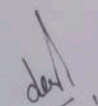


This is to certify that **RUPESH**, 1st Semester M.Sc. (Physics), Govt. V.Y.T. Post Graduate Autonomous College, Durg, C.G., has successfully completed his Internship with AICTE IDEA Lab BIT, Durg from October 18th, 2023 to November 15th, 2023, held at Bhilai Institute of Technology, Durg, C.G.

Best wishes for all future endeavors.


Dr. Arun Arora

Chief Mentor, IDEA Lab
BIT, Durg (C.G.)


Dr. Pawan Kumar Patnaik

Coordinator, IDEA Lab
BIT, Durg (C.G.)



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No. BIT/IDEA LAB/2023/INT/16

Date: 15th NOV 2023


Certificate Of Completion



This is to certify that **VAISHALI TAMRAKAR**, 1st Semester M.Sc. (Physics), Govt. V.Y.T. Post Graduate Autonomous College, Durg, C.G., has successfully completed her Internship with AICTE IDEA Lab BIT, Durg from October 18th, 2023 to November 15th, 2023, held at Bhilai Institute of Technology, Durg, C.G.

Best wishes for all future endeavors.


Dr. Arun Arora
Chief Mentor, IDEA Lab
BIT, Durg (C.G.)


Dr. Pawan Kumar Patnaik
Coordinator, IDEA Lab
BIT, Durg (C.G.)

ACKNOWLEDGEMENT

At Present scenario only theory is not important in any field but at the same time the Practical knowledge is important too . As the technology grows very rapidly but our country is still a developing country . our innovations will definitely raise a step towards our country .

We are grateful to the principal of Govt.V.Y.T.PG.Autonomous college , Dr.M.A Sidhiqui who permitted us to attend this internship program .

Also , we are very thankful to PM-USHA for providing us fund so that we could able to attend this internship programme.

Along with this we all are very grateful to the Head of the Department (physics) Dr. Jagjeet kaur Saluja who gave us a wonderful opportunity to take part in this internship program .

We would like to say special thanks to Dr. Ramashankar Singh

, Dr. Anita Shukla , Dr. Sitieshwari chandrakar , Dr. Abhishek Kumar Mishra , Mr. Bhupendra Das and Mr. Neeraj Yadav who guided us a lot during our project.

It was our good fortune to make a small contribution to ViksitBharat@2047 through this internship program . We all hope that from time to such internship programs will be organized for us for enhancing our knowledge .

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ADVANTAGE OF PROJECT	09
Demonstration of our project and certification day	10
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-: Brief description about the Internship programme :-

faculty rich Bhilai Institute of Technology Durg , is Renowned for its Environment friendly campus with well – equipped infrastructure , outstanding experience , and dedicated staff .

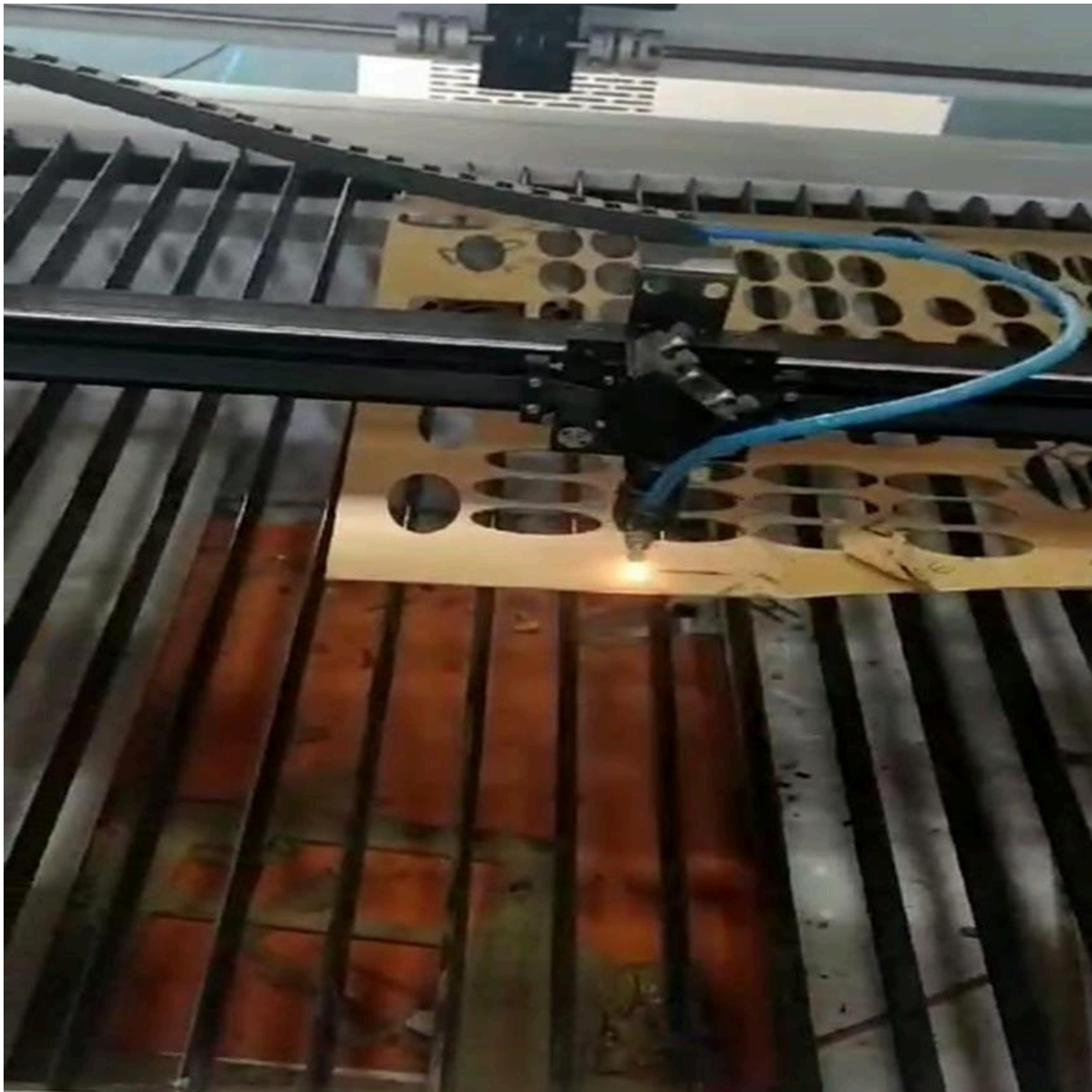
We all got a golden opportunity to attend an “ Internship program at IDEA LAB ” , BIT Durg which was from 18th October to 15th November , 2023 .

During this internship program , there were many technology sessions through which learnt about Arduino , LDR and we saw different types of Machines like cup printing , t-shirt printing , laser cutting machine , 3D-printing Machine and many more .



-: Working of laser cutting machine :-

LASER Cutting uses a high – power laser which is directed through optics and computer numerical control (CNC) to direct the beam or material . Typically , the process uses a motion control system to follow a CNC or G-CODE of the pattern that is to be cut onto the material .



-: WORKING OF 3D PRINTING MACHINE :-

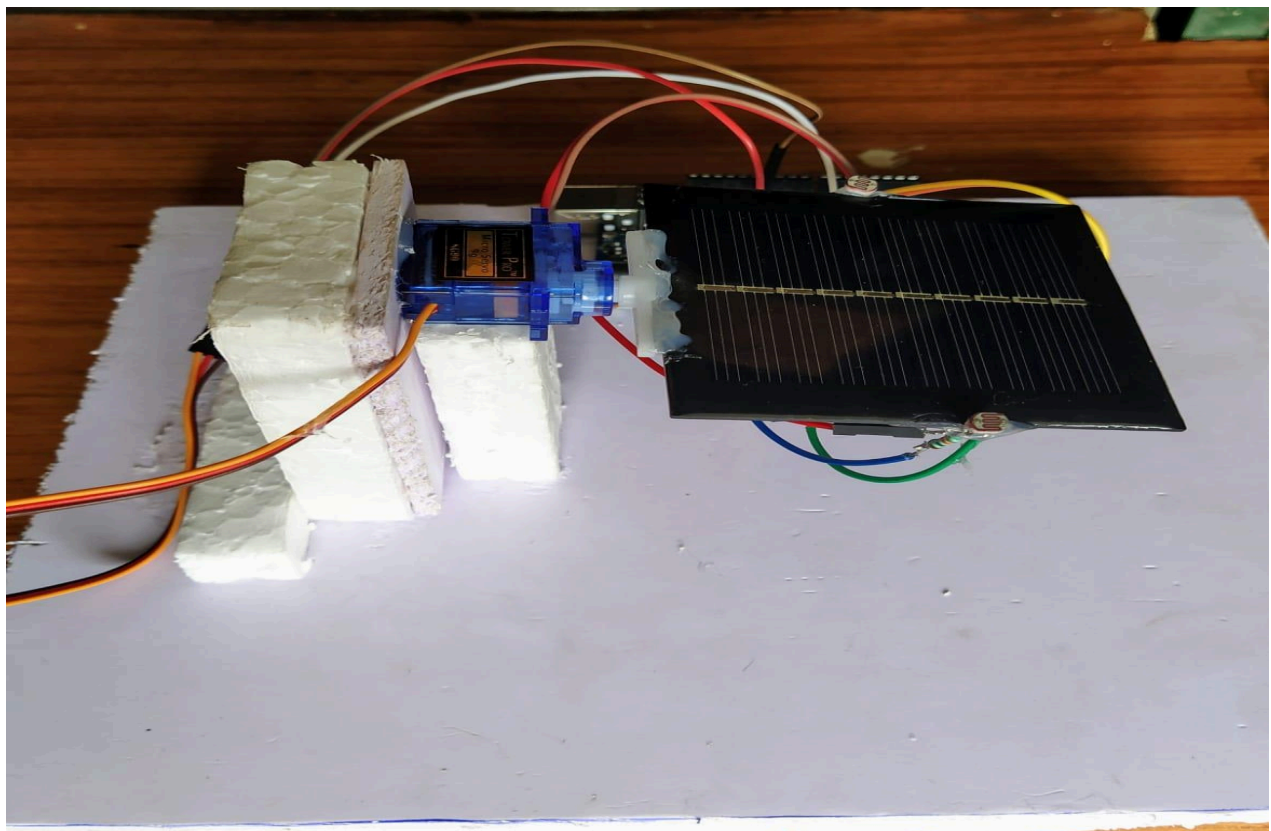
3D printers are related to additive Manufacturing . 3D printers use Computer – aided design to understand a design . When a design is ready , a Material that can be dispensed through a hot nozzle or precision tool is printed layer by layer to create a three- Dimensional Object from Scratch .



Our Project :- Smart solar tracking system

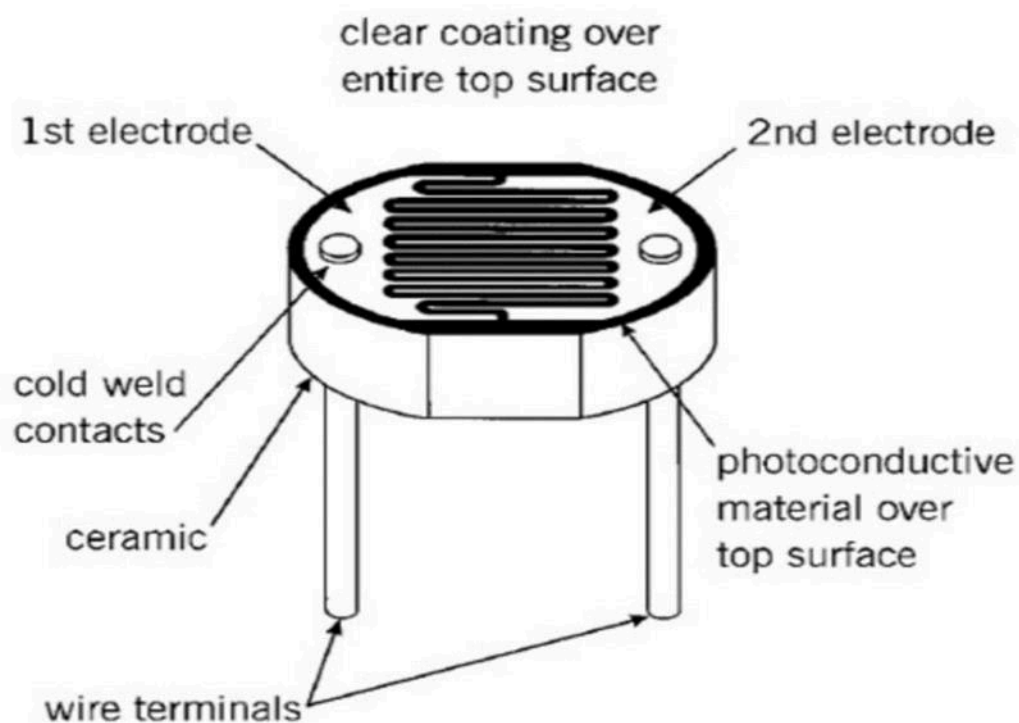
During Internship program , we made a working model on “ Smart Solar Tracking System ” , under the guidance of pro. Anupam Agrawal sir , LAB Guru at Idea lab , BIT Durg . Solar energy is rapidly advancing as an important means of renewable energy resource. Solar tracking enables more solar energy to be generated because the solar panel is able to maintain a perpendicular profile to the sun’s rays.

Design and construction of the proposed solar tracker prototype with single-axis rotation, which detects the sunlight intensity via the Light Dependent Resistors (LDR) is discussed in this paper. The solar tracker circuit is based on the platform of Arduino Uno micro-controller. It is programmed such that servo motor is activated in the direction of maximum sunlight intensity detected via the LDR pair.



WHAT IS LDR :- (Light Dependent Resistor)

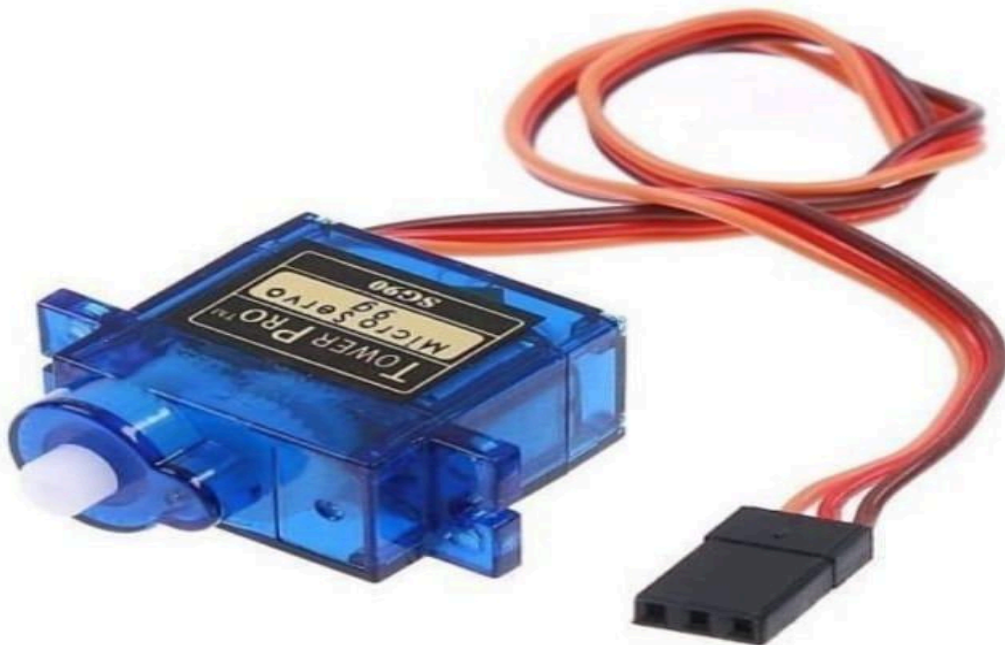
As the name states is a special type of resistor that work on the photoconductivity principle. In the system LDR is act as sensor to senthe headlight beam of oncoming vehicles .



-: What is servo motor :-

A servomotor is a rotary actuator that allows for precise control of angular position, velocity and acceleration. The servo motor consists of a suitable motor coupled to a sensor for position feedback that is it contains a feedback loop which makes it more precise compared to a stepper motor.

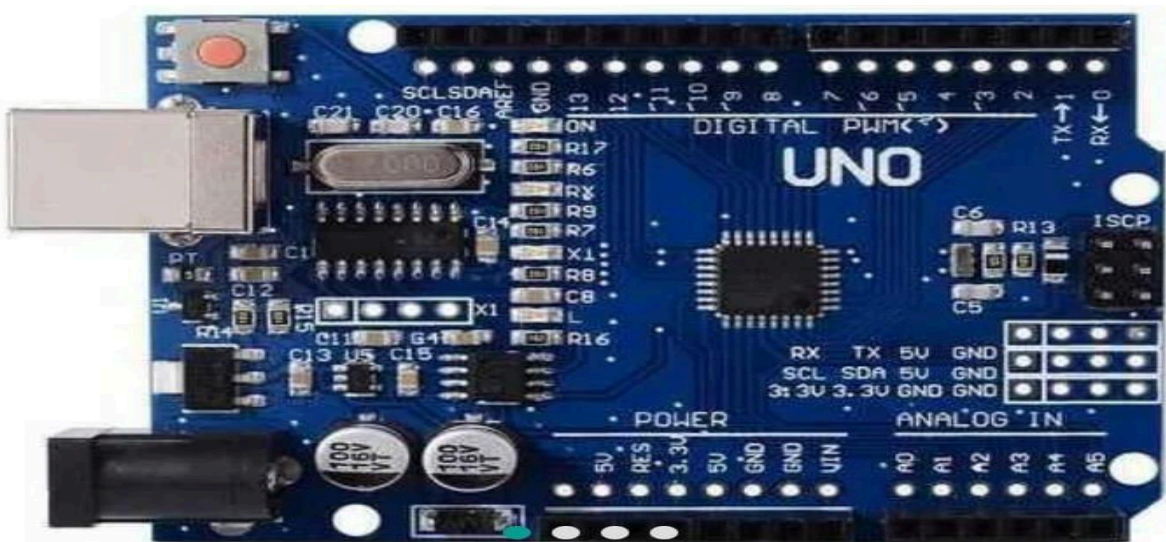
In order for the solar panel to rotate horizontally in accordance with the intensity of sunlight, servo motor is incorporated which actuates the rotation of the panel between 0 degrees and 180 degrees.



-: What is Arduino Uno:-

The Arduino Uno is a microcontroller board based on the ATmega328. It has 14 digital input/output pins (of which 6 can be used as PWM outputs), 6 analog inputs, a 16 MHz ceramic resonator, a USB connection, a power jack, an ICSP header, and a reset button. It contains everything needed to support the microcontroller; simply connect it to a computer with a USB cable or power it with a AC-to-DC adapter or battery to get started.

Initially a tolerance level (Assumed as integer value 2) is defined in the program. The analog inputs from the LDR pair to the Arduino Uno board is converted to digital values by the ATmega328 which are later processed as per the program instruction.



-: Procedure of Our Project :-

Following are the different cases explaining the tracking of solar panel between East and West:

Case1: When the East light intensity is greater than the West light intensity.

In this case, the solar panel is rotated towards East Direction.

Case2: When the East light intensity is lesser than the West light intensity.

In this case, the solar panel is rotated towards West direction.

Case3: When the East light intensity is nearly same as the West light intensity.

In this case, the solar panel is in the stationary position and does not move at that given instant.

Special Case: During Solar Eclipse, though the sky light becomes dark, its intensity is greater than 20 candela which is greater than the LDR sensor pair being used. Hence, it tracks the sun light as usual after the completion of the Eclipse.

The micro-controller is programmed such that, at the end of the day after Sunset (West), the solar panel is again made to face the Sunrise (East) position for tracking purpose for the next day.

-: Advantages of the Project :-

- The solar energy can be reused it is non renewable resource.
- This is also save money as there is no need to pay for energy used.
- Helps in maximizing the solar energy absorption by continuously tracking the sun.
- It is a eco - friendly.

: Demonstration of our project and certification day:

Finally the day of arrived. we demonstrated our project infront of all teachers of ideal lab namely Dr .Santosh Mishra sir, Dr.Anil kumar sir, Pro. Kauleshwar parasad sir, Dr.Anupam agrawal sir, Mrs. Suchitra pandey mam and Pr.Pushpendra singh sir, they admired our effort a lot they encouraged us and inspired us to continue working on such project and making model.





FEEDBACK

ASHISH :- I learned many inventive ideas about research project . It help invent something new project in future.

RUPESH:- During the period of 3d printing internship we learn lots of things we under stand about different electronic board & also know about pcb board.

Aaryan:- As a student this is very memorable moment for me that I worked on some interesting projects in idea lab of Bhilai . I learned lots of thing during our internship . I would like to thanks all my college faculties for giving me this great opportunity .

Vaishali :- I got to learn a lot in this internship that was a very good experience . I would like to thanks Dr Jagjeet kaur mam for this internship

A
PROJECT REPORT
ON
INTERNSHIP PROGRAM AT IDEA LAB BIT DURG
CHHATTISGARH
SUBMITTED TO
GOVT. V. Y. T. PG. AUTONOMOUS COLLEGE DURG



Guided By:-

Suchitra Pandey Mam

Represented By:-

Chanchal,

(MSc. Previous)

SESSION 2023 – 24

DEPARTMENT OF PHYSICS

GOVT. V. Y. T. PG. AUTONOMOUS COLLEGE DURG (C.G.)



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BHILAI HOUSE, G.E. ROAD, DURG (CHHATTISGARH), INDIA

(SETH BALKRISHAN MEMORIAL)



No. BIT/IDEA LAB/2023/INT/20


Date: 15th NOV 2023

Certificate Of Completion



This is to certify that **CHANCHAL**, 1st Semester M.Sc. (Physics), Govt. V.Y.T. Post Graduate Autonomous College, Durg, C.G., has successfully completed her Internship with AICTE IDEA Lab BIT, Durg from October 18th, 2023 to November 15th, 2023, held at Bhilai Institute of Technology, Durg, C.G.

Best wishes for all future endeavors.


Dr. Arun Arora

Chief Mentor, IDEA Lab

BIT, Durg (C.G.)


Dr. Pawan Kumar Patnaik

Coordinator, IDEA Lab

BIT, Durg (C.G.)

ACKNOWLEDGEMENT

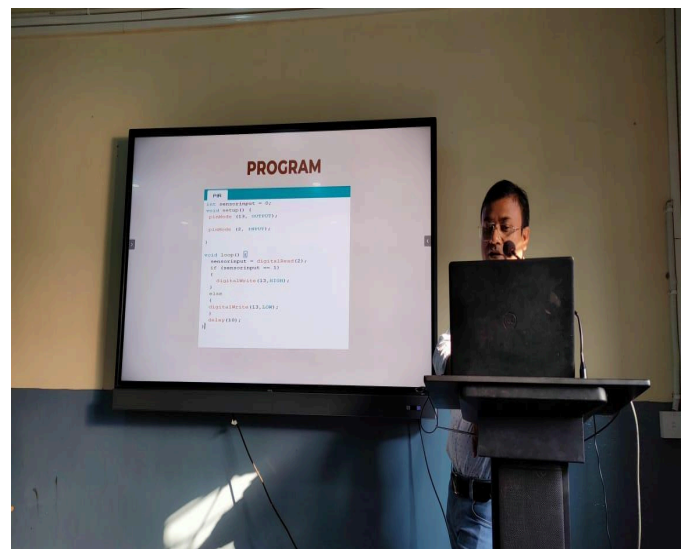
We are grateful to the principal of Govt. V .Y. T. P.G. Autonomous College Durg, Dr. M.A Sidhiqui Sir who permitted us to attend this internship programme. Along with this we all are very grateful to the Head of the Department (physics) Dr. Jagjeet kaur saluja Mam who gave us a wonderful opportunity to take part in this internship programme. We would like to say special thanks to DR. Sitieshwari chandrakar mam, MR. Bhupendra das sir and MR. Neeraj Yadav sir who guided us a lot during our project. In this internship programme, 24 student from Msc Previous took part. In the group of 4 students we made total 6 project with our innovations and learnt a lot. We all hope that from time to such internship programs will be organized for us for enhancing our knowledge.

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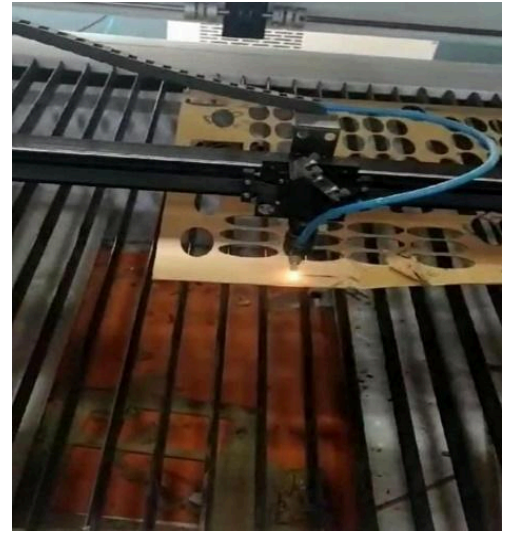
Brief Description About The Internship Programme

Bhilai institute of technology Durg, is renowned for its environment friendly campus with well-equipped infrastructure, outstanding faculty rich experience, and dedicated staff. We all got a golden opportunity to attend an "Internship programme AT IDEA LAB", BIT Durg which was from 18th October to 15th November 2023. During this internship programme, there were many technology sessions through which learnt about Arduino, LDR and we saw different types of Machines like cup printing, t-shirt printing, laser cutting machine, 3D-printing Machine and many more.



Working Of Laser Cutting Machine

LASER Cutting uses a high power laser which is directed through optics and computer numerical control (CNC) to direct the beam or material. Typically, the process uses a motion control system to follow a CNC or G-CODE of the pattern that is to be cut onto the material.



Laser Cutting Machine

Working Of 3D Printing Machine

3D printers are related to additive Manufacturing. 3D printers use Computer-aided design to understand a design. When a design is ready, a Material that can be dispensed through a hot nozzle or precision tool is printed Layer by layer to create a three-Dimensional Object from scratch.



3D Printing Machine

Our Project:-Home Security System

During internship programme, we made a working model on "Home Security System" Under the guidance of Suchitra Pandey Mam, LAB GURU at IDEA LAB, BIT Durg.

When there is no one living in the house, it is seen that the lights of the house remain off even at night, due to which thieves think that if there is no one in the house, then there can be theft here.

When we are out of the house and there is this automatic system in our house, the lights of the house will turn on as soon as it gets dark and will turn off in the morning.

Due to which the thieves will feel that there is someone in this house, only then the light is going on and off, so that they will not try to steal in our house.

Due to which our home will be safe.

Important component of this system

1. Arduino UNO:-

arduino UNO is a micro controller board based on the ATmega 328p it has 14 digital input/output pins. It contains everything needed to support the micro controller simply connect it to a computer with a USB cable or power it with a AC to DC adapter or battery to get started.

2. LED:-

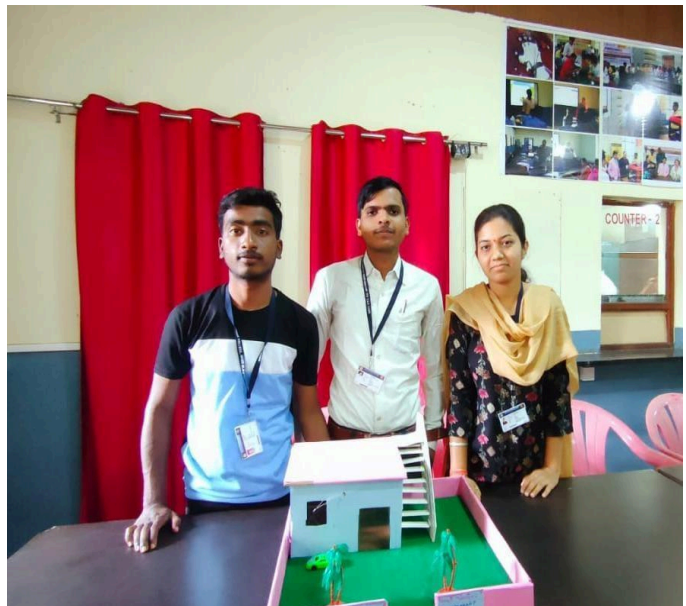
- ☐ Long lifespan
- ☐ Energy efficiency
- ☐ Improved environment performance
- ☐ Low voltage operation

3. LDR :-

Photoconductivity principle: when light falls on the surface of the light sensor it absorbs photons. This absorption leads to an increase in the energy levels of the electrons in the sensor material. Change in Resistance in an LDR: this increase in energy allows more electrons to move freely, deducing more electrons to move freely, reducing the material resistance to the flow of electric current. Essentially, the brighter the light, the lower the resistance.

Working Process of Our Model

All the components of the system are connected with the control unit. The power supply supplies the power to the control unit. LDR (light dependent resistor) as the name states is a special type of resistor that works on the photoconductivity principle means that resistance changes according to the intensity of light. Its resistance decreases with an increase in the intensity of light. When Light falls on the LDR sensor, the LED light turns on and off according to the program we set in the arduino. In our program, when the intensity of light is high then the LED light remains in off condition and when the intensity of light is reduced then the LED light automatically turns on.



Demonstration of our Project and Certification Day

Finally the day of arrived .we demonstrated our project in front of all teachers of IDEA LAB namely Dr. Santosh Mishra sir, Dr. Anil kumar sir, Pro. Kauleshwar prasad sir, Dr. Anupam Agrwal sir, Mrs. Suchitra pandey mam and Dr. Puspendra singh sir they admired our efforts a lot. They encouraged us and inspired us to continue working on such projects and making models.



Some Highlight of our Internship Program



Feedback

- ☐ Our experience in Idea Lab was very good.
- ☐ In Idea Lab we were told many new machines and their information and explained them well.
- ☐ By attending the class in Idea Lab and understanding it, we made our model and took all the new experiences.
- ☐ We all thank the physics department for giving us such a good opportunity.



**A
PROJECT REPORT
ON**

**INTERNSHIP PROGRAM AT IDEA LAB BIT DURG CHHATTISGARH
SUBMITTED TO
GOVT. V. Y. T. PG. AUTONOMOUS COLLEGE DURG**



GUIDED BY :-
Dr. Anil Kumar

SUBMITTED BY :-
Chandrashekhar Verma
M.Sc. Previous (Physics)

**SESSION 2023 -24
DEPARTMENT OF PHYSICS
GOVT. V.Y.T. PG. AUTONOMOUS COLLEGE DURG (C.G.)**



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(SETH BALKRISHAN MEMORIAL)



No. BIT/IDEA LAB /2023/ INT / 05

Date: 15th NOV 2023

Certificate Of Completion



This is to certify that **CHANDRASHEKHAR**, 1st Semester M.Sc. (Physics), Govt. V.Y.T. Post Graduate Autonomous College, Durg, C.G., has successfully completed his Internship with AICTE IDEA Lab BIT, Durg from October 18th 2023 to November 15th 2023, held at Bhilai Institute of Technology, Durg, C.G.

Best wishes for all future endeavors.


Dr. Arun Arora

Chief Mentor, IDEA Lab
BIT, Durg (C.G.)


Dr. Pawan Kumar Patnaik
Coordinator, IDEA Lab
BIT, Durg (C.G.)

ACKNOWLEDGEMENT

At Present scenario only theory is not important in any field but at the same time the Practical knowledge is important too. As technology grows very rapidly but our country is still a developing country. our innovations will raise a step towards our country.

We are grateful to the principal of Govt.V.Y.T.PG.Autonomous college, Dr.M.A Siddiqui, who permitted us to attend this internship program .

Also, we are very thankful to PM-USHA for providing us fundso that we could be able to attend this internship program.

Along with this we all are very grateful to the Head of the Department (physics) Dr. Jagjeet Kaur Saluja who gave us a wonderful opportunity to take part in this internship program.

We would like to say special thanks to Dr. Rama Shankar Singh, Dr. Anita Shukla, Dr. Siteshwari chandrakar, Dr. Abhishek Kumar Mishra, Dr. Kusumanjali Deshmukh, Mr. Bhupendra Das and Mr. Neeraj Yadav who guided us a lot during our project.

It was our good fortune to make a small contribution to ViksitBharat@2047 through this internship program. We all hope that from time to such internship programs will be organized for us for enhancing our knowledge.

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BRIEF DESCRIPTION ABOUT THE INTERNSHIP PROGRAM

Bhilai Institute of Technology Durg is Renowned for its Environment friendly campus with well – equipped infrastructure, outstanding faculty rich experience, and dedicated staff.

We all got a golden opportunity to attend an “Internship program at IDEA LAB”, BIT Durg which was from 18th October to 15th November, 2023 .

During this internship program, there were many technology sessions through which learnt about Arduino, LDR and we saw different types of Machines like cup printing, t-shirt printing, laser cutting machine, 3D-printing Machine and many more.



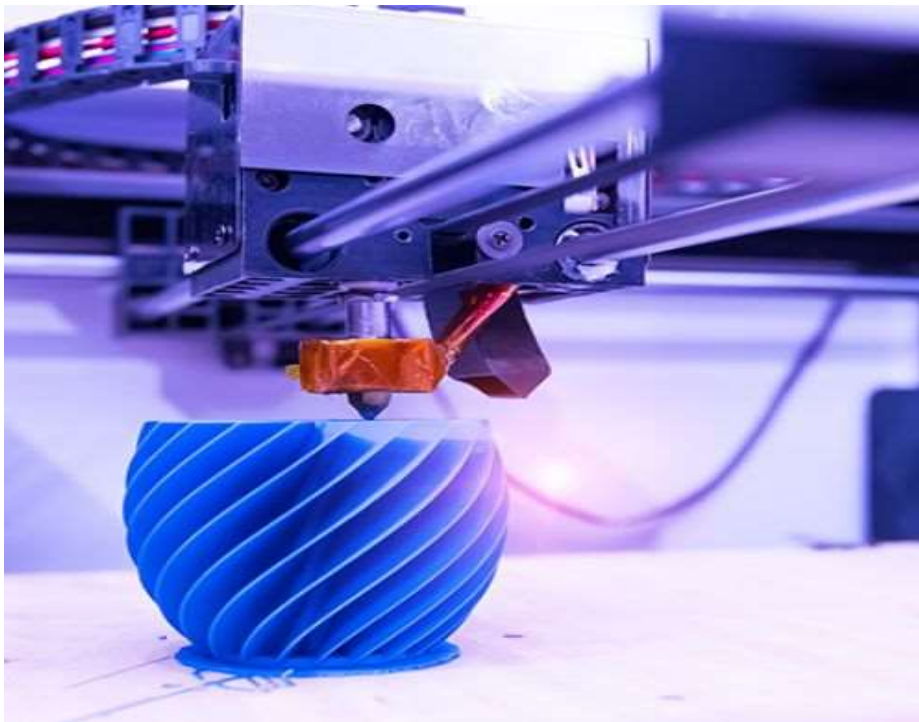
WORKING OF LASER CUTTING MACHINE

A laser cutter works by using a **high-powered laser beam** to cut or engrave materials with high precision. The process is controlled by computer software, and the laser beam is focused and directed onto the material, which causes it to heat up and vaporize or melt, creating precise cuts or etchings.



WORKING OF 3D PRINTING MACHINE

1. Produce a 3D model using CAD software.
2. Convert the CAD drawing to the standard tessellation language (STL) format.
3. Transfer the STL file to the computer that controls the 3D printer.
4. Set up the 3D printer and load the material (usually plastic) that will be extruded through a tiny nozzle.
5. Start the machine and wait for it to print the model layer by layer.



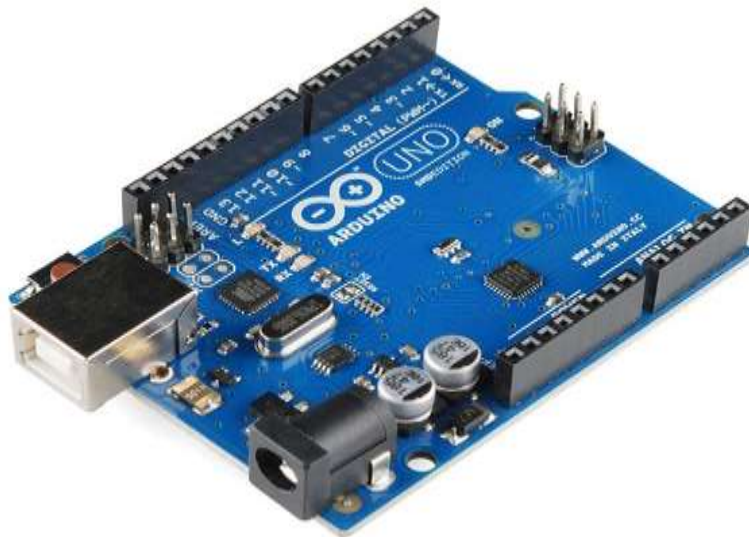
OUR PROJECT :- SMART GLASS FOR BLIND

- During the Internship program, we made a working model on “Automatic Upper-Dipper system for the vehicles”, under the guidance of Pro. Kauleshwarprasad sir, LAB Guru at Idea lab, BIT Durg. Blind people have to face many challenges in their life, one of them is finding their way on the street. On the street, there are so many vehicles and obstacles that may block their way and also may injure them.
- So, keeping this problem in mind we developed a smart glass that scans for the obstacles in front of it with the help of an ultrasonic sensor.



WHAT IS ARDUINO

Arduino is an open-source electronics platform based on easy-to-use hardware and software. [Arduino boards](#) are able to read inputs - light on a sensor, a finger on a button, or a Twitter message - and turn it into an output - activating a motor, turning on an LED, publishing something online. You can tell your board what to do by sending a set of instructions to the microcontroller on the board.



WHAT IS ULTRASONIC SENSOR

An ultrasonic sensor is an electronic device that can measure the distance of a target object by sending out ultrasonic sound waves and converting the reflected sound into an electrical signal. Basically, such a sensor uses a transducer to send and get ultrasonic pulses that in turn send back information about an object's proximity. It is important to note that these ultrasonic waves travel faster than audible sound, i.e. these sensors send out sound waves at frequencies above the range of human hearing.



WHAT IS BUZZER

A buzzer or beeper is an audio signalling device, which may be mechanical, electromechanical, or piezoelectric. Typical uses of buzzers and beepers include alarm devices, timers, train and confirmation.



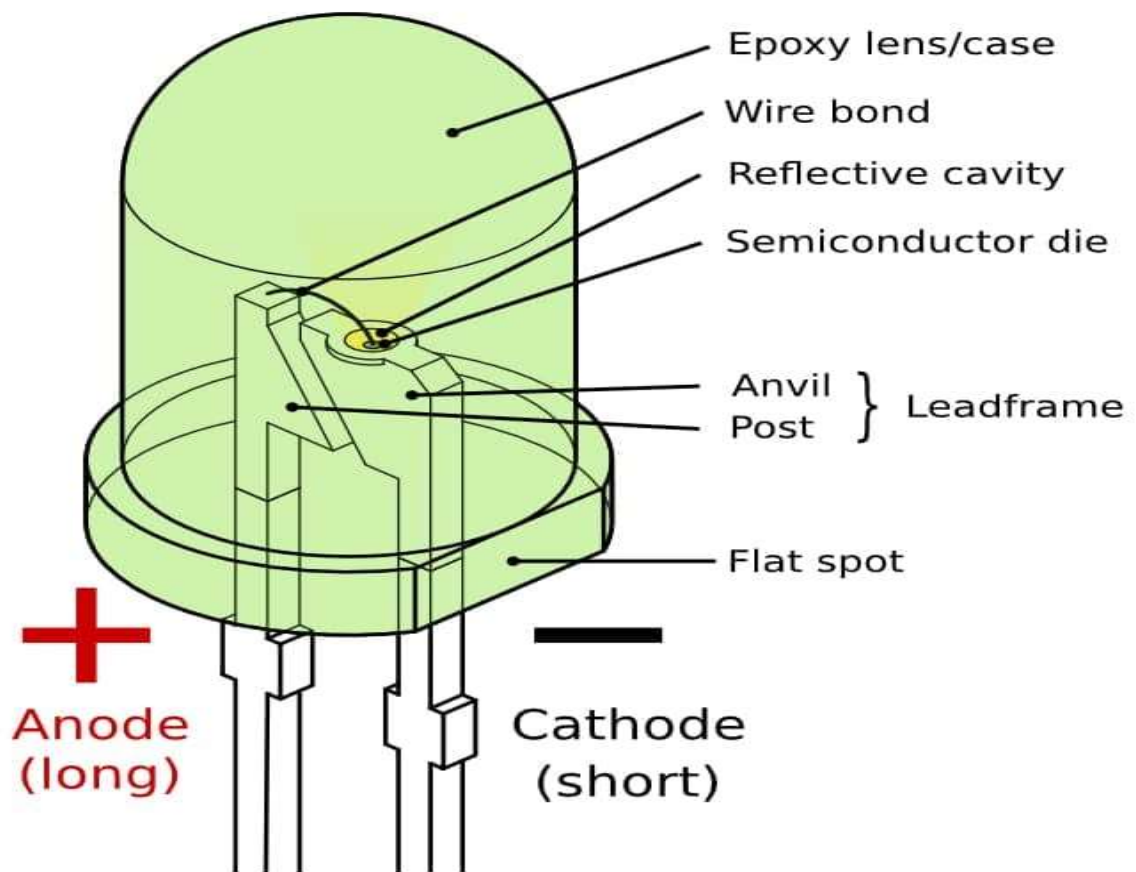
WHAT IS BATTERY

A **battery** is an electrochemical device consisting of one or more electrochemical cells. These cells can be charged with an electric current and discharged whenever needed.



WHAT IS LED

A light-emitting diode (LED) is a semiconductor device that emits light when current flows through it. Electrons in the semiconductor recombine with electron holes, releasing energy in the form of photons. The color of the light (corresponding to the energy of the photons) is determined by the energy required for electrons to cross the band gap of the semiconductor.



AIM OF THE PROJECT

The aim of the Smart Glasses for Blind People project is to assist visually impaired individuals by providing them with a wearable technology solution. These smart glasses are designed to enhance their daily lives and improve their independence.

The main goal of “Smart Glasses” is to help blind people and people who have vision difficulties by introducing a new technology that makes them able to read the typed text. These glasses are provided with technology to scan any written text and convert it into audio text.

DEMONSTRATION OUR PROJECT AND CERTIFICATION DAY

Finally, the day arrived. We demonstrated our project Infront of all teachers of IDEAL LAB namely Dr. Santosh Mishra sir, Dr. Anil Kumar sir, Pro. Kauleshwar Prasad sir, Dr. Anupam Agrawal sir, Mrs. Suchita Pandey mam and Dr. Pushpendra Singh sir, they admired our effort a lot. They encouraged us and inspired us to continue working on such project and Making models.





FEEDBACK

During this **INTERNSHIP**, I learn about sensors, Arduino ESP etc. and how to use above components in making a digital project. I found this internship to be very **INFORMATIVE**, **ENGAGING**, and **ENJOYABLE**. I would like to be great thankful to principal sir and our HOD ma'am (Department of Physics) for this **WONDERFUL OPPORTUNITY**.



A
PROJECT REPORT
ON
INTERNSHIP PROGRAM AT IDEA LAB BIT DURG CHHATTISGARH
SUBMITTED TO
GOVT. V. Y. T. PG. AUTONOMOUS COLLEGE DURG



GUIDED BY
PROF. PUSHPENDRA SINGH

SUBMITTED BY
INDRAMOHAN
(M.Sc. PREVIOUS)

SESSION 2023 – 24
DEPARTMENT OF PHYSICS
GOVT. V. Y. T. PG. AUTONOMOUS COLLEGE DURG



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(SETH BALKRISHAN MEMORIAL)



No. BIT/IDEA LAB/2023/INT/23


Date: 15th NOV 2023


Certificate Of Completion



This is to certify that **INDRA MOHAN**, 1st Semester M.Sc. (Physics), Govt. V.Y.T. Post Graduate Autonomous College, Durg, C.G., has successfully completed his Internship with AICTE IDEA Lab BIT, Durg from October 18th, 2023 to November 15th, 2023, held at Bhilai Institute of Technology, Durg, C.G.

Best wishes for all future endeavors.


Dr. Arun Arora
Chief Mentor, IDEA Lab
BIT, Durg (C.G.)


Dr. Pawan Kumar Patnaik
Coordinator, IDEA Lab
BIT, Durg (C.G.)

ACKNOWLEDGMENT

Although science literally means “knowledge”, the scientific attitude is concerned much more with rational perception through the mind and with testing such perceptions against actual fact, in the form of experiments and observations.

We are grateful to the principal of Govt. V.Y.T. PG Autonomous college , Dr. M.A Siddiqui who permitted us to attend this internship programme .

Also , we are very thankful to PM-USHA for providing us fund so that we could able to attend this internship programme. Along with this we all are very grateful to the Head Department of physics Dr. Jagjeet kaur Saluja who gave us a wonderful opportunity to take part in this internship programme .

We would like to say special thanks to Dr. Ramashankar Singh, Dr. Anita Shukla , Dr. Siteshwari Chandrakar , Dr. Abhishek Kumar Mishra , Dr. Kusumanjali Deshmukh, Mr. Bhupendra Das and Mr. Neeraj Yadav who guided us a lot during our project.

Practical work can motivate pupils, by stimulated interest and enjoyment, teach laboratory skills and inhance the learning of scientific knowledge.

It was our good fortune to make a small contribution toViksitBharat@2047 through this internship program. We allhope that from time to such internship programs will beorganized for us for enhancing our knowledge.

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BRIEF DESCRIPTION ABOUT THE INTERNSHIP PROGRAM

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About the IDEA LAB

The purpose of IDEA LAB is provide all facilities under one roof, for conversion of an idea into prototype with these facilities in the campus more students and faculties will be encouraged to take up creative work and in the process, get training on creative thinking problem solving collaboration etc. The whole idea is transform engineering education with such a lab in all college and for this they must be proactively exposed all students to the IDEA Lab organized training sessions for interested students as well supported project and by providing online learning materials. Teacher must be also get trained in this labs to know their scope and opportunities in teaching learning process as well research and development project.



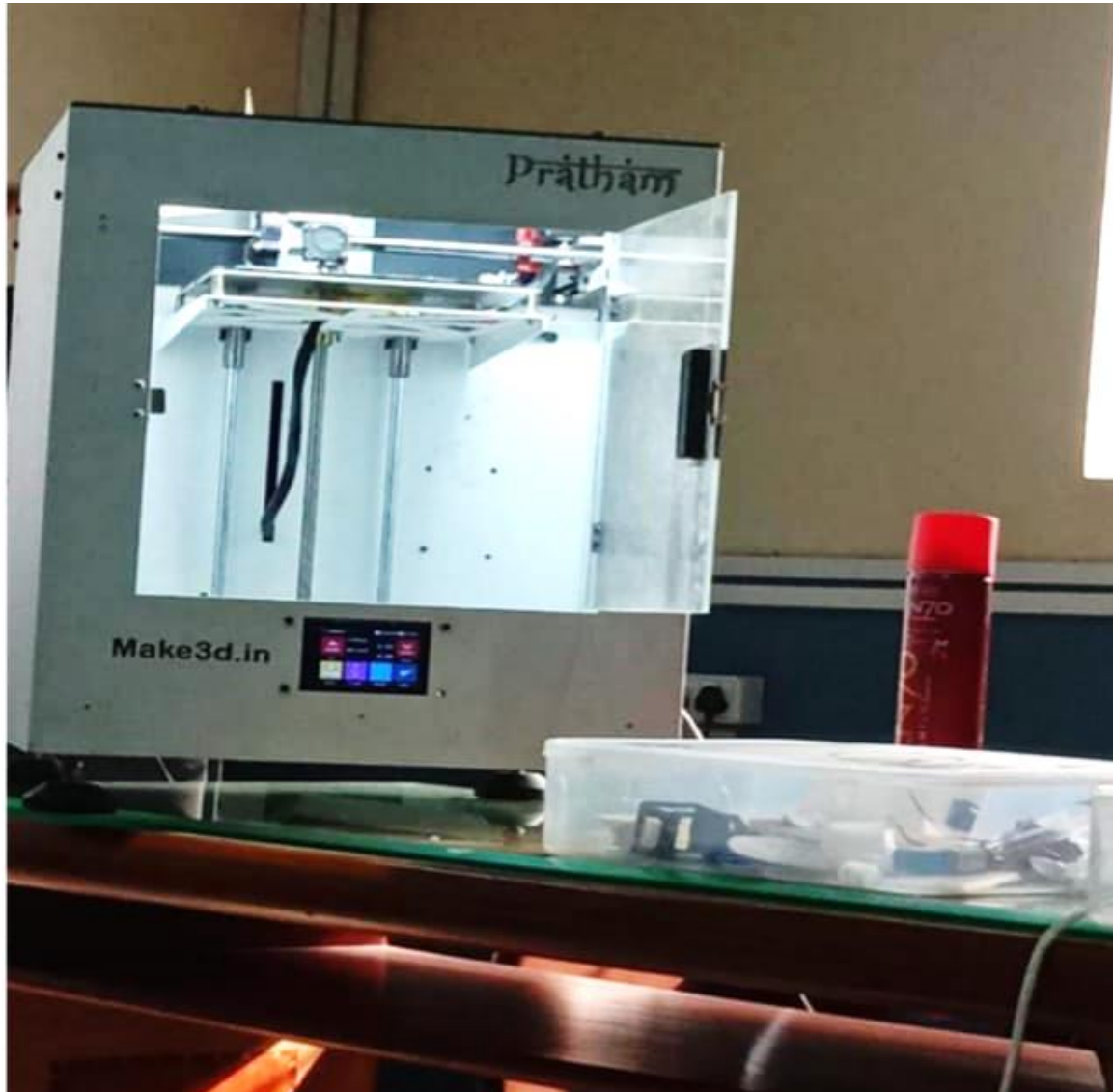
Working of laser cutting machine

LASER Cutting uses a high – power laser which is directed through optics and computer numerical control (CNC) to direct the beam or material. Typically, the process uses a motion control system to follow a CNC or G-CODE of the pattern that is to be cut onto the material.



WORKING OF 3D PRINTING MACHINE

3D printers are related to additive Manufacturing. 3D printers use Computer – aided design to understand a design. When a design is ready, a Material that can be dispensed through a hot nozzle or precision tool is printed layer by layer to create a three- Dimensional Object from Scratch.



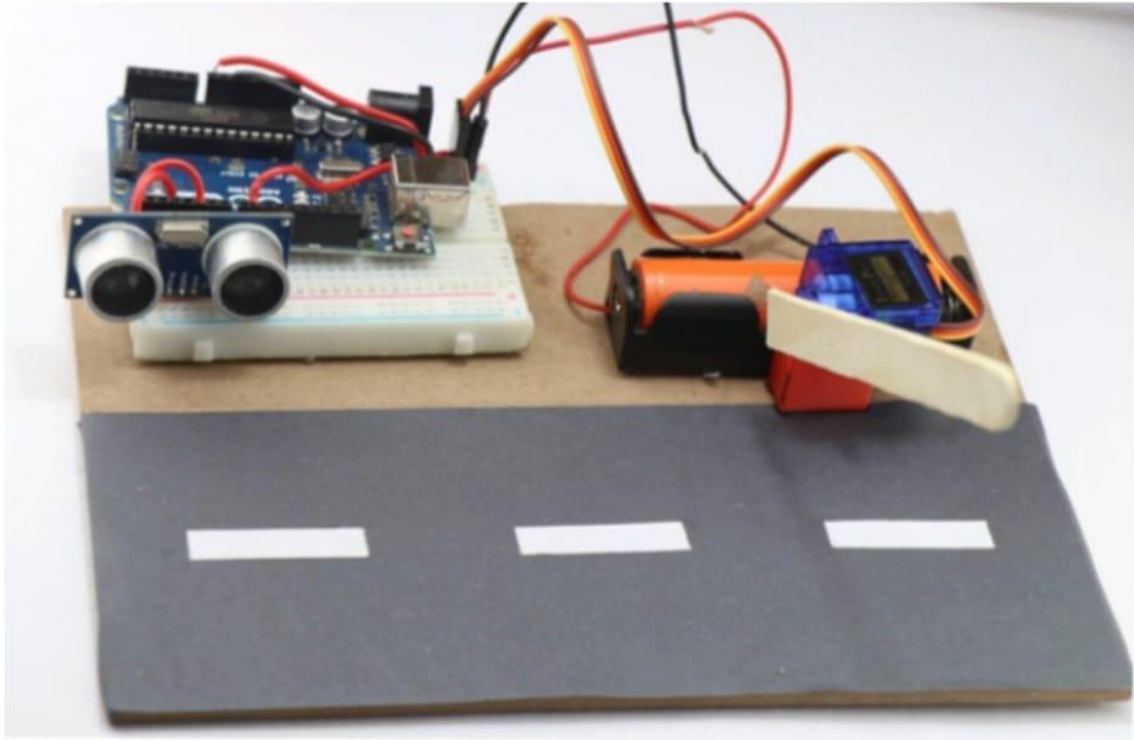
DTF PRINTING MACHINE

Direct to film or DTF is process that transfer print onto fabric or other substrates using a heat- press mechanism. Unlike the DTG method, which only work on cotton fabric, the printer DTF method can work on cotton and Poly blends. The heating plate is using special protect I coating, your vinyl, clothes and iron will working that harmless to them the cover his resistance easy to clean and can make printing more steady.



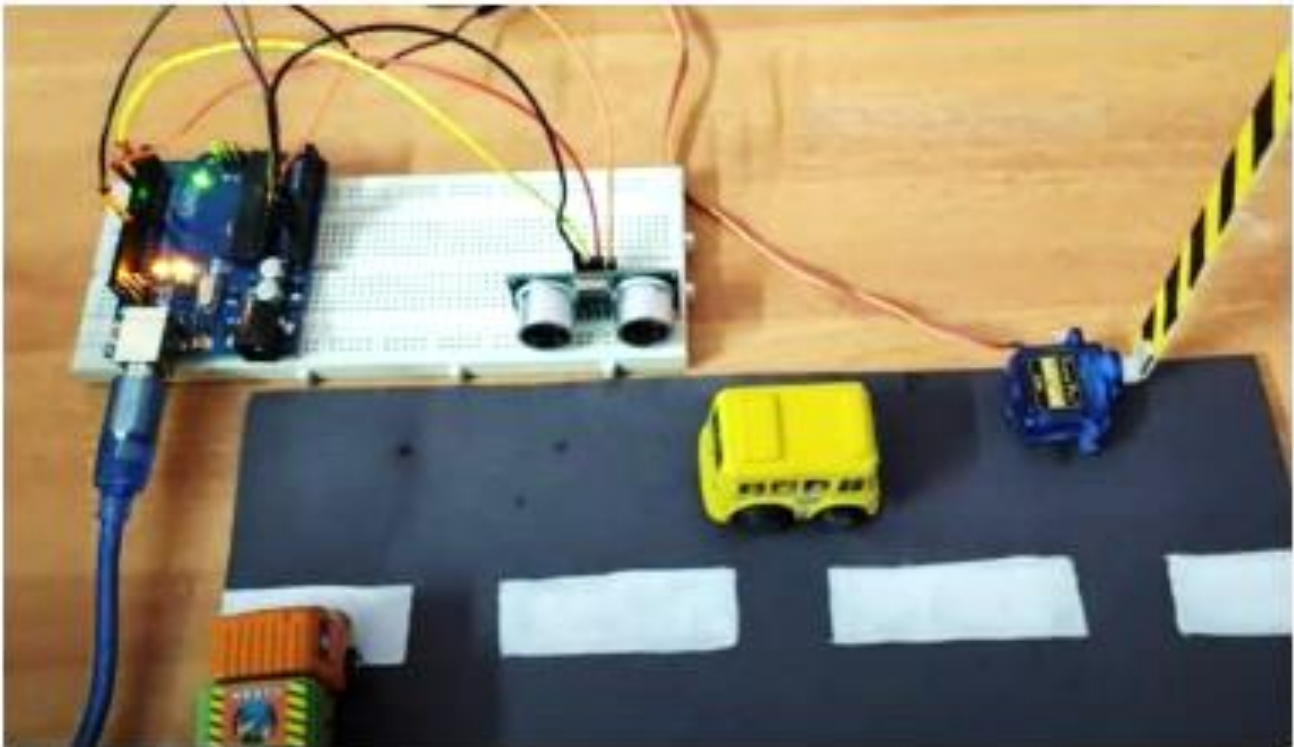
Our project

Automatic Toll Collection Gate System



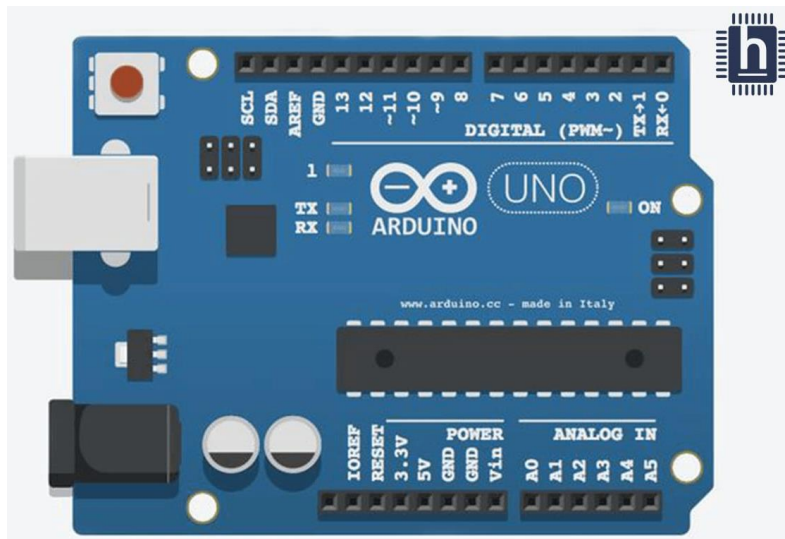
WHAT IS THE ATCGS?

The Automatic Toll Collection Gate (ATCG) System is a new toll system designed to enhance convenience for drivers cashless toll collection and thus Reducing congestion at High-way tollgates.

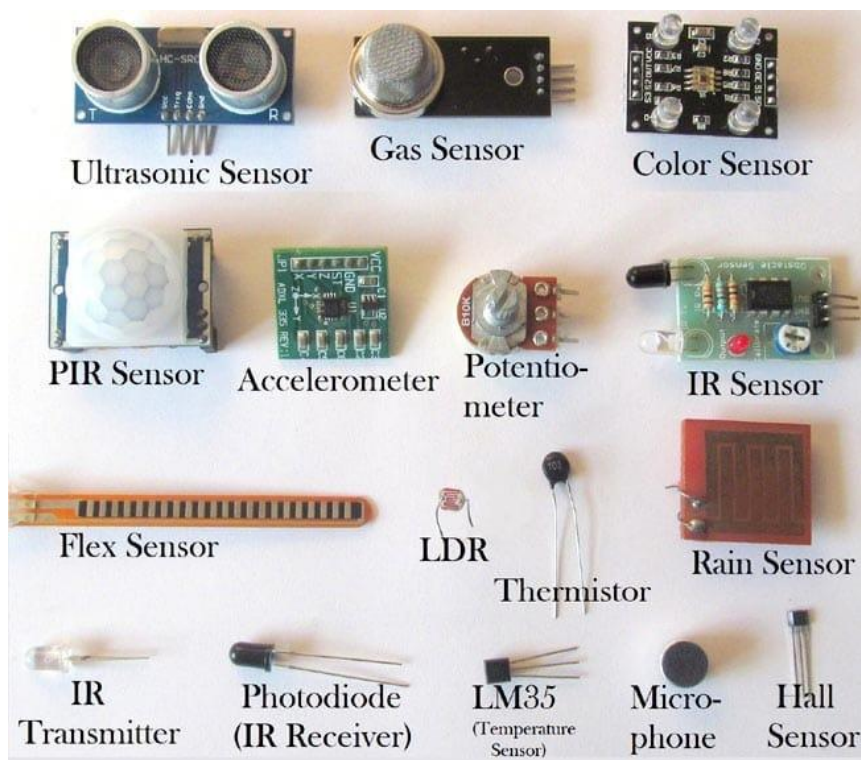


Arduino Uno:-

Arduino Uno is a microcontroller board based on the ATmega328P. It has 14 digital input/output pins (of which 6 can be used as PWM outputs), 6 analog inputs, a 16 MHz ceramic resonator, a USB connection, a power jack, an ICSP header and a reset button.



Various types of sensor:-

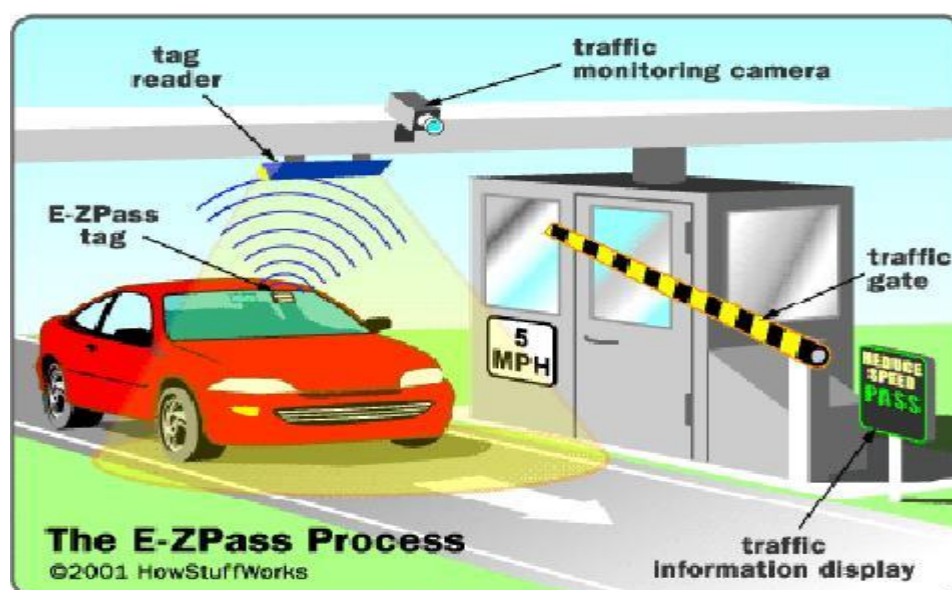


Working process

The idea for this project was inspired from actual system, in actual toll they stop the vehicles using a stopper that is completely automated and it is activated when any vehicle passes in front the sensor, or some time it's activated through a button.



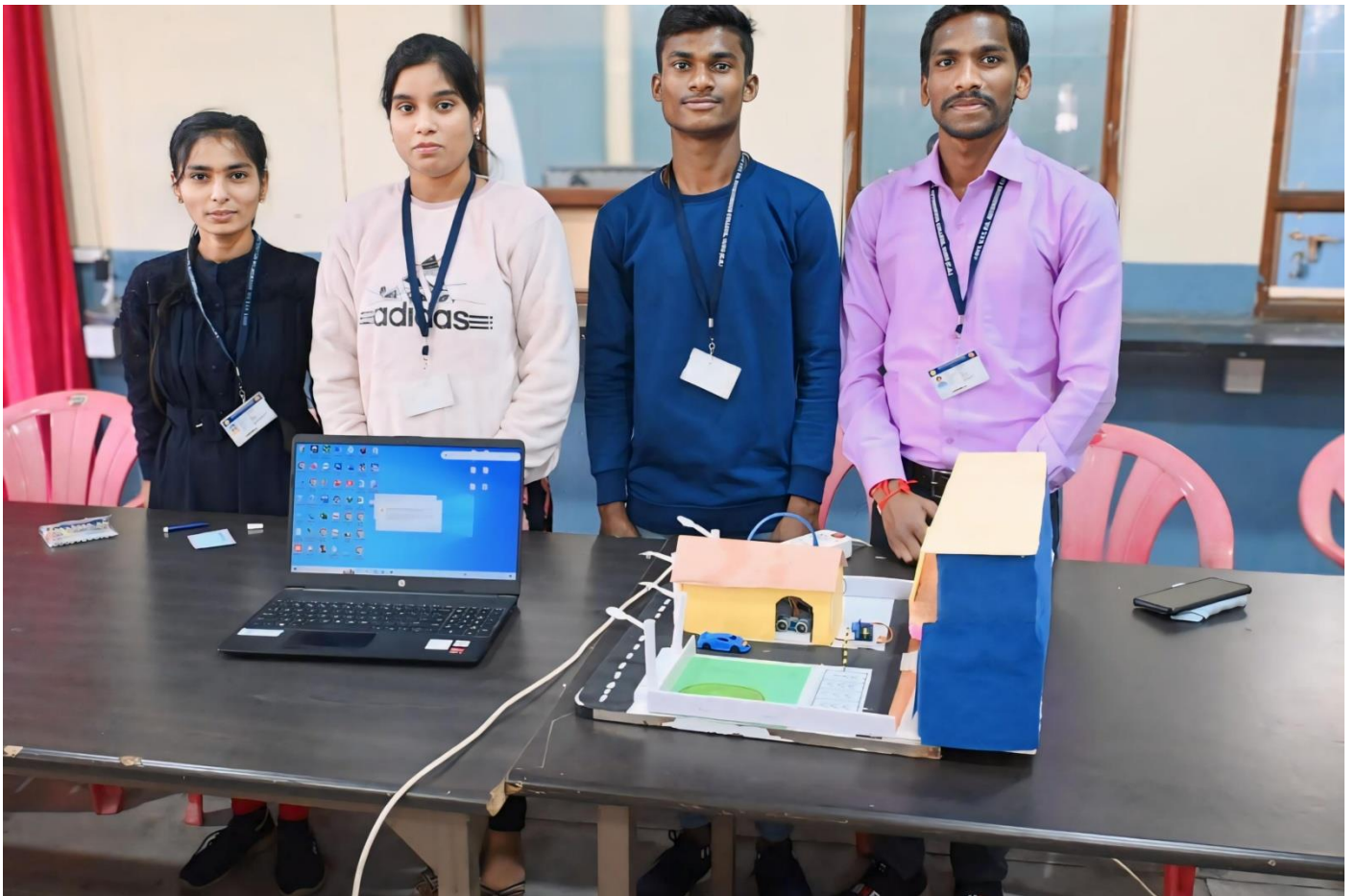
In our case, we are using an HC- SR04 or called as ultrasonic distance sensor to detect an obstacle(vehicle) and later to lift the barrier we are using micro servo, that is the mechanism involved in this project, Now let us dive into the building stage.



CERTIFICATE DISTRIBUTION DAY



PROJECT DEMONSTRATION DAY



Feedback:-

This program was very useful for us to learn, Often we see many big equipment around us, through this program we go know and understand some The small equipment inside them for which we will be thankful to the principle and head of department of our college.



A
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SUBMITTED TO
GOVT. V. Y. T. PG. AUTONOMOUS COLLEGE, DURG



GUIDED BY:

PROF. KAULESHWAR PRASAD

SUBMITTED BY:

LAXMINARAYAN
(M.Sc. Previous)

SESSION 2023 – 24

DEPARTMENT OF PHYSICS

GOVT. V. Y. T. PG. AUTONOMOUS COLLEGE, DURG (C.G.)



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(SETH BALKRISHAN MEMORIAL)



No. BIT/IDEA LAB/2023/INT/09

Date: 15th NOV 2023

Certificate Of Completion




This is to certify that **LAXMI NARAYAN**, 1st Semester M.Sc. (Physics), Govt. V.Y.T. Post Graduate Autonomous College, Durg, C.G., has successfully completed his Internship with AICTE IDEA Lab BIT, Durg from October 18th, 2023 to November 15th, 2023, held at Bhilai Institute of Technology, Durg, C.G.

Best wishes for all future endeavors.


Dr. Arun Arora

Chief Mentor, IDEA Lab
BIT, Durg (C.G.)


Dr. Pawan Kumar Patnaik

Coordinator, IDEA Lab
BIT, Durg (C.G.)

ACKNOWLEDGEMENT

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Also, we are very thankful to PM-USHA for providing us fund so that we could able to attend this internship program.

Along with this we all are very grateful to the Head Department of Physics Dr. Jagjeet Kaur Saluja who gave us a wonderful opportunity to take part in this internship program.

We would like to say special thanks to Dr. Ramashankar Singh, Dr. Anita Shukla, Dr. Sitieshwari Chandraker, Dr. Abhishek Kumar Misra, Dr. Kusumanjali Deshmukh, Mr. Bhupendra Das and Mr. Neeraj Yadav who guided us a lot during our project.

It was our good fortune to make a small contribution to ViksitBharat@2047 through this internship program. We all hope that from time to time such internship programs will be organized for us for enhancing our knowledge.

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BRIEF DESCRIPTION ABOUT THE **INTERNSHIP PROGRAM**

Bhilai Institute of Technology Durg, is Renowned for its Environment friendly campus with well – equipped infrastructure, outstanding faculty rich experience, and dedicated staff.

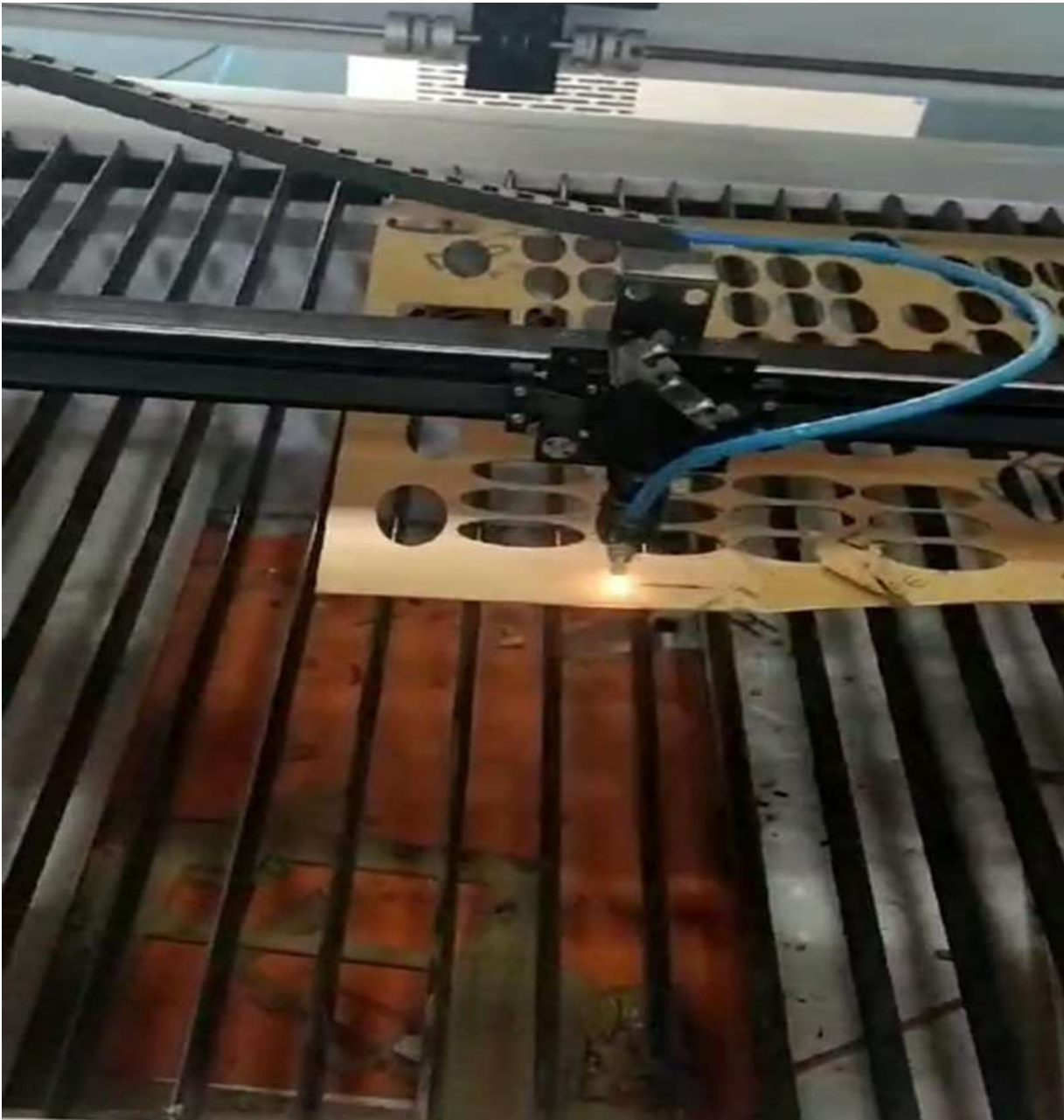
We all got a golden opportunity to attend an “Internship program AT IDEA LAB”, BIT Durg which was from 18th October to 15th November, 2023.

During this internship program, there were many technology sessions through which learnt about Arduino, LDR and we saw different types of Machines like cup printing, t-shirt printing, LASER cutting machine, 3D-printing Machine and many more.



WORKING OF LASER CUTTING MACHINE

LASER Cutting uses a high – power laser which is directed through optics and computer numerical control (CNC) to direct the beam or material. Typically, the process uses a motion control system to follow a CNC or G-CODE of the pattern that is to be cut onto the material.



WORKING OF 3D PRINTING MACHINE

3D printers are related to additive Manufacturing. 3D printers use Computer – aided design to understand a design. When a design is ready, a Material that can be dispensed through a hot nozzle or precision tool is printed layer by layer to create a three- Dimensional Object from Scratch.



INTRODUCTION

Now days the no. of vehicles on road is increasing drastically and no. of accident on road also increases. Especially at night most of the accidents are occurred due to dazzling of headlight. While driving at night the headlight beam of oncoming vehicle is directly effects driver's eyes and eyes gets blur, it takes 3 to 8 sec to recover to its normal vision. Below fig. shows the high beam of headlight which causes blurriness on driver's eyes. If at that time vehicle speed is 70km/h, causes the vehicle goes out of road or strikes on oncoming vehicle.

In every vehicle dipper beam is provided in addition with the upper beam to reduce the dazzle from oncoming vehicle. Automatic dipper light control is a system which automatically changes the headlight from upper to dipper beam by sensing the headlight of oncoming vehicle.



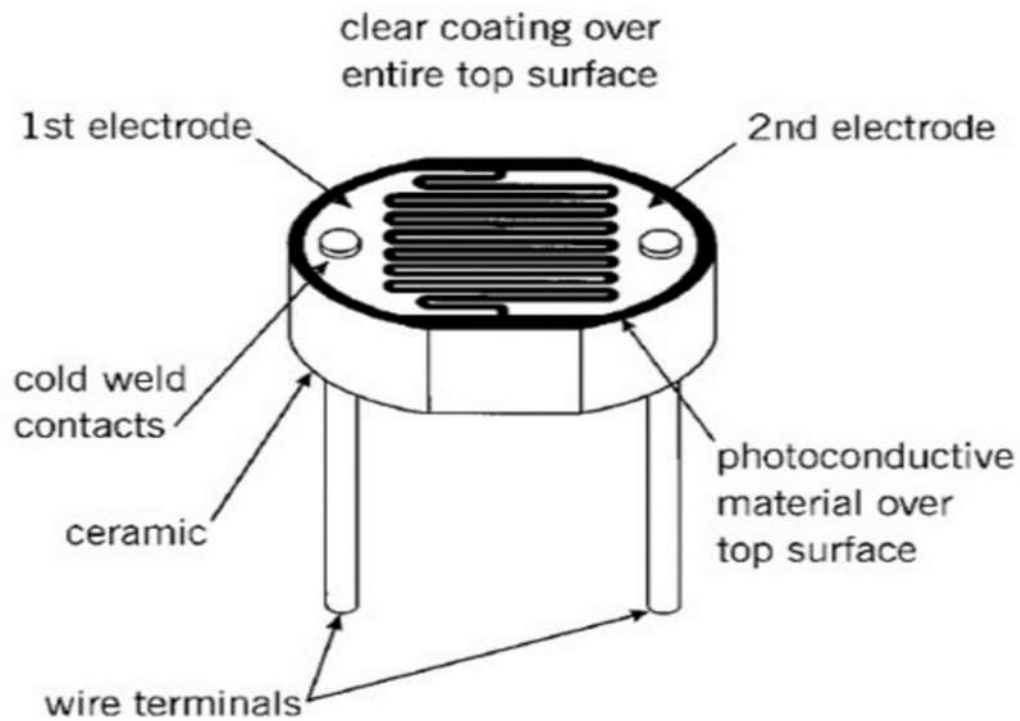
OUR PROJECT - AUTOMATIC UPPER-DIPPER SYSTEM FOR THE VEHICLES

During Internship program, we made a working model on “Automatic Upper-Dipper system for the vehicles”, under the guidance of Prof. Kauleshwar Prasad, LAB Guru at Idea lab, BIT Durg. This system eliminate need for the driver to manually switch on or switch off the dipper beam inmost driving situations. The automatic Upper-Dipper system reacts like the human eyes to headlight of incoming vehicles and independently turns beam to Dipper when needed.



WHAT IS LDR (LIGHT DEPENDENT RESISTOR)

As the name states is a special type of resistor that work on the photoconductivity principle. In the system LDR is act as sensor to sense the headlight beam of oncoming vehicles.



WHAT IS RELAY

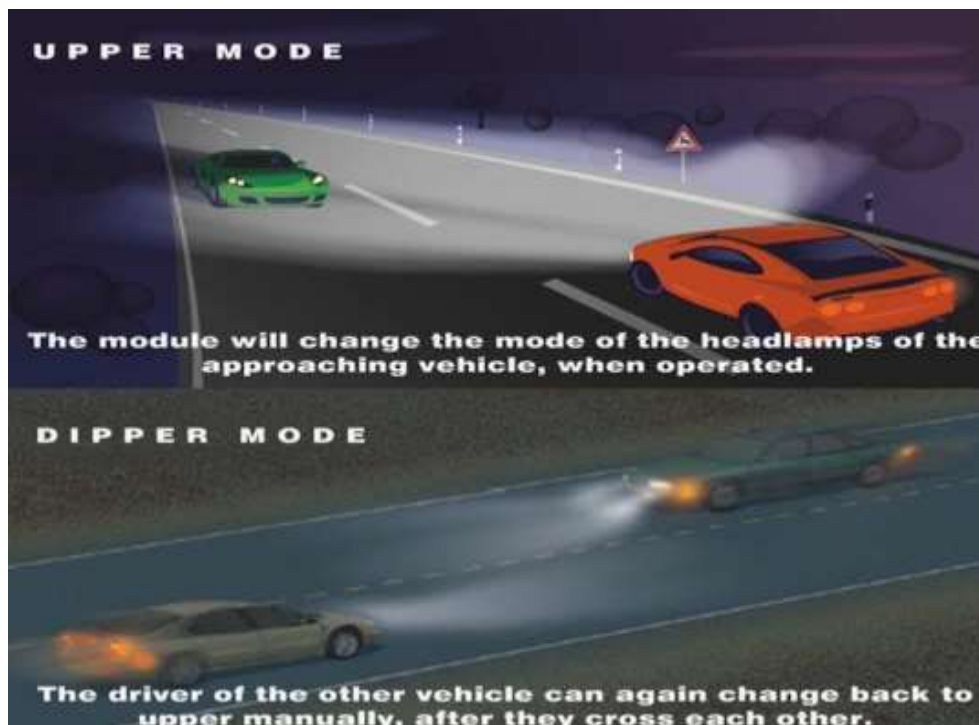
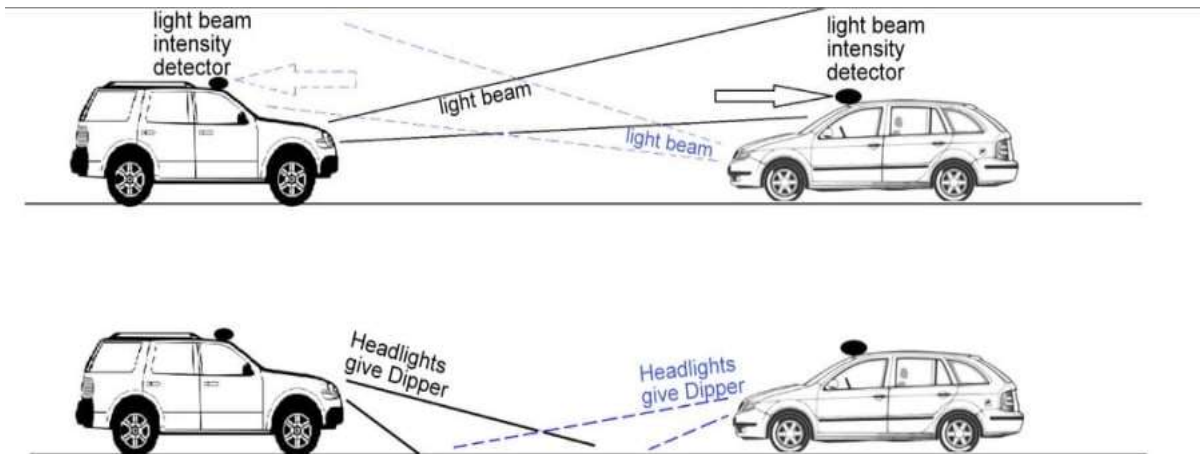
In this system relay is used as switch to change the lamp connections from Upper beam to Dipper beam. Relay is electromagnetic switch which operates when current is flowing through its coil. Connection of Upper beam is given to NC (normally close) terminal, Dipper beam is given to NO (normally open) terminal and common is connected directly connected to power supply.



WORKING PROCESS OF OUR MODEL

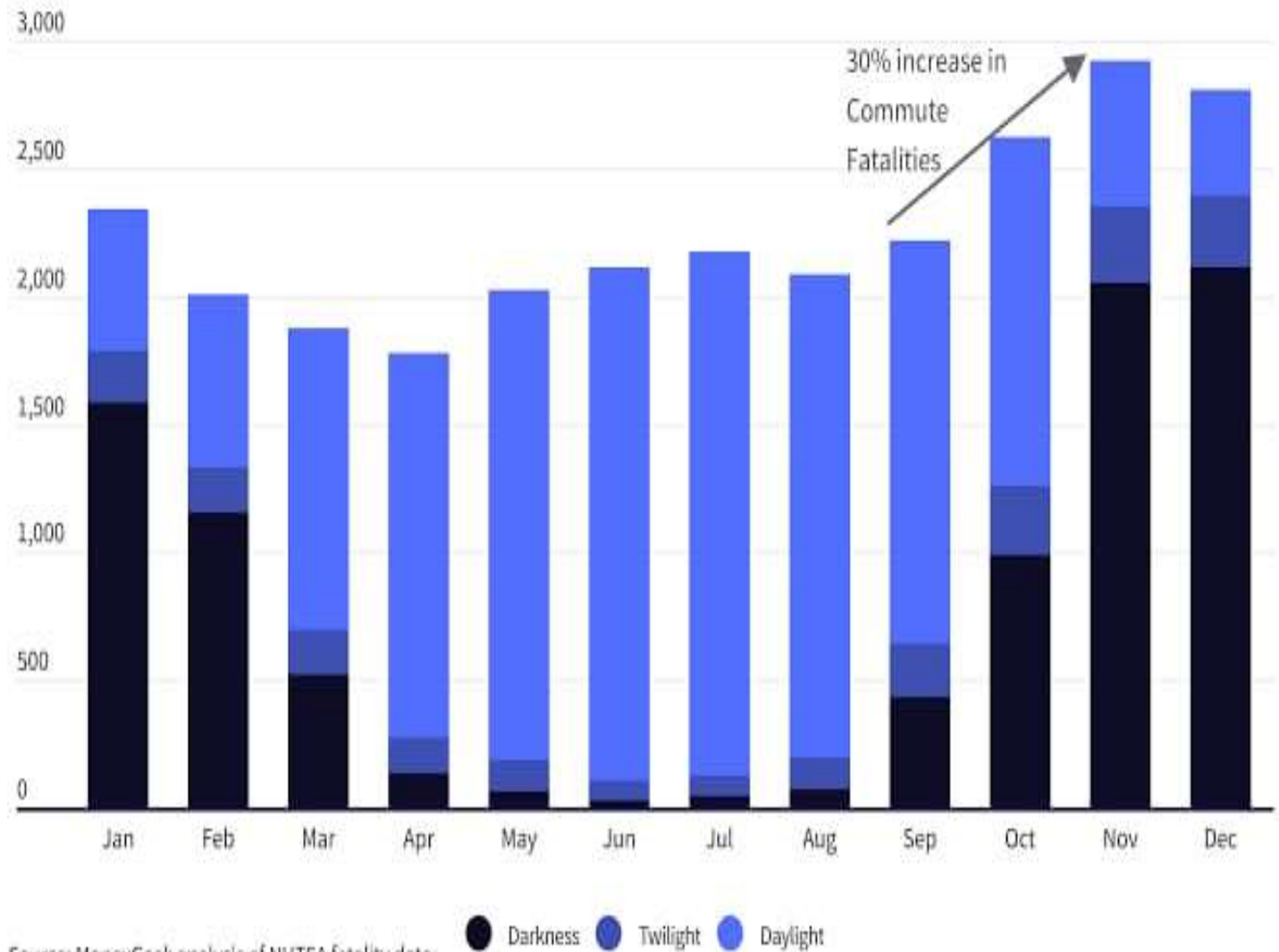
As we all know the Upper-Dipper light in vehicles. It goes up and down with a switch. By using this device, we can automatically up and down the vehicles light.

Like if two vehicles are coming head-on and if one or both of them have kept the light in Upper mode. So, this device was installed in both the vehicles by sensing the lights will convert Upper light into Automatic Dipper light. Due to which the risk of accident can be reduced.



RATIO OF THE ACCIDENT IN (2023)

Fatal Accidents During Weeknight Commute (4-7 p.m.) by Light Conditions



AIM OF THE PROJECT

One of the essential safety features that need to be installed is automatic Upper –Dipper control of headlight, this feature can mainly use during night time driving. Human eyes are very sensitive to the light, if eyes suddenly come with the light after darkness, cornea present in eyes gets contract i.e. vision gets blank and require some time to recover the vision. Many time the situation comes when suddenly vehicle approaches from front with headlight in Upper mode causes blindness to the eyes of the driver. During that time vehicles covers some amount of distance, here chance of accident may occur. It is a sheer luck if person goes safely through that situation. To overcome this manual dipping problem, an automatic mechanism has made to dip the headlight automatically whenever situation occurs.

DEMONSTRATION OF OUR PROJECT AND **CERTIFICATION DAY**

Finally, the day of arrived. We demonstrated our project in front of all teachers of IDEA LAB namely Dr. Santosh Mishra, Dr. Anil Kumar, Prof. Kauleshwar Prasad, Dr. Anupam Agrawal, Prof. Suchitra Pandey and Dr. Puspendra Singh they admired our efforts a lot. They encouraged us and inspired us to continue working on such project and making models.





SOME HIGHLIGHT OF OUR INTERNSHIP PROGRAM



FEEDBACK

LAXMINARAYAN

During this program I learn how we can create useful things in low cost and make it useable for all.





PROJECT REPORT

ON

“AUTOMATIC ALARMING SYSTEM FOR TRAIN”

SUBMITTED TO

GOVT. V.Y.T.PG. AUTONOMOUS COLLEGE DURG (C.G.)



MASTER OF SCIENCE IN PHYSICS

GUIDED BY

Dr. Santosh Mishra

SUBMITTED BY

Lokeshwari Yadav



Session 2023-2024

DEPARTMENT OF PHYSICS

GOVT. V.Y.T.PG. AUTONOMOUS COLLEGE DURG (C.G.)



BHILAI INSTITUTE OF TECHNOLOGY, DURG

An Autonomous Institution | All UG Programs NBA Accredited | 'A' Grade NAAC Accredited

BHILAI HOUSE, G.E. ROAD, DURG (CHHATTISGARH), INDIA

(SETH BALKRISHAN MEMORIAL)



No. BIT/IDEA LAB /2023/ INT / 03

Date: 15th NOV 2023

Certificate Of Completion



This is to certify that **LOKESHWARI YADAV**, 1st Semester M.Sc. (Physics), Govt. V.Y.T. Post Graduate Autonomous College, Durg, C.G., has successfully completed her Internship with AICTE IDEA Lab BIT, Durg from October 18th, 2023 to November 15th, 2023, held at Bhilai Institute of Technology, Durg, C.G.

Best wishes for all future endeavors.


Dr. Arun Arora

Chief Mentor, IDEA Lab
BIT, Durg (C.G.)


Dr. Pawan Kumar Patnaik

Coordinator, IDEA Lab
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24 students from M.Sc. Previous participated in a group of 4 students for this internship program. We created a total of **6 project** using our creativity and gained a lot of knowledge.

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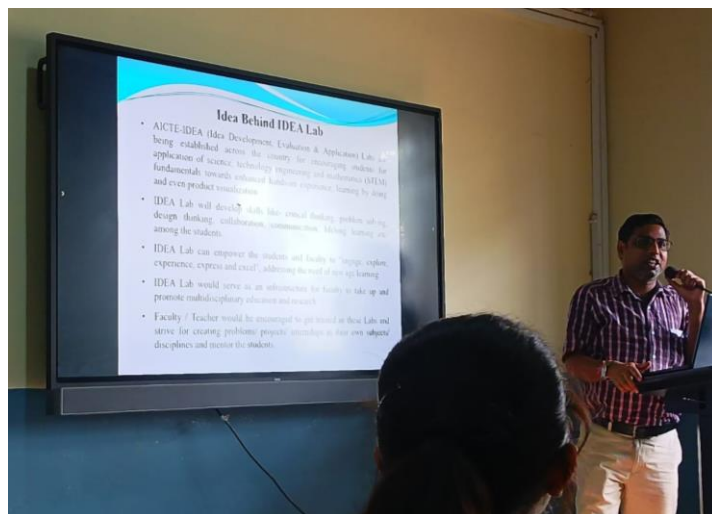
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3D PRINTER

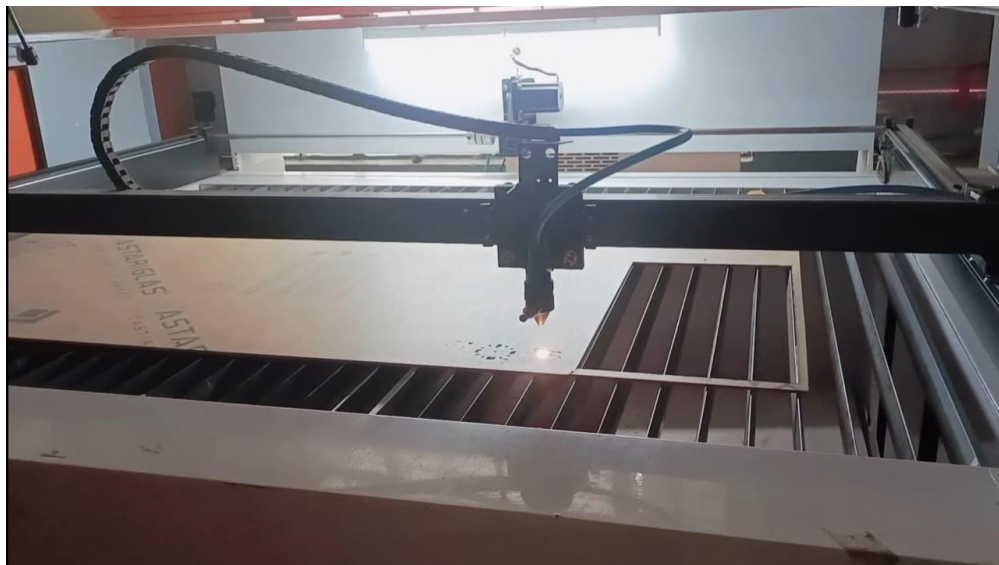
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[3D Printer](#)

LASER CUTTING MACHINE

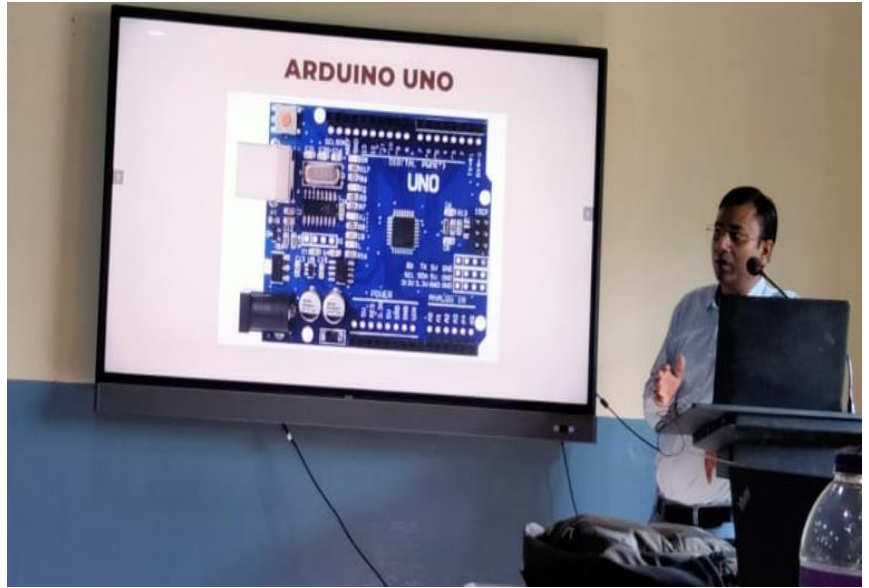
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[Laser Cutting Machine](#)

ARDUINO

The Arduino Uno comes with USB interface, 6 analog input pins, 14 I/O digital ports that are used to connect with external electronic circuits. Out of 14 I/O ports, 6 pins can be used for PWM output. It allows the designers to control and sense the external electronic devices in the real world.



Arduino is an Italian 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 the 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.



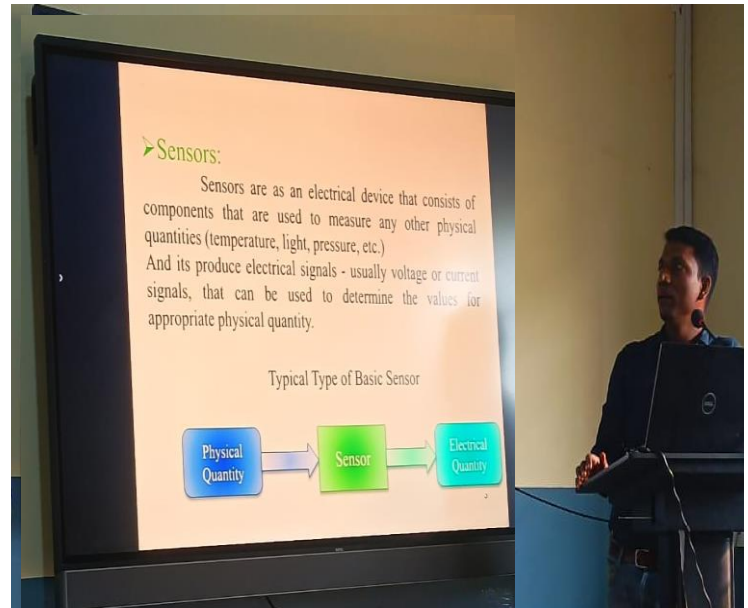
[Arduino Nano](#)



[Arduino Uno](#)

SENSORS

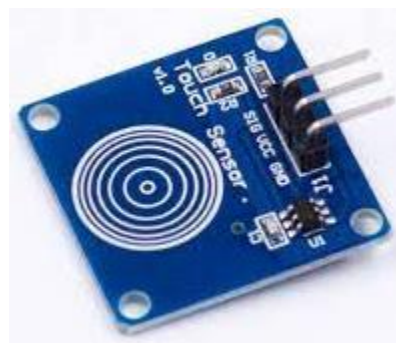
A sensor is a device that detects the change in the environment and responds to some output on the other system. A sensor converts a physical phenomenon into a measurable analog voltage converted into a human -readable display or transmitted for reading or further processing.



One of the best-known sensors is the microphone, which converts sound energy to an electrical signal that can be amplified, transmitted, recorded, and reproduced. Sensors are used in our everyday lives.



Ultrasonic Sensor



Touch Sensor

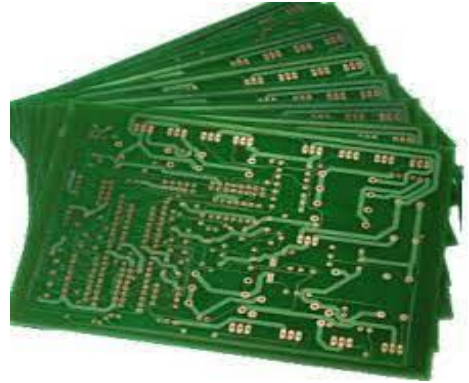


Color Sensor

PCB (PRINTED CIRCUIT BOARD)



PCBs are made by isolating the surface copper foil conductive layer through the board base insulation material, which allows current to flow through various components along a pre-designed route.



Ultimately achieving functions such as power making, amplification, attenuation, modulation, demodulation, and coding.

[PCB \(Printed Circuit Board\)](#)

BREAD BOARD

A breadboard (sometimes called a plug block) is used for building temporary circuits. It is useful to designers because it allows components to be removed and replaced easily. It is useful to the person who wants to build a circuit to demonstrate its action, then to reuse the components in another circuit.



[Bread Board](#)

INTRODUCTION

Our Project is design strategy for an Arduino-based safety system to prevent railway accidents. When a train is 500 meters away from an object (a person or an animal), this railway accident prevention safety system commands the person or animal if it is on the track.

In this system, a high-frequency sound wave is transmitted by an ultrasonic sensor, which then waits for the sound to return before calculating the distance based on the required amount of time. In order to alert people to the impending arrival of a train, an ultrasonic sensor works by scanning for and identifying the vehicle.

It then sends a signal to a buzzer to generate an alarm on the railway track. Keywords – Arduino, Ultrasonic Sensor, Buzzer, DC Servomotor, LED Lights. To prevent accidents on the rails, at crossings, etc.

So, the project here is the detection of trains approaching the track. Arduino, an ultrasonic sensor, and a buzzer are used in this.

The train that is approaching the track is detected by this ultrasonic sensor-based technology. The proposed technology locates the train using ultrasonic sensors. A sensor placed between 500 meters or at our discretion can detect the arrival of the train.

OUR PROJECT (AUTOMATIC ALARMING SYSTEM FOR TRAIN)

Under the direction of pro. Santosh Mishra, LAB Guru at **Idea lab, BIT Durg**, we created a working project on “**Automatic Alarming system for train**” or “**safety system for living beings**” during the internship program.

Avoiding Railroad Accidents, we are presenting A project using an Arduino ultrasonic sensor-based safety system our aim is to avoid accidents on train tracks. We are aware that the country's most popular mode of transit is rail. Accidents are happening more frequently at the railway crossing.



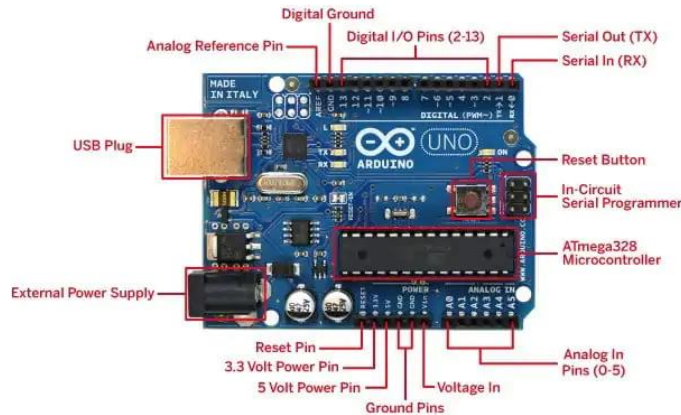
Which can be used in a simple and easy way to reduce the increase in train accidents so that precious human lives and other valuable can be saved.

The components we use in our project – Arduino uno, ultrasonic sensor, led buzzer etc.

ARDUINO UNO

Arduino Uno is a microcontroller board based on the microchip Atmega328P. A Micro controller comprises of an incredible CPU.

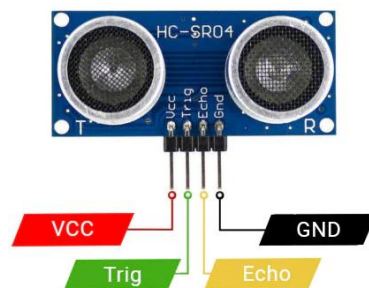
Primarily combined with memory different I/O interfaces, for example, parallel port clock, ADC and DAC coordinates and to a solitary silicon chip.



Arduino Uno

ULTRASONIC SENSOR

An ultrasonic Sensor transmits ultrasonic waves into the air and detects reflected waves from an object. There are many applications for ultrasonic sensor such as in instructions alarm systems, automatic door openers and backup sensors for automobile etc.



Ultrasonic Sensor

LED (LIGHT EMITTING DIODE)

Light Emitting Diodes (LEDs) are very useful as indicators to show when something is on, LEDs work at low voltage and take very little current which makes them ideal for low power circuits.



LED

BUZZER

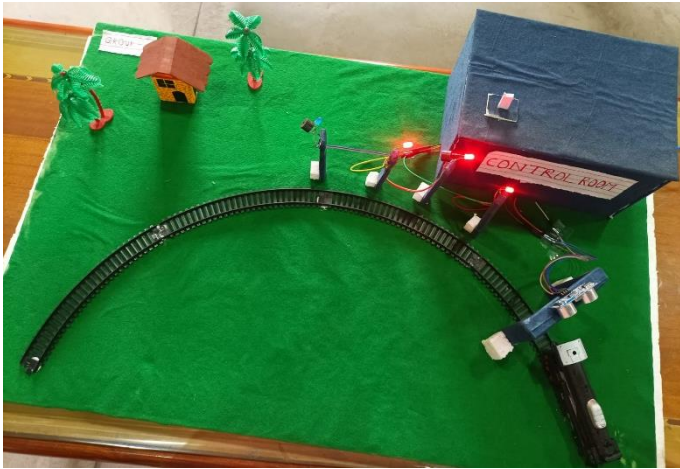
A buzzer or beeper is an audio signaling device. Generally, it is powered through DC voltage and used in timers, alarm devices, printers, alarms, computers, etc.



Buzzer

WORKING

All the components of the system are connected with the control unit. The power supply supplies the power to the control unit. The ultrasonic sensors are used to detect the obstacles in the train path. Ultrasonic sensors work on a principle similar to sonar which evaluates distance of a target by interpreting the echoes from ultrasonic sound waves.



By employing an Arduino-based safety system to generate an alarm through a buzzer, any obstruction (people) can be alerted and made aware that a train is approaching them at a distance, preventing accidents on the railway track.



A train's location is found and tracked using an ultrasonic sensor. Alarms are generated at the track using buzzers. An ultrasonic sensor was employed as a proximity switch to warn individuals when a train was approaching from a distance of approximately 500 meters away. The ultrasonic sensor automatically blinks a red light and makes a buzzing sound when something blocks it.

DEMONSTRATION OF OUR PROJECT

&

CERTIFICATION DAY

Last but not least, the big day arrived. We presented our project to all of the IDEA LAB instructors, including Drs. Santosh Mishra, Anil Kumar, Pro. Kauleshwar Prasad, Anupam Agrwal, Mrs. Suchitra Panday, and Puspendra Singh.



They were really impressed with our work. They gave us motivation and support to carry on with these initiatives and model making.

HIGHLIGHTS OF OUR INTERNSHIP PROGRAM



MY FEEDBACK

During this internship programmed, I learned a lot of skills including soldering and coding, among many others.



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MASTER OF SCIENCE IN PHYSICS

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No. BIT/IDEA LAB /2023/ INT / 04

Date: 15th NOV 2023

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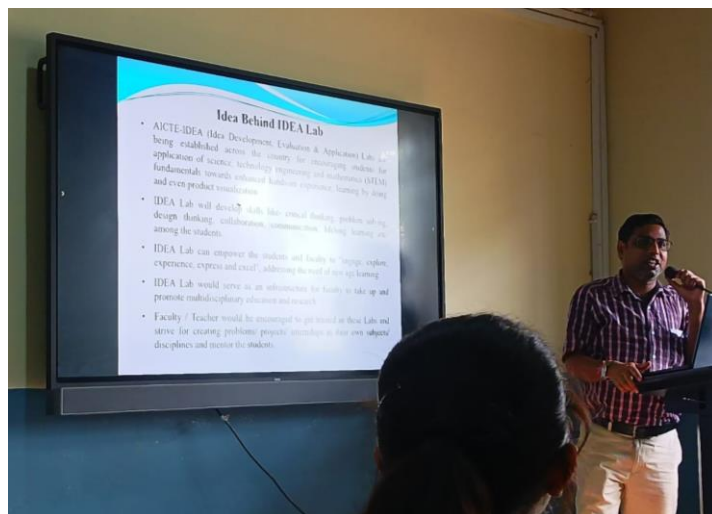
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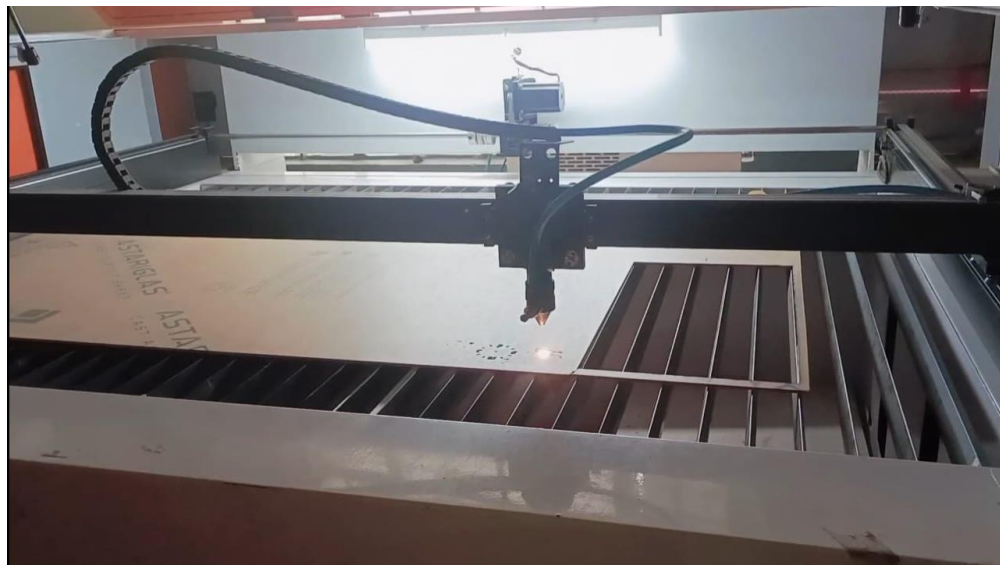
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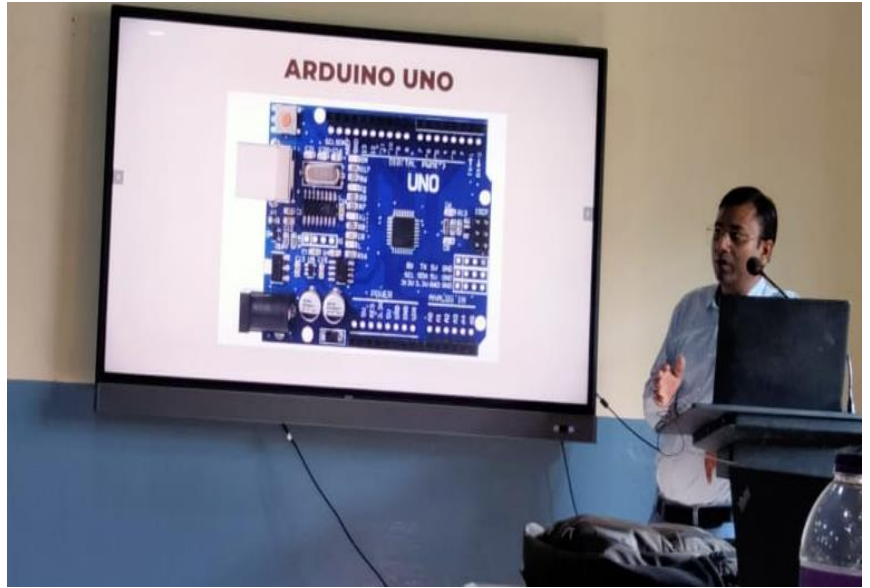
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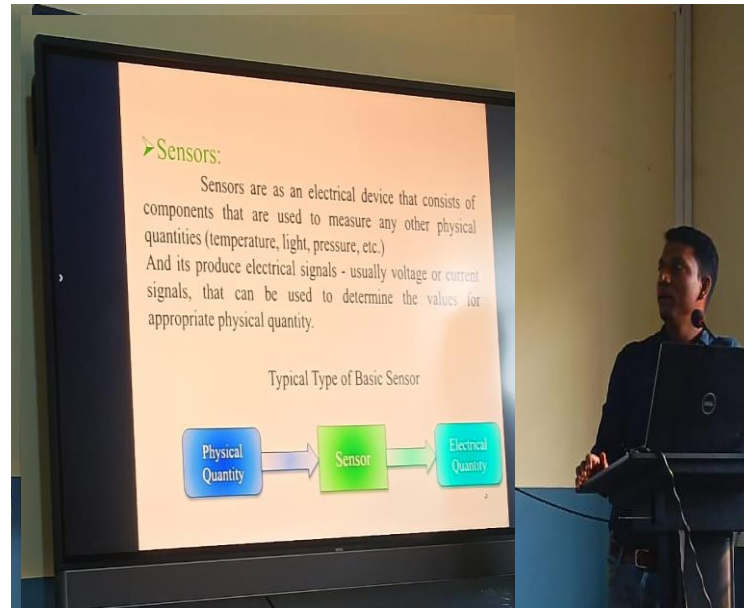
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[Arduino Uno](#)

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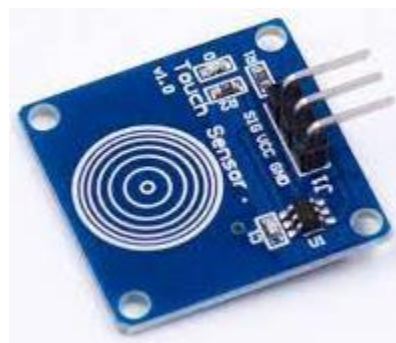
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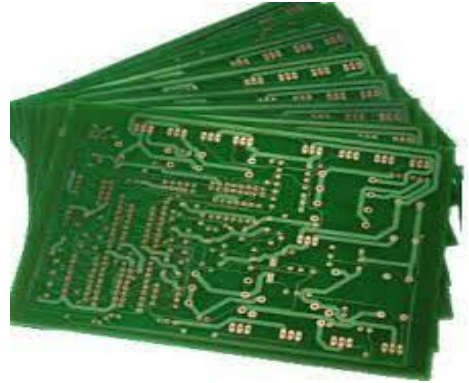


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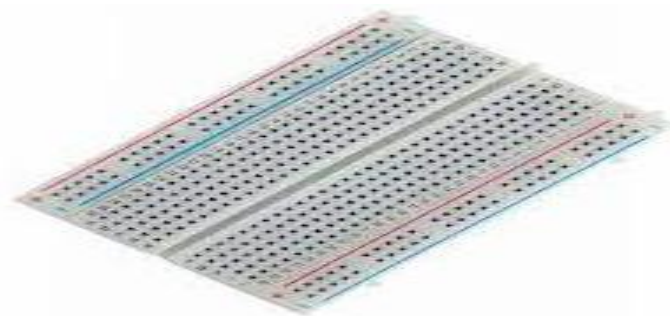


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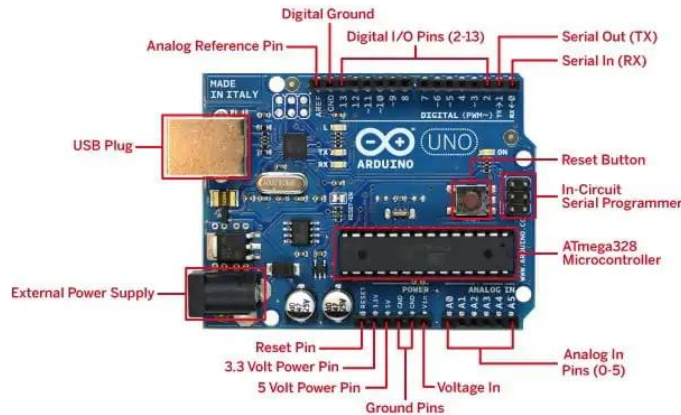
Which can be used in a simple and easy way to reduce the increase in train accidents so that precious human lives and other valuable can be saved.

The components we use in our project – Arduino uno, ultrasonic sensor, led buzzer etc.

ARDUINO UNO

Arduino Uno is a microcontroller board based on the microchip Atmega328P. A Micro controller comprises of an incredible CPU.

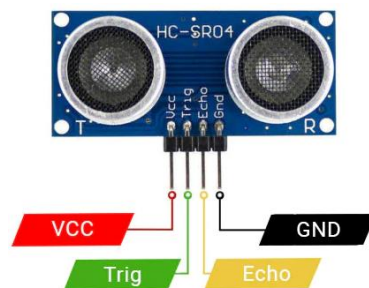
Primarily combined with memory different I/O interfaces, for example, parallel port clock, ADC and DAC coordinates and to a solitary silicon chip.



Arduino Uno

ULTRASONIC SENSOR

An ultrasonic Sensor transmits ultrasonic waves into the air and detects reflected waves from an object. There are many applications for ultrasonic sensor such as in instructions alarm systems, automatic door openers and backup sensors for automobile etc.



Ultrasonic Sensor

LED (LIGHT EMITTING DIODE)

Light Emitting Diodes (LEDs) are very useful as indicators to show when something is on, LEDs work at low voltage and take very little current which makes them ideal for low power circuits.



LED

BUZZER

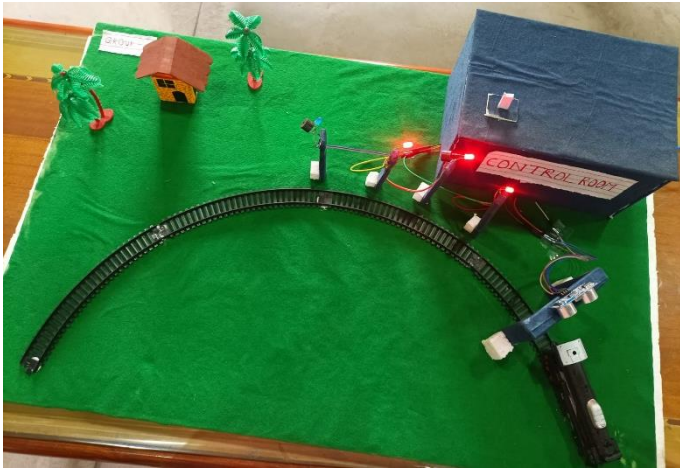
A buzzer or beeper is an audio signaling device. Generally, it is powered through DC voltage and used in timers, alarm devices, printers, alarms, computers, etc.



Buzzer

WORKING

All the components of the system are connected with the control unit. The power supply supplies the power to the control unit. The ultrasonic sensors are used to detect the obstacles in the train path. Ultrasonic sensors work on a principle similar to sonar which evaluates distance of a target by interpreting the echoes from ultrasonic sound waves.



By employing an Arduino-based safety system to generate an alarm through a buzzer, any obstruction (people) can be alerted and made aware that a train is approaching them at a distance, preventing accidents on the railway track.



A train's location is found and tracked using an ultrasonic sensor. Alarms are generated at the track using buzzers. An ultrasonic sensor was employed as a proximity switch to warn individuals when a train was approaching from a distance of approximately 500 meters away. The ultrasonic sensor automatically blinks a red light and makes a buzzing sound when something blocks it.

DEMONSTRATION OF OUR PROJECT

&

CERTIFICATION DAY

Last but not least, the big day arrived. We presented our project to all of the IDEA LAB instructors, including Drs. Santosh Mishra, Anil Kumar, Pro. Kauleshwar Prasad, Anupam Agrwal, Mrs. Suchitra Panday, and Puspendra Singh.



They were really impressed with our work. They gave us motivation and support to carry on with these initiatives and model making.

HIGHLIGHTS OF OUR INTERNSHIP PROGRAM



MY FEEDBACK

I learned a lot during the internship program, and what I liked most about it was that we collaborated as a team and shared positive ideas. Overall, I had a great time.

A
PROJECT REPORT
ON
INTERNSHIP PROGRAM AT IDEA LAB BIT DURG CHHATTISGARH
SUBMITTED TO
GOVT. V. Y. T. PG. AUTONOMOUS COLLEGE DURG



GUIDED BY
PROF. PUSHPENDRA SINGH

SUBMITTED BY
SEVAK RAM
(M.Sc. PREVIOUS)

SESSION 2023 – 24
DEPARTMENT OF PHYSICS
GOVT. V. Y. T. PG. AUTONOMOUS COLLEGE DURG



BHILAI INSTITUTE OF TECHNOLOGY, DURG

An Autonomous Institution | All UG Programs NBA Accredited | 'A' Grade NAAC Accredited
BHILAI HOUSE, G.E. ROAD, DURG (CHHATTISGARH), INDIA
(SETH BALKRISHAN MEMORIAL)



No. BIT/IDEA LAB/2023/INT/24

Date: 15th NOV 2023


Certificate Of Completion



This is to certify that **SEVAK RAM**, 1st Semester M.Sc. (Physics), Govt. V.Y.T. Post Graduate Autonomous College, Durg, C.G., has successfully completed his Internship with AICTE IDEA Lab BIT, Durg from October 18th, 2023 to November 15th, 2023, held at Bhilai Institute of Technology, Durg, C.G.

Best wishes for all future endeavors.


Dr. Arun Arora
Chief Mentor, IDEA Lab
BIT, Durg (C.G.)


Dr. Pawan Kumar Patnaik
Coordinator, IDEA Lab
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ACKNOWLEDGMENT

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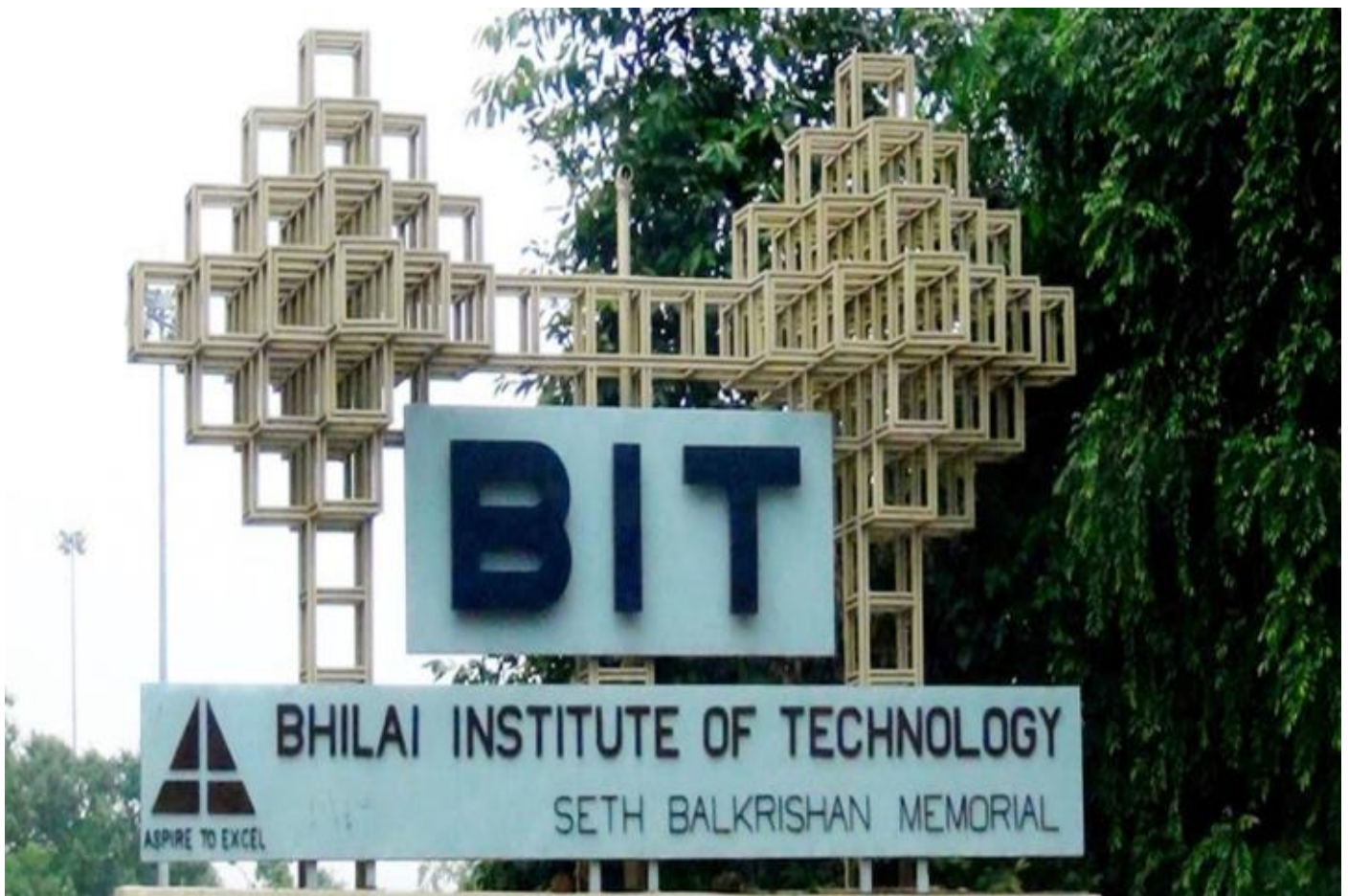
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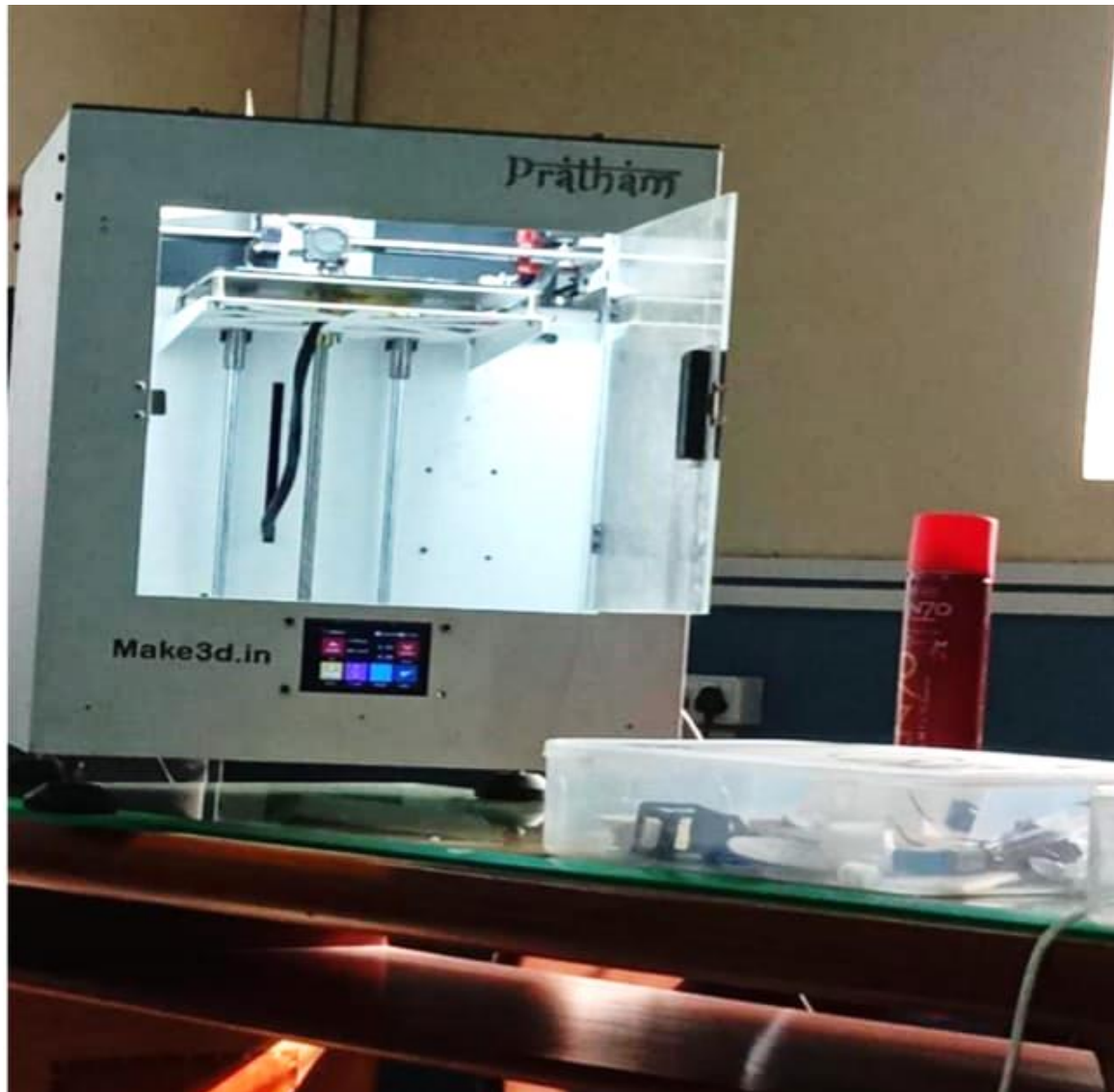
Working of laser cutting machine

LASER Cutting uses a high – power laser which is directed through optics and computer numerical control (CNC) to direct the beam or material. Typically, the process uses a motion control system to follow a CNC or G-CODE of the pattern that is to be cut onto the material.



WORKING OF 3D PRINTING MACHINE

3D printers are related to additive Manufacturing. 3D printers use Computer – aided design to understand a design. When a design is ready, a Material that can be dispensed through a hot nozzle or precision tool is printed layer by layer to create a three- Dimensional Object from Scratch.



DTF PRINTING MACHINE

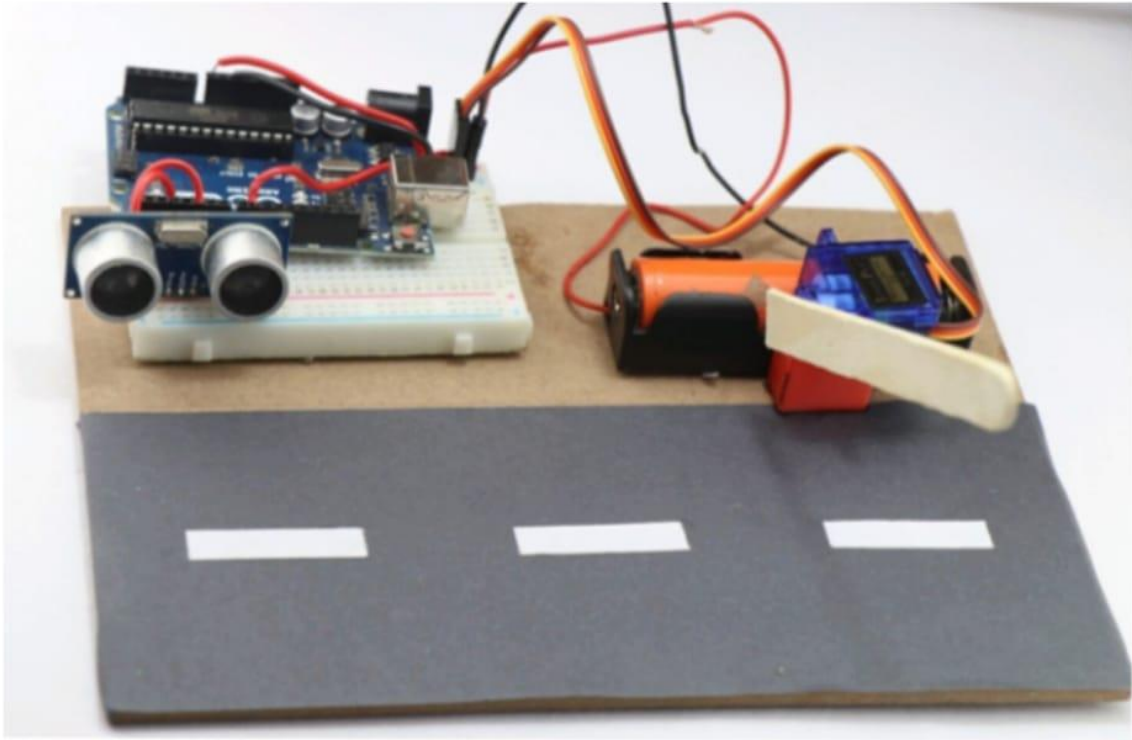
Direct to film or DTF is process that transfer print onto fabric or other substrates using a heat- press mechanism. Unlike the DTG method, which only work on cotton fabric, the printer DTF method can work on cotton and Poly blends. The heating plate is using special



protect I coating, your vinyl, clothes and iron will working that harmless to them the cover his resistance easy to clean and can make printing more steady.

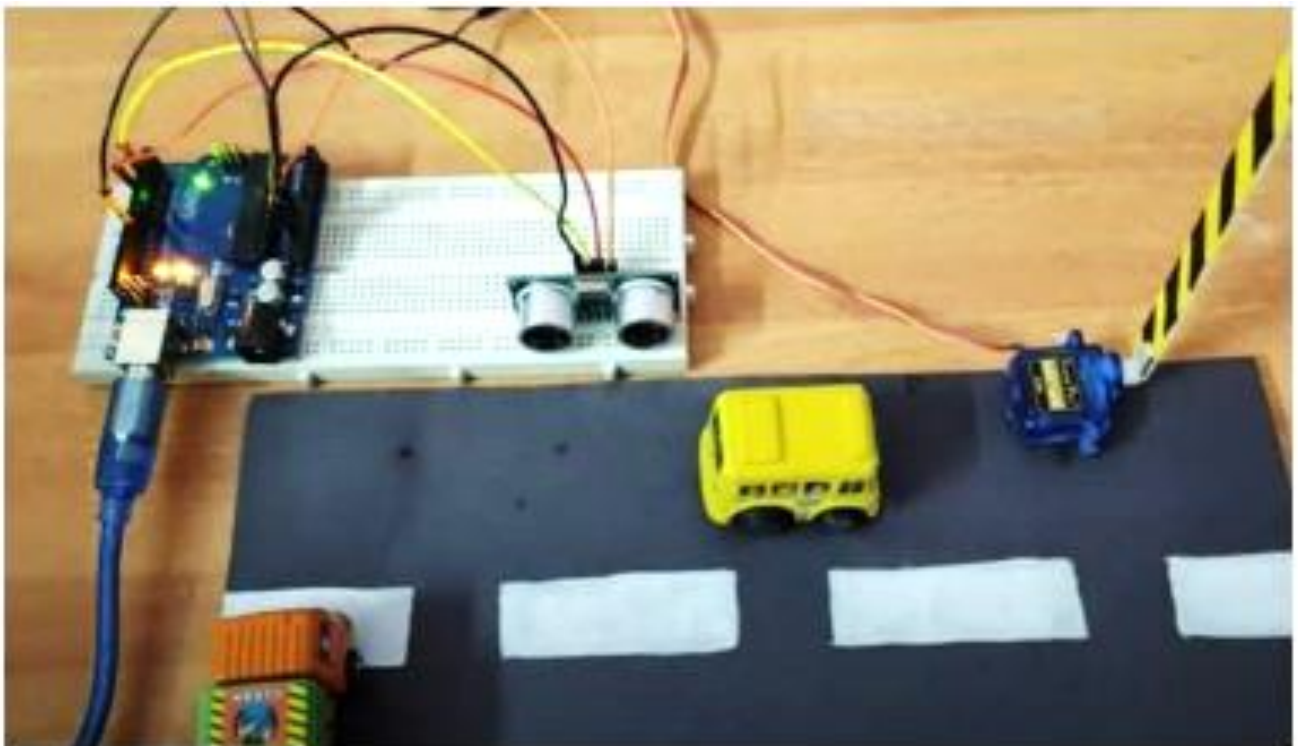
Our project

Automatic Toll Collection Gate System



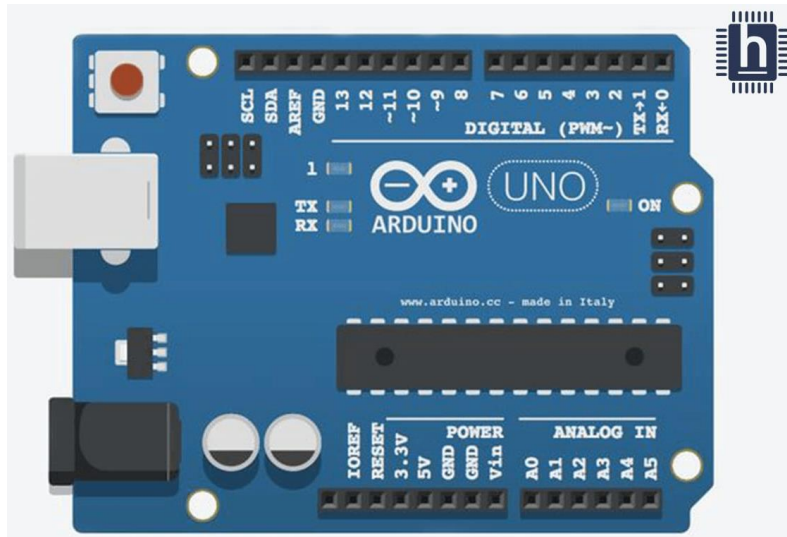
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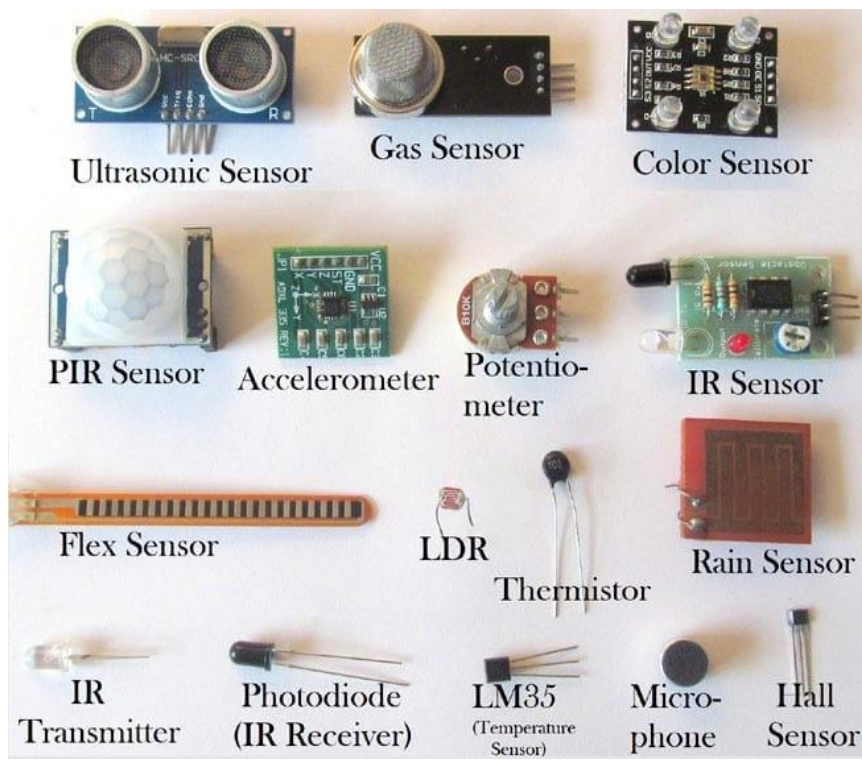


Arduino Uno:-

Arduino Uno is a microcontroller board based on the ATmega328P. It has 14 digital input/output pins (of which 6 can be used as PWM outputs), 6 analog inputs, a 16 MHz ceramic resonator, a USB connection, a power jack, an ICSP header and a reset button.



Various types of sensor:-

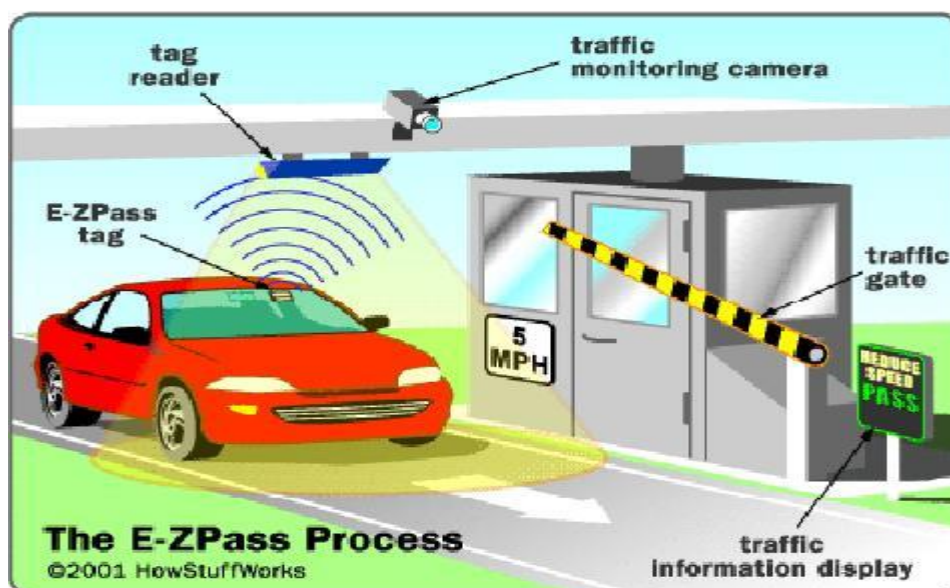


Working process

The idea for this project was inspired from actual system, in actual toll they stop the vehicles using a stopper that is completely automated and it is activated when any vehicle passes in front the sensor, or some time it's activated through a button.



In our case, we are using an HC- SR04 or called as ultrasonic distance sensor to detect an obstacle(vehicle) and later to lift the barrier we are using micro servo, that is the mechanism involved in this project, Now let us dive into the building stage.



CERTIFICATE DISTRIBUTION DAY



PROJECT DEMONSTRATION DAY



Feedback:-

This program was very useful for us, in this we got to know about new machines, about their programming, how those machines work and got complete information about it. After getting information and learning about all the machines, we all formed different groups and did project work. After the project work was completed, I felt very good because I got to learn new machines. For all this, I would like to thank the Principal Sir of our college, the Head of our Physics Department and all the teachers.

A
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GUIDED BY
PROF. PUSHPENDRA SINGH

SUBMITTED BY
TULESHWARI SONWANI
(M.Sc. PREVIOUS)

SESSION 2023 – 24
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No. BIT/IDEA LAB/2023/INT/22

Date: 15th NOV 2023


Certificate Of Completion



This is to certify that **TULESHWARI SONWANI**, 1st Semester M.Sc. (Physics), Govt. V.Y.T. Post Graduate Autonomous College, Durg, C.G., has successfully completed her Internship with AICTE IDEA Lab BIT, Durg from October 18th 2023 to November 15th 2023, held at Bhilai Institute of Technology, Durg, C.G.

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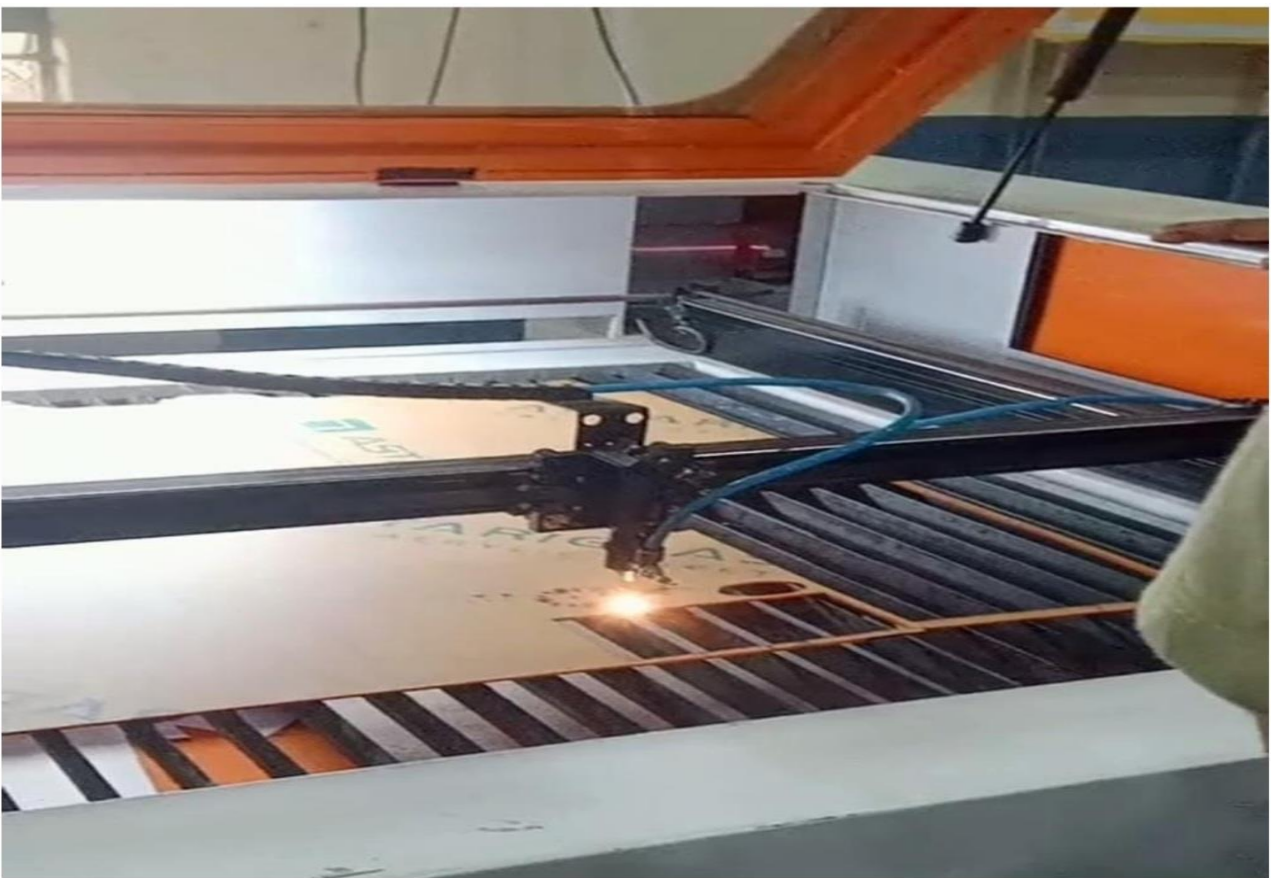
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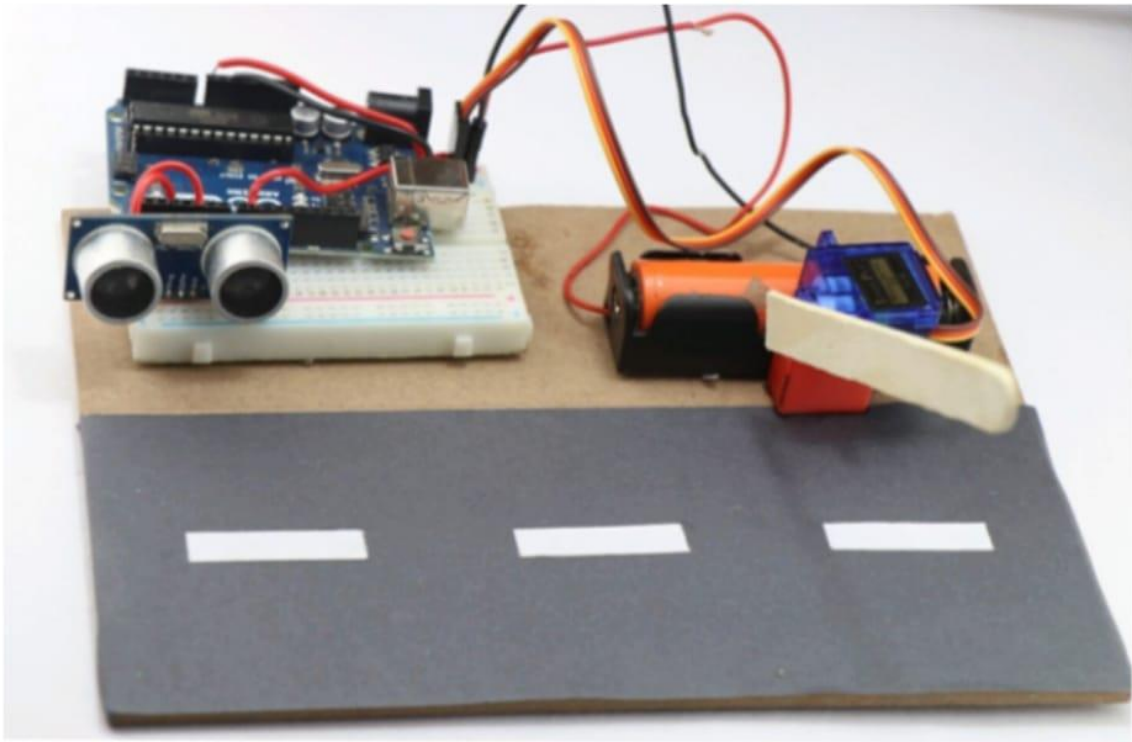
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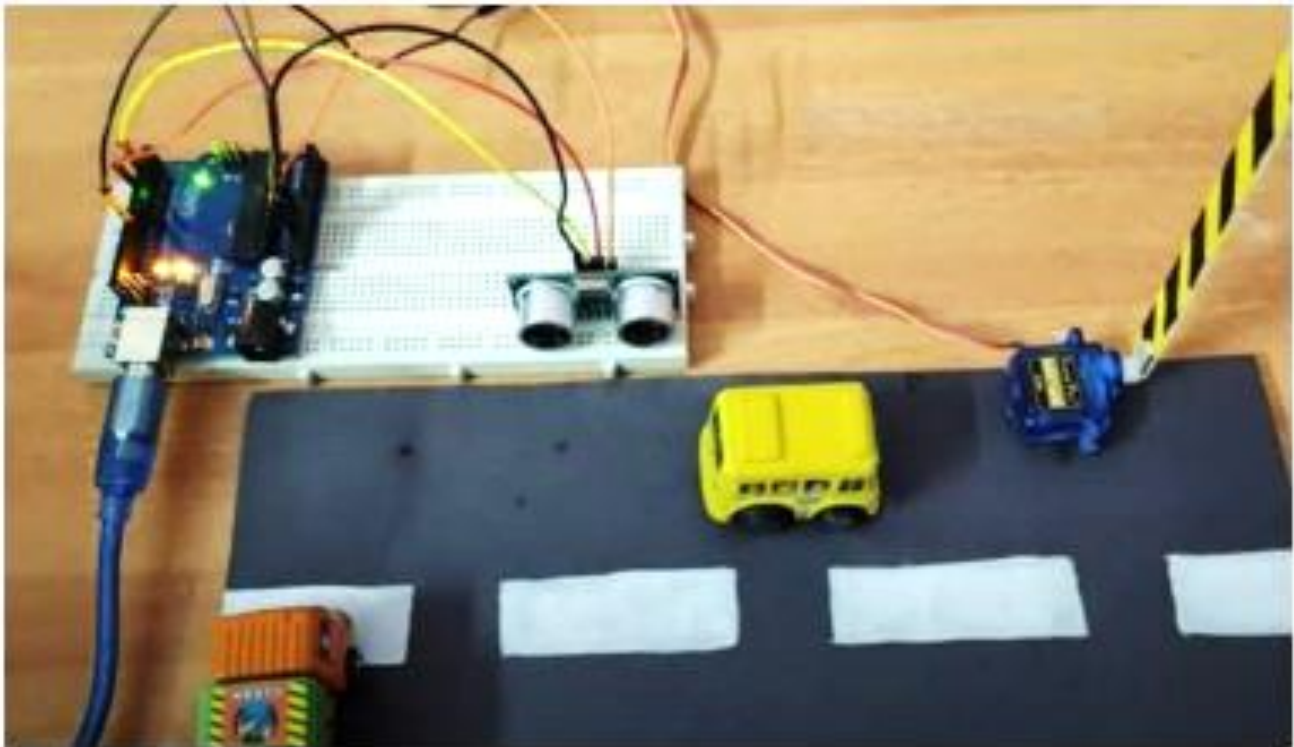
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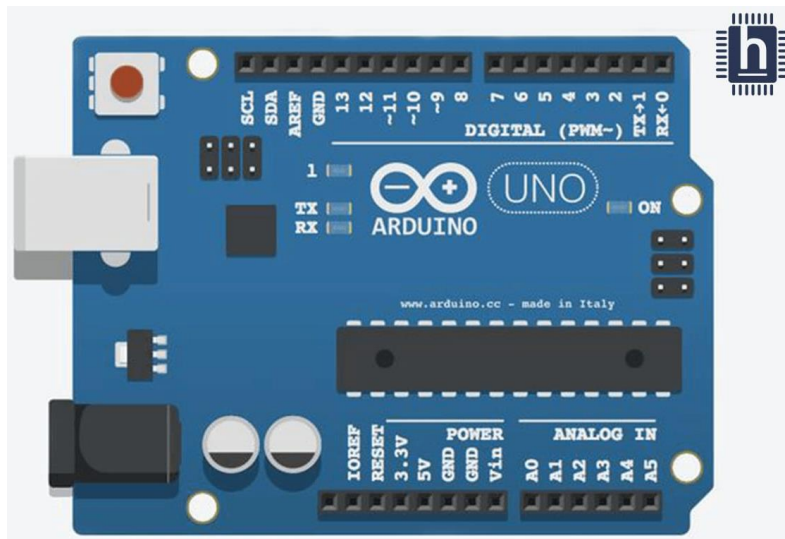
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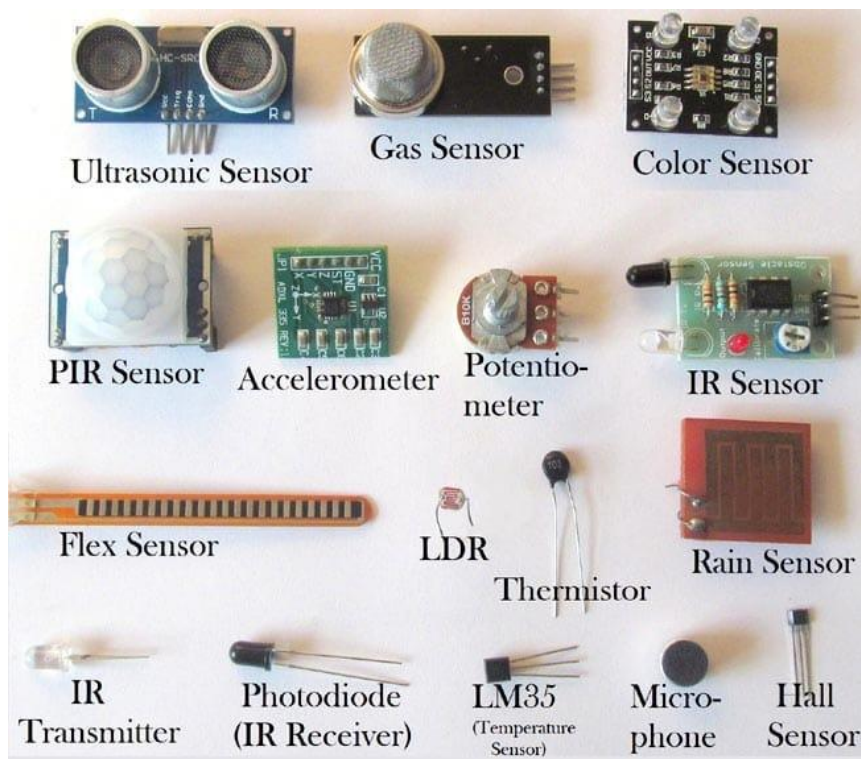


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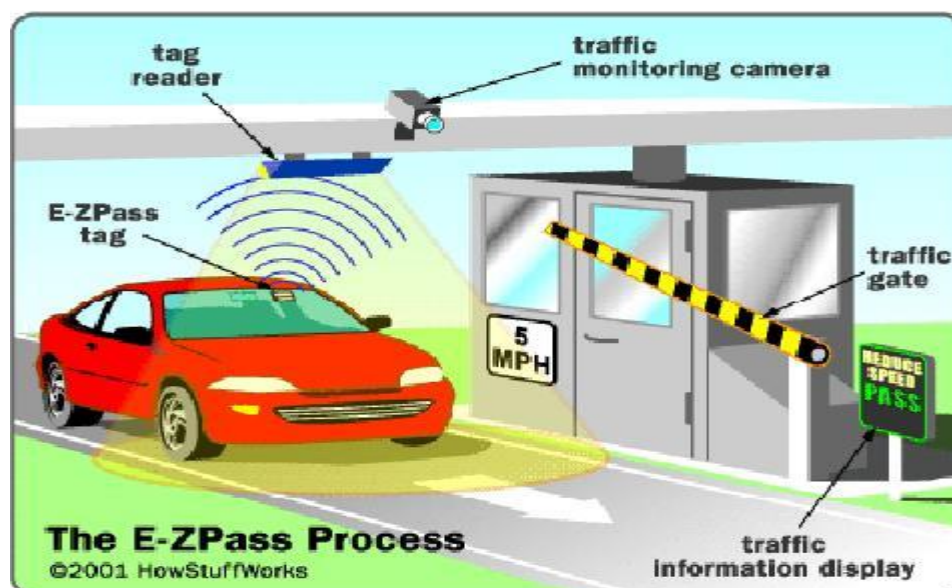


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CERTIFICATE DISTRIBUTION DAY



PROJECT DEMONSTRATION DAY



Feedback:- I got to learn various ideas of new technology that I had never heard before , like Arduino uno, bread board etc.





PROJECT REPORT

ON

“AUTOMATIC ALARMING SYSTEM FOR TRAIN”

SUBMITTED TO

GOVT. V.Y.T.PG. AUTONOMOUS COLLEGE DURG (C.G.)



MASTER OF SCIENCE IN PHYSICS

GUIDED BY

Dr. Santosh Mishra

SUBMITTED BY

Triveni koreti



Session 2023-2024

DEPARTMENT OF PHYSICS

GOVT. V.Y.T.PG. AUTONOMOUS COLLEGE DURG (C.G.)



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(SETH BALKRISHAN MEMORIAL)



No. BIT/IDEA LAB/2023/INT/02

Date: 15th NOV 2023

Certificate Of Completion



This is to certify that **TRIVENI KORETI**, 1st Semester M.Sc. (Physics), Govt. V.Y.T. Post Graduate Autonomous College, Durg, C.G. has successfully completed her Internship with AICTE IDEA Lab BIT, Durg from October 18th, 2023 to November 15th, 2023, held at Bhilai Institute of Technology, Durg, C.G.

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Chief Mentor, IDEA Lab
BIT, Durg (C.G.)

Dr. Pawan Kumar Patnaik
Coordinator, IDEA Lab
BIT, Durg (C.G.)

ACKNOWLEDGMENT

In Present day technology can become the “wings” that will allow the educational world to fly further and faster than ever before- if we allow it. Technology has the potential to revolutionize education because they are like two coins of the same side, without which it is impossible to imagine the comprehensive development of any country.

We are incredibly grateful to the principal of **GOVT. V.Y.T.PG. Autonomous college durg**, Dr. M.A. Siddiqui sir who permitted us to attend this internship program at Bhilai institute of technology.

Also, thankful **PM-USHA** for providing fund to us, so that we can able to succeed to making the project.

Furthermore, we would like to express our gratitude to Dr. Jageet kaur Saluja Ma'am “**Head of the Physics Department**”, for providing us with this amazing chance to participate in the internship program.

We express our sincere gratitude to Dr. R.N. Singh Sir, Dr. Anita Shukla Ma'am, Dr. Siddheshwari Chandraker Ma'am, Dr. Abhishek Mishra Sir, Dr. Kusumanjali Deshmukh Ma'am, Mr. Bhupendra Das Sir and Mr. Neeraj Yadav Sir, for your invaluable guidance during our project.

24 students from M.Sc. Previous participated in a group of 4 students for this internship program. We created a total of **6 project** using our creativity and gained a lot of knowledge.

It was a very good time for us to learn something new and innovative, which will help us a lot in making more projects in the future, so that we can also contribute toward achieving the goal of **ViksitBhart@2047**.

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6.	Highlights of our internship program	12
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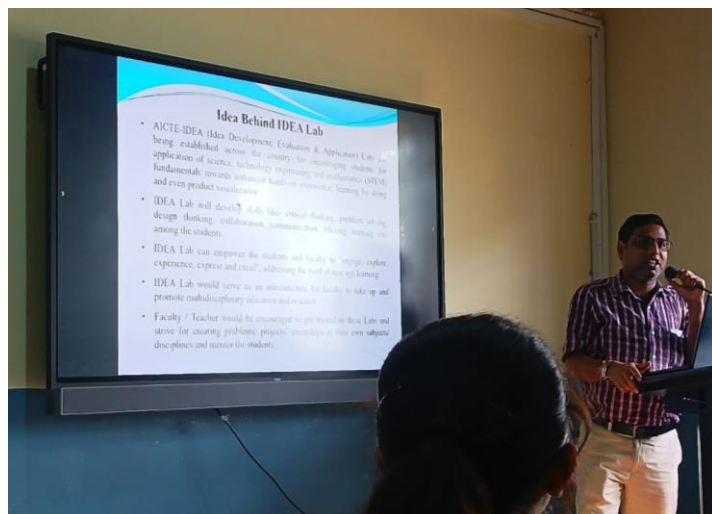
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The Bhilai Institute of Technology (BIT) Durg is well-known for its aesthetically pleasing campus, excellent instructors with a wealth of experience, and committed staff.



We all had the wonderful opportunity to participate in an internship program at **IDEA LAB**, which ran from **October 18, 2023, to November 15, 2023.**

Throughout the course of this internship program, we attended numerous technical workshops where we learned about Arduino and LDR and observed a variety of machines, including those that printed cups, t-shirts, laser cut objects, 3D prints, and many other things.



3D PRINTER

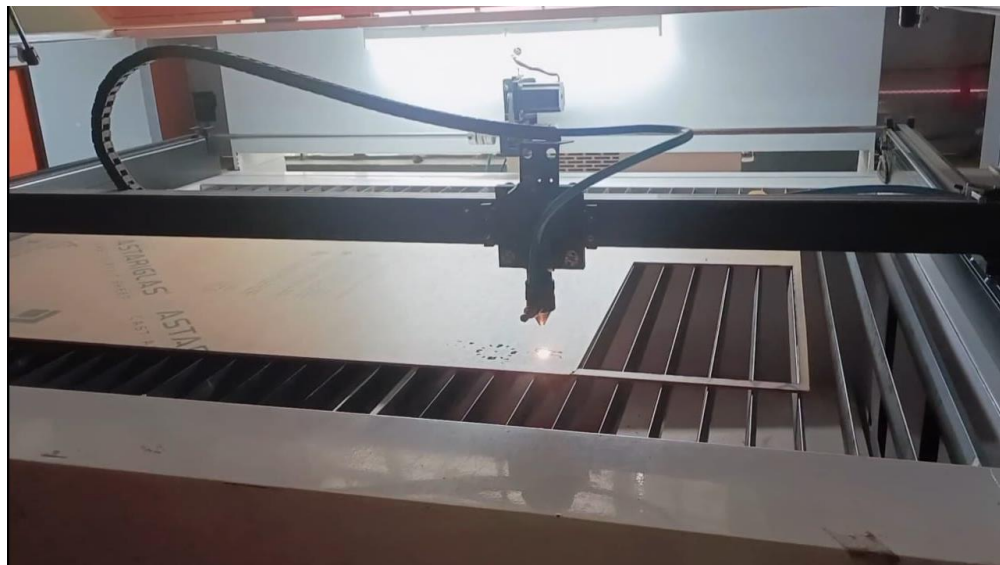
3D printing is a process in which a digital model is turned into a tangible, solid, three-dimensional object, usually by laying down many successive, thin layers of a material. 3D printing has become popular so quickly because it makes manufacturing accessible to more people than ever before.



[3D Printer](#)

LASER CUTTING MACHINE

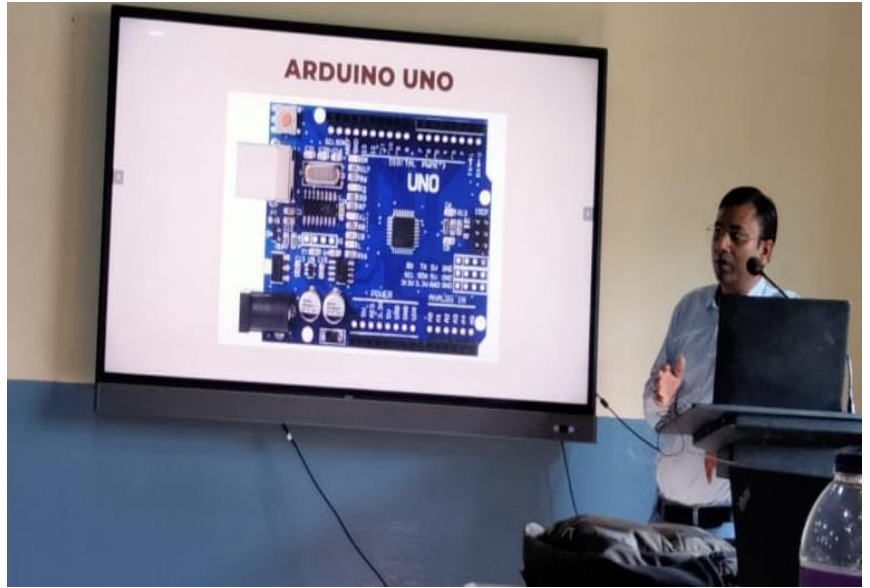
Laser cutting is mainly a thermal process in which a focused laser beam is used to melt material in a localized area. A co-axial gas jet is used to eject the molten material and create a kerf. A continuous cut is produced by moving the laser beam or workpiece under CNC control.



[Laser Cutting Machine](#)

ARDUINO

The Arduino Uno comes with USB interface, 6 analog input pins, 14 I/O digital ports that are used to connect with external electronic circuits. Out of 14 I/O ports, 6 pins can be used for PWM output. It allows the designers to control and sense the external electronic devices in the real world.



Arduino is an Italian 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 the 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.



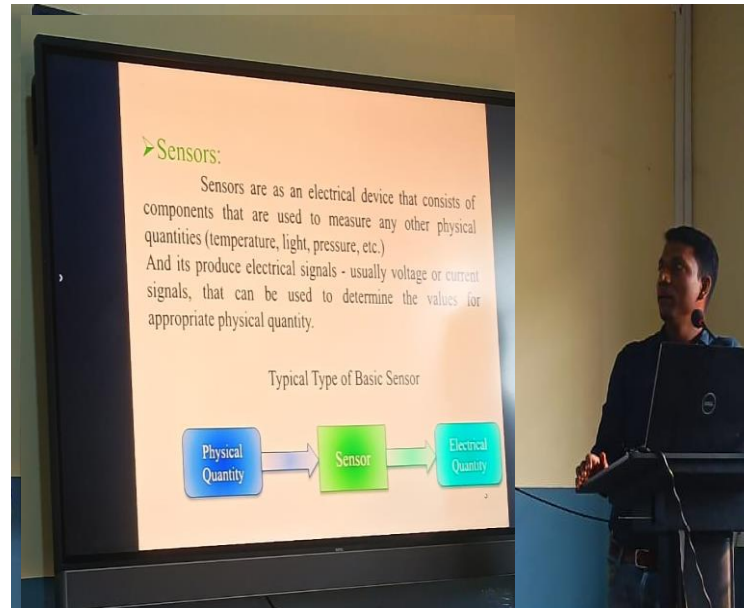
[Arduino Nano](#)



[Arduino Uno](#)

SENSORS

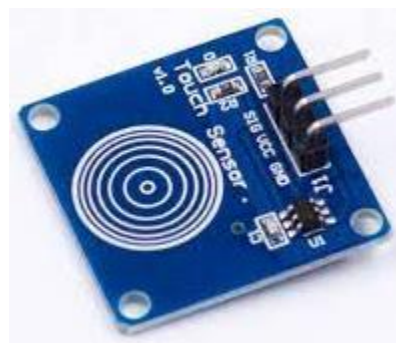
A sensor is a device that detects the change in the environment and responds to some output on the other system. A sensor converts a physical phenomenon into a measurable analog voltage converted into a human -readable display or transmitted for reading or further processing.



One of the best-known sensors is the microphone, which converts sound energy to an electrical signal that can be amplified, transmitted, recorded, and reproduced. Sensors are used in our everyday lives.



Ultrasonic Sensor



Touch Sensor

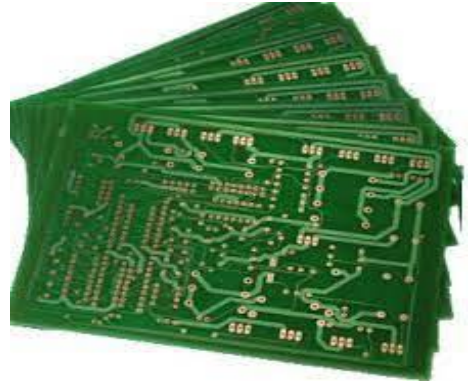


Color Sensor

PCB (PRINTED CIRCUIT BOARD)



PCBs are made by isolating the surface copper foil conductive layer through the board base insulation material, which allows current to flow through various components along a pre-designed route.

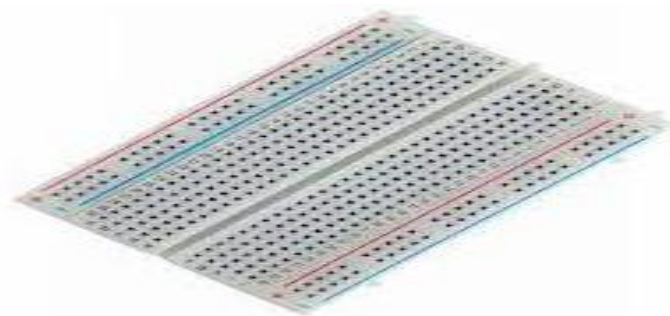


Ultimately achieving functions such as power making, amplification, attenuation, modulation, demodulation, and coding.

PCB (Printed Circuit Board)

BREAD BOARD

A breadboard (sometimes called a plug block) is used for building temporary circuits. It is useful to designers because it allows components to be removed and replaced easily. It is useful to the person who wants to build a circuit to demonstrate its action, then to reuse the components in another circuit.



Bread Board

INTRODUCTION

Our Project is design strategy for an Arduino-based safety system to prevent railway accidents. When a train is 500 meters away from an object (a person or an animal), this railway accident prevention safety system commands the person or animal if it is on the track.

In this system, a high-frequency sound wave is transmitted by an ultrasonic sensor, which then waits for the sound to return before calculating the distance based on the required amount of time. In order to alert people to the impending arrival of a train, an ultrasonic sensor works by scanning for and identifying the vehicle.

It then sends a signal to a buzzer to generate an alarm on the railway track. Keywords – Arduino, Ultrasonic Sensor, Buzzer, DC Servomotor, LED Lights. To prevent accidents on the rails, at crossings, etc.

So, the project here is the detection of trains approaching the track. Arduino, an ultrasonic sensor, and a buzzer are used in this.

The train that is approaching the track is detected by this ultrasonic sensor-based technology. The proposed technology locates the train using ultrasonic sensors. A sensor placed between 500 meters or at our discretion can detect the arrival of the train.

OUR PROJECT (AUTOMATIC ALARMING SYSTEM FOR TRAIN)

Under the direction of pro. Santosh Mishra, LAB Guru at **Idea lab, BIT Durg**, we created a working project on “**Automatic Alarming system for train**” or “**safety system for living beings**” during the internship program.

Avoiding Railroad Accidents, we are presenting A project using an Arduino ultrasonic sensor-based safety system our aim is to avoid accidents on train tracks. We are aware that the country's most popular mode of transit is rail. Accidents are happening more frequently at the railway crossing.



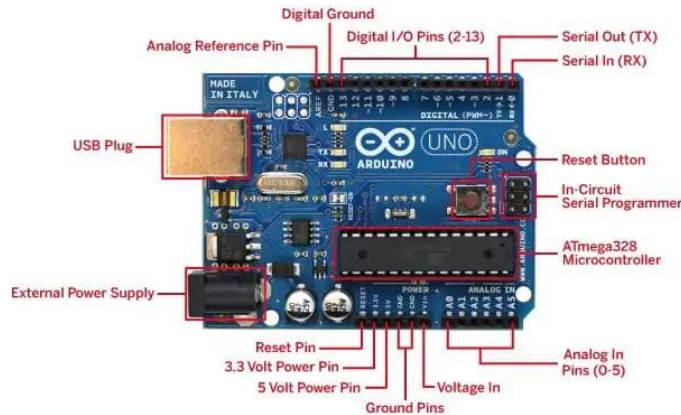
Which can be used in a simple and easy way to reduce the increase in train accidents so that precious human lives and other valuable can be saved.

The components we use in our project – Arduino uno, ultrasonic sensor, led buzzer etc.

ARDUINO UNO

Arduino Uno is a microcontroller board based on the microchip Atmega328P. A Micro controller comprises of an incredible CPU.

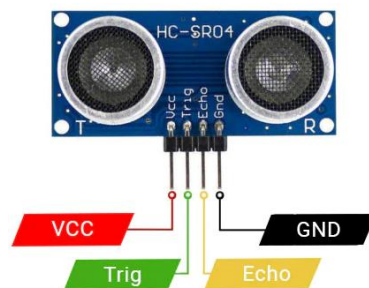
Primarily combined with memory different I/O interfaces, for example, parallel port clock, ADC and DAC coordinates and to a solitary silicon chip.



Arduino Uno

ULTRASONIC SENSOR

An ultrasonic Sensor transmits ultrasonic waves into the air and detects reflected waves from an object. There are many applications for ultrasonic sensor such as in instructions alarm systems, automatic door openers and backup sensors for automobile etc.



Ultrasonic Sensor

LED (LIGHT EMITTING DIODE)

Light Emitting Diodes (LEDs) are very useful as indicators to show when something is on, LEDs work at low voltage and take very little current which makes them ideal for low power circuits.



LED

BUZZER

A buzzer or beeper is an audio signaling device. Generally, it is powered through DC voltage and used in timers, alarm devices, printers, alarms, computers, etc.



Buzzer

WORKING

All the components of the system are connected with the control unit. The power supply supplies the power to the control unit. The ultrasonic sensors are used to detect the obstacles in the train path. Ultrasonic sensors work on a principle similar to sonar which evaluates distance of a target by interpreting the echoes from ultrasonic sound waves.



By employing an Arduino-based safety system to generate an alarm through a buzzer, any obstruction (people) can be alerted and made aware that a train is approaching them at a distance, preventing accidents on the railway track.



A train's location is found and tracked using an ultrasonic sensor. Alarms are generated at the track using buzzers. An ultrasonic sensor was employed as a proximity switch to warn individuals when a train was approaching from a distance of approximately 500 meters away. The ultrasonic sensor automatically blinks a red light and makes a buzzing sound when something blocks it.

DEMONSTRATION OF OUR PROJECT

&

CERTIFICATION DAY

Last but not least, the big day arrived. We presented our project to all of the IDEA LAB instructors, including Drs. Santosh Mishra, Anil Kumar, Pro. Kauleshwar Prasad, Anupam Agrwal, Mrs. Suchitra Panday, and Puspendra Singh.



They were really impressed with our work. They gave us motivation and support to carry on with these initiatives and model making.

HIGHLIGHTS OF OUR INTERNSHIP PROGRAM



MY FEEDBACK

I gained extremely inexpensive knowledge about how to generate original ideas as a model in this internship programmed.

A
PROJECT REPORT
ON
INTERNSHIP PROGRAM AT IDEA LAB BIT DURG CHHATTISGARH
SUBMITTED TO
GOVT. V. Y. T. PG. AUTONOMOUS COLLEGE, DURG



GUIDED BY:

PROF. KAULESHWAR PRASAD

SUBMITTED BY:

UPASANA DILLIWAR
(M.Sc. Previous)

SESSION 2023 – 24

DEPARTMENT OF PHYSICS

GOVT. V. Y. T. PG. AUTONOMOUS COLLEGE, DURG (C.G.)



BHILAI INSTITUTE OF TECHNOLOGY, DURG

An Autonomous Institution | All UG Programs NBA Accredited | 'A' Grade NAAE Accredited
BHILAI HOUSE, G.E. ROAD, DURG (CHHATTISGARH), INDIA
(SETHI BALKRISHNAN MEMORIAL)



No. BIT/IDEA LAB/2023/INT/10

Date: 15th NOV 2023

Certificate Of Completion




This is to certify that **UPASANA DILLIWAR**, 1st Semester M.Sc. (Physics), Govt. V.Y.T. Post Graduate Autonomous College, Durg, C.G., has successfully completed her Internship with AICTE IDEA Lab BIT, Durg from October 18th, 2023 to November 15th, 2023, held at Bhilai Institute of Technology, Durg, C.G.

Best wishes for all future endeavors.


Dr. Arun Arora

Chief Mentor, IDEA Lab
BIT, Durg (C.G.)


Dr. Pawan Kumar Patnaik

Coordinator, IDEA Lab
BIT, Durg (C.G.)

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Along with this we all are very grateful to the Head Department of Physics Dr. Jagjeet Kaur Saluja who gave us a wonderful opportunity to take part in this internship program.

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It was our good fortune to make a small contribution to ViksitBharat@2047 through this internship program. We all hope that from time to such internship programs will be organized for us for enhancing our knowledge.

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Bhilai Institute of Technology Durg, is Renowned for its Environment friendly campus with well – equipped infrastructure, outstanding faculty rich experience, and dedicated staff.

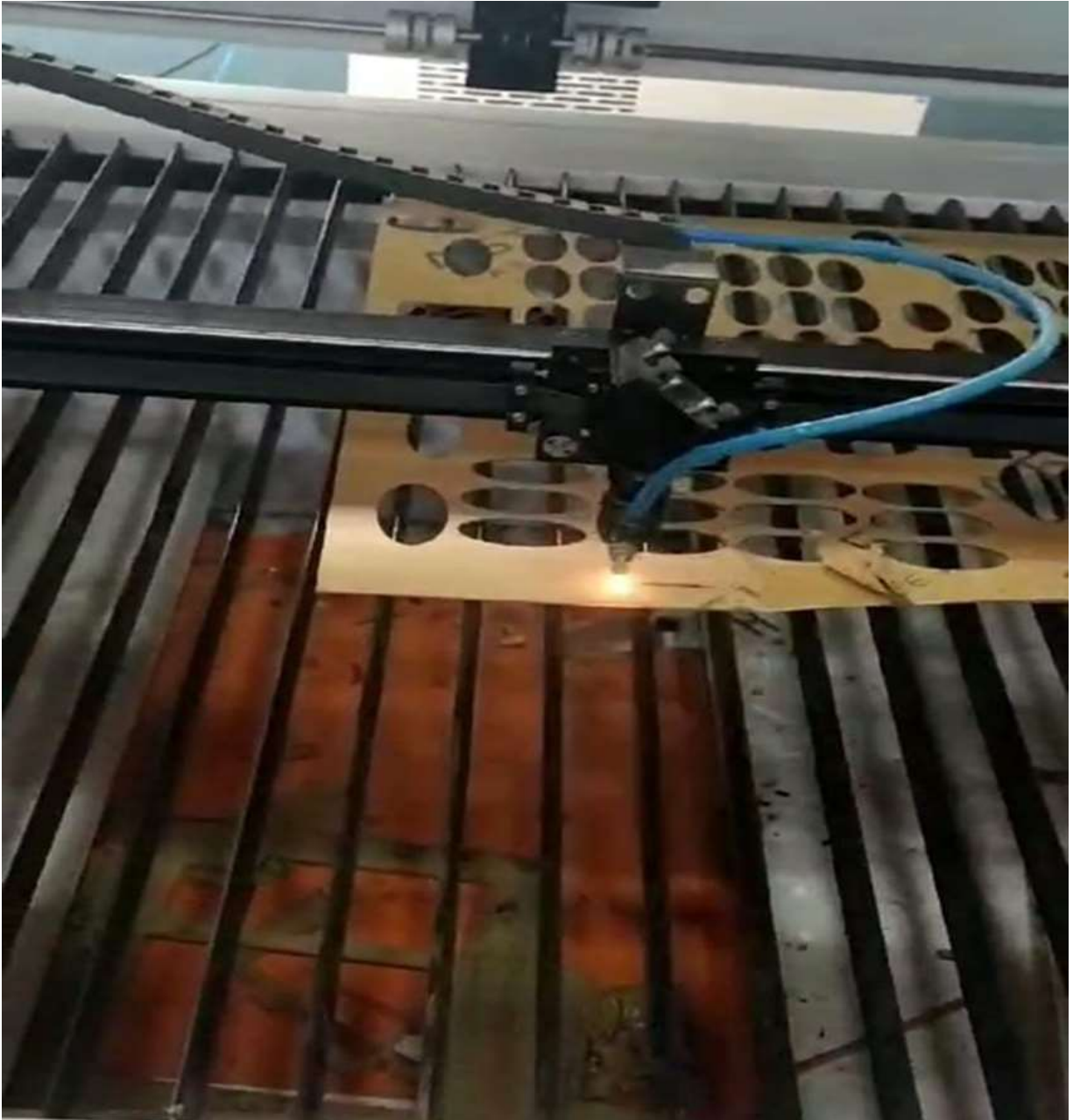
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During this internship program, there were many technology sessions through which learnt about Arduino, LDR and we saw different types of Machines like cup printing, t-shirt printing, LASER cutting machine, 3D-printing Machine and many more.



WORKING OF LASER CUTTING MACHINE

LASER Cutting uses a high – power laser which is directed through optics and computer numerical control (CNC) to direct the beam or material. Typically, the process uses a motion control system to follow a CNC or G-CODE of the pattern that is to be cut onto the material.



WORKING OF 3D PRINTING MACHINE

3D printers are related to additive Manufacturing. 3D printers use Computer – aided design to understand a design. When a design is ready, a Material that can be dispensed through a hot nozzle or precision tool is printed layer by layer to create a three- Dimensional Object from Scratch.



INTRODUCTION

Now days the no. of vehicles on road is increasing drastically and no. of accident on road also increases. Especially at night most of the accidents are occurred due to dazzling of headlight. While driving at night the headlight beam of oncoming vehicle is directly effects driver's eyes and eyes gets blur, it takes 3 to 8 sec to recover to its normal vision. Below fig. shows the high beam of headlight which causes blurriness on driver's eyes. If at that time vehicle speed is 70km/h, causes the vehicle goes out of road or strikes on oncoming vehicle.

In every vehicle dipper beam is provided in addition with the upper beam to reduce the dazzle from oncoming vehicle. Automatic dipper light control is a system which automatically changes the headlight from upper to dipper beam by sensing the headlight of oncoming vehicle.



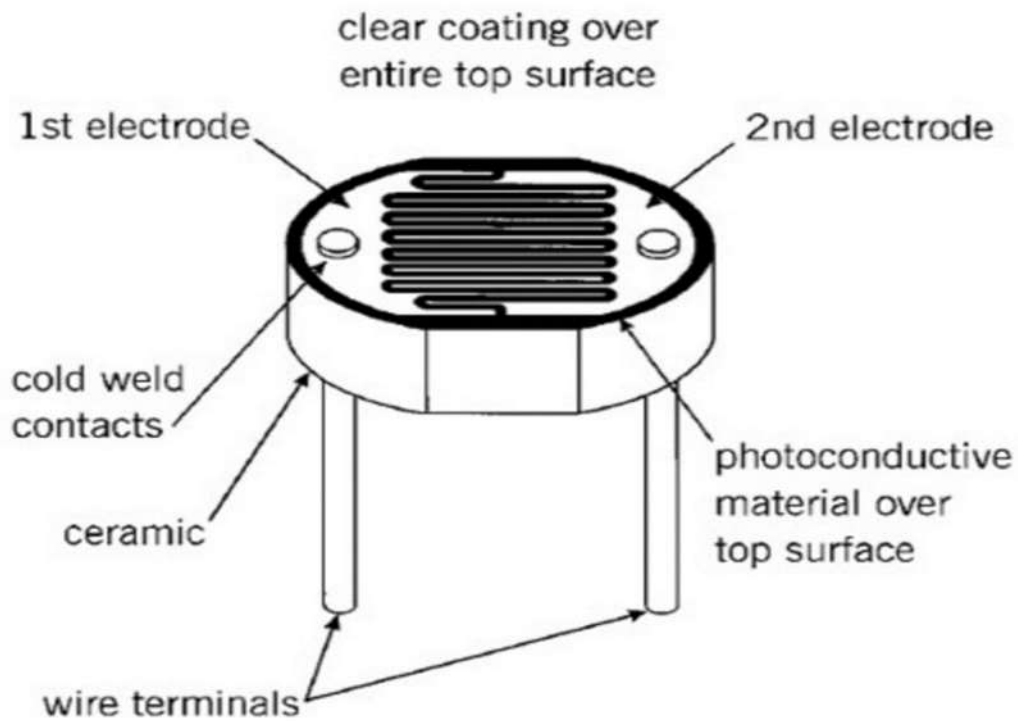
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WHAT IS LDR (LIGHT DEPENDENT RESISTOR)

As the name states is a special type of resistor that work on the photoconductivity principle. In the system LDR is act as sensor to sense the headlight beam of oncoming vehicles.



WHAT IS RELAY

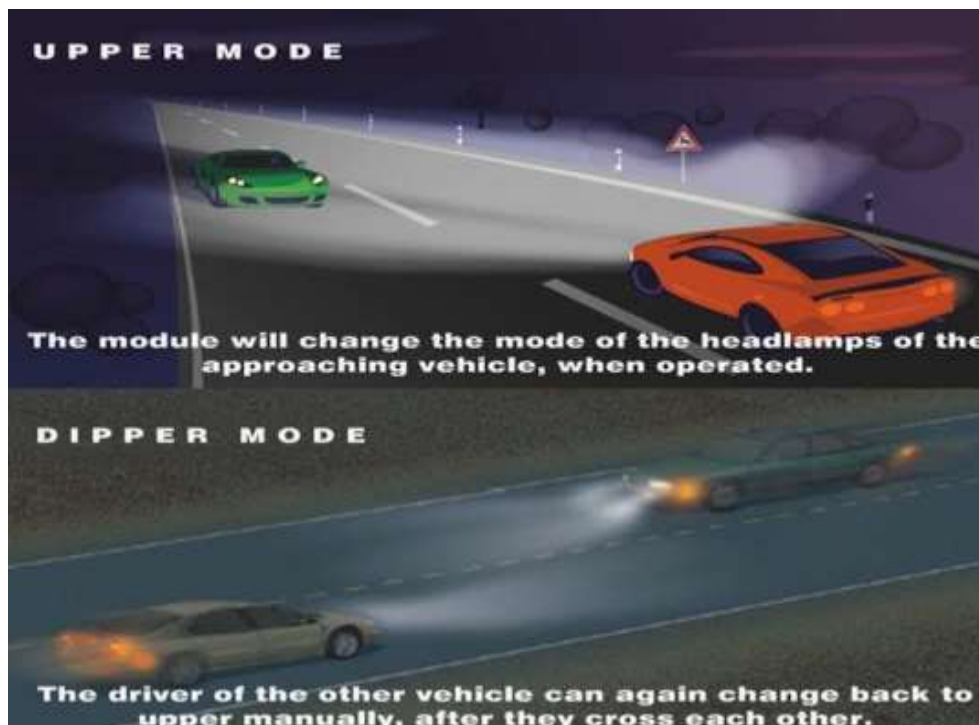
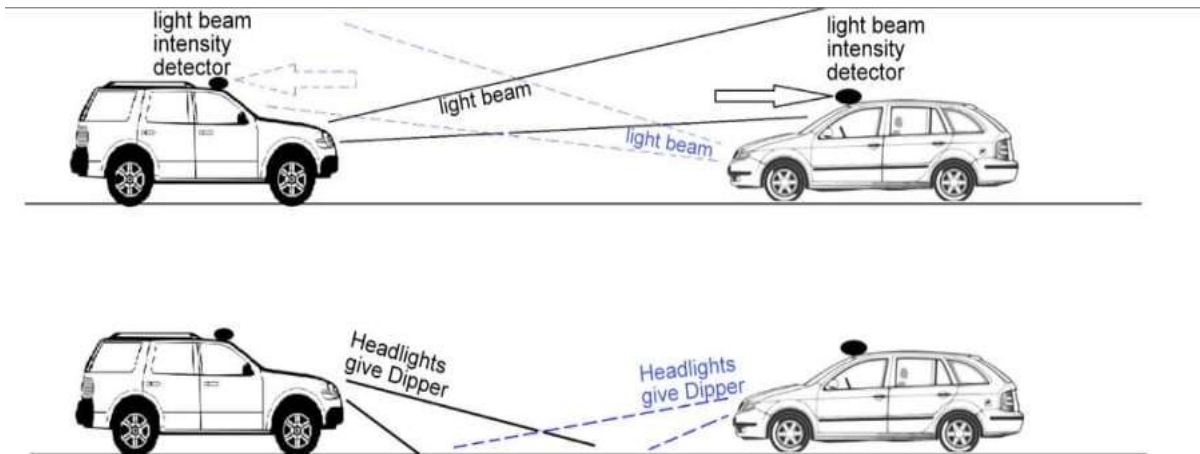
In this system relay is used as switch to change the lamp connections from Upper beam to Dipper beam. Relay is electromagnetic switch which operates when current is flowing through its coil. Connection of Upper beam is given to NC (normally close) terminal, Dipper beam is given to NO (normally open) terminal and common is connected directly connected to power supply.



WORKING PROCESS OF OUR MODEL

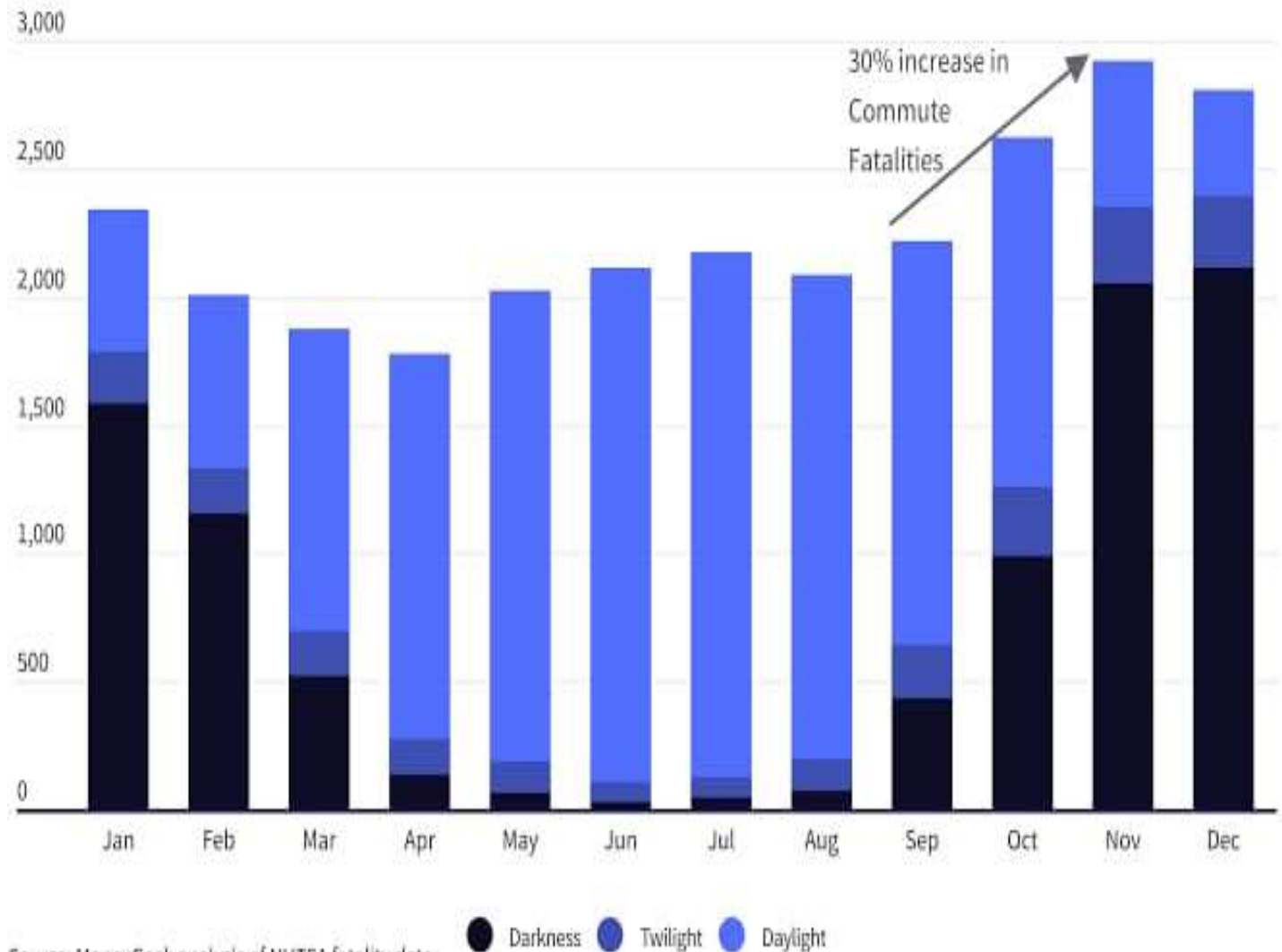
As we all know the Upper-Dipper light in vehicles. It goes up and down with a switch. By using this device, we can automatically up and down the vehicles light.

Like if two vehicles are coming head-on and if one or both of them have kept the light in Upper mode. So, this device was installed in both the vehicles by sensing the lights will convert Upper light into Automatic Dipper light. Due to which the risk of accident can be reduced.



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One of the essential safety features that need to be installed is automatic Upper –Dipper control of headlight, this feature can mainly use during night time driving. Human eyes are very sensitive to the light, if eyes suddenly come with the light after darkness, cornea present in eyes gets contract i.e. vision gets blank and require some time to recover the vision. Many time the situation comes when suddenly vehicle approaches from front with headlight in Upper mode causes blindness to the eyes of the driver. During that time vehicles covers some amount of distance, here chance of accident may occur. It is a sheer luck if person goes safely through that situation. To overcome this manual dipping problem, an automatic mechanism has made to dip the headlight automatically whenever situation occurs.

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SOME HIGHLIGHT OF OUR INTERNSHIP PROGRAM



FEEDBACK

UPASANA DILLIWAR

I had a very good experience in the internship program. I learned a lot for this, I am grateful to Dr. Jagjeet Kaur Saluja.



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SUBMITTED BY:

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SESSION 2023 – 24

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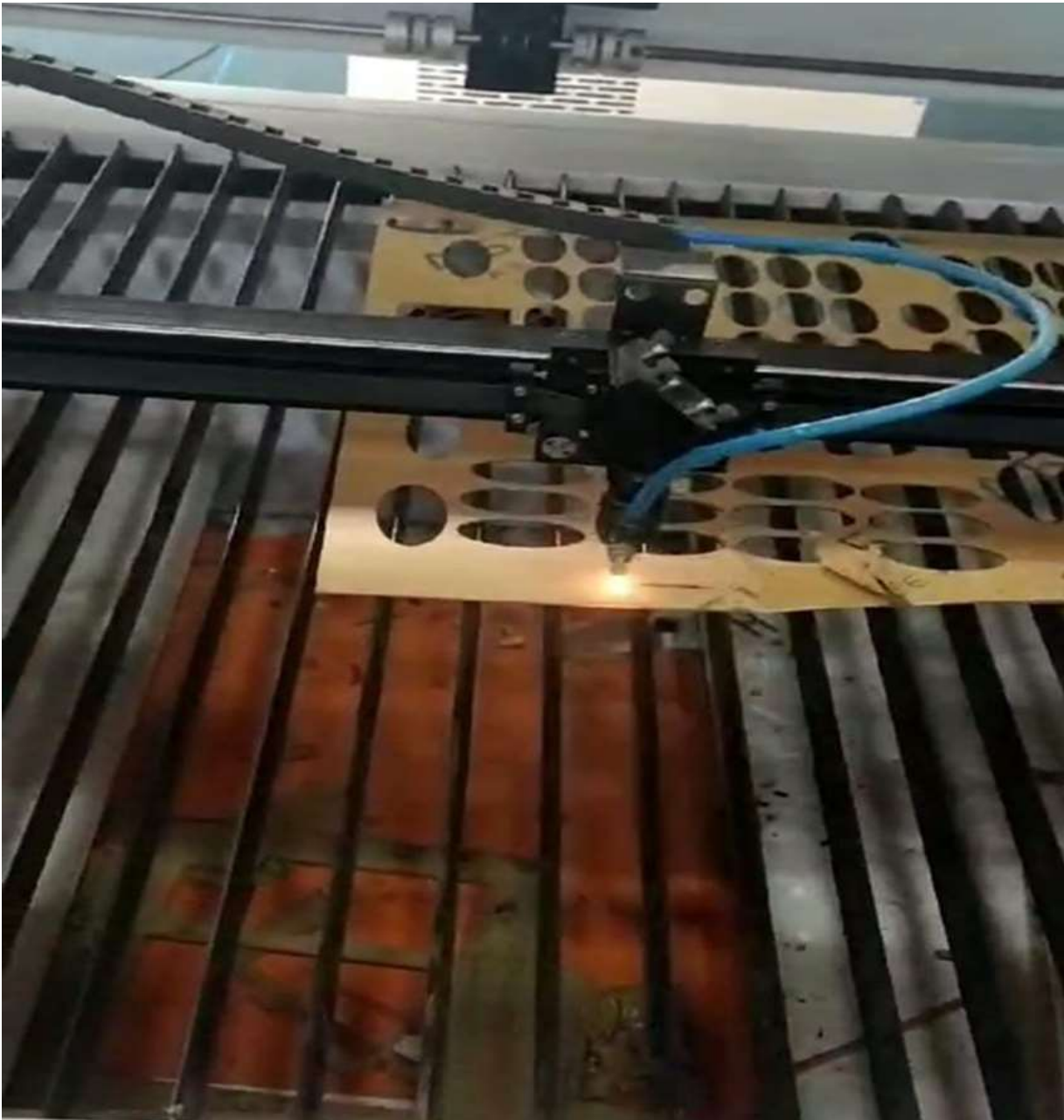
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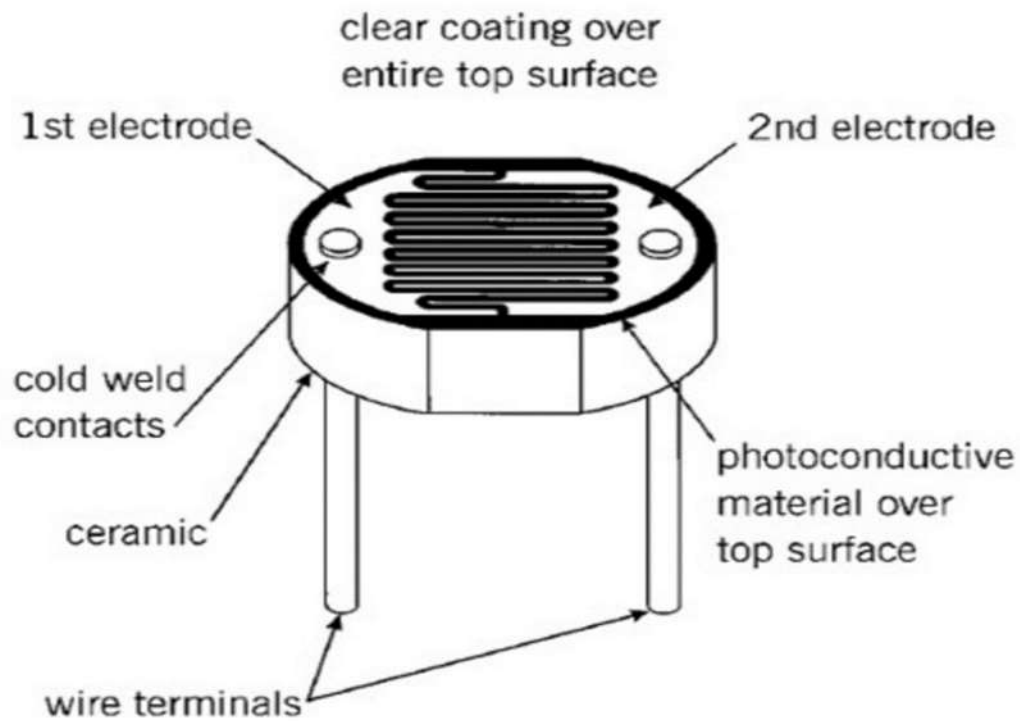
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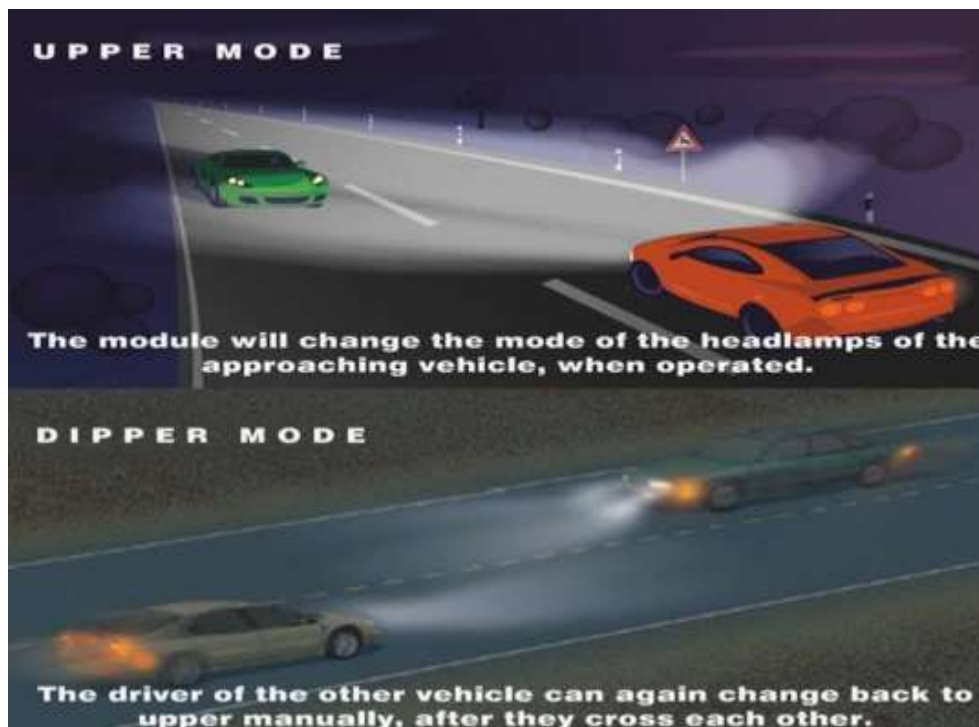
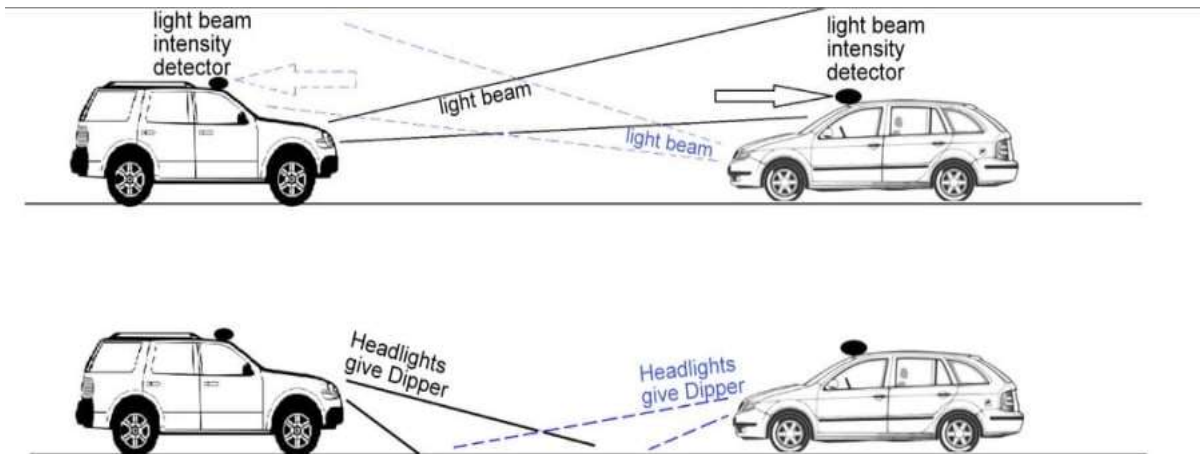
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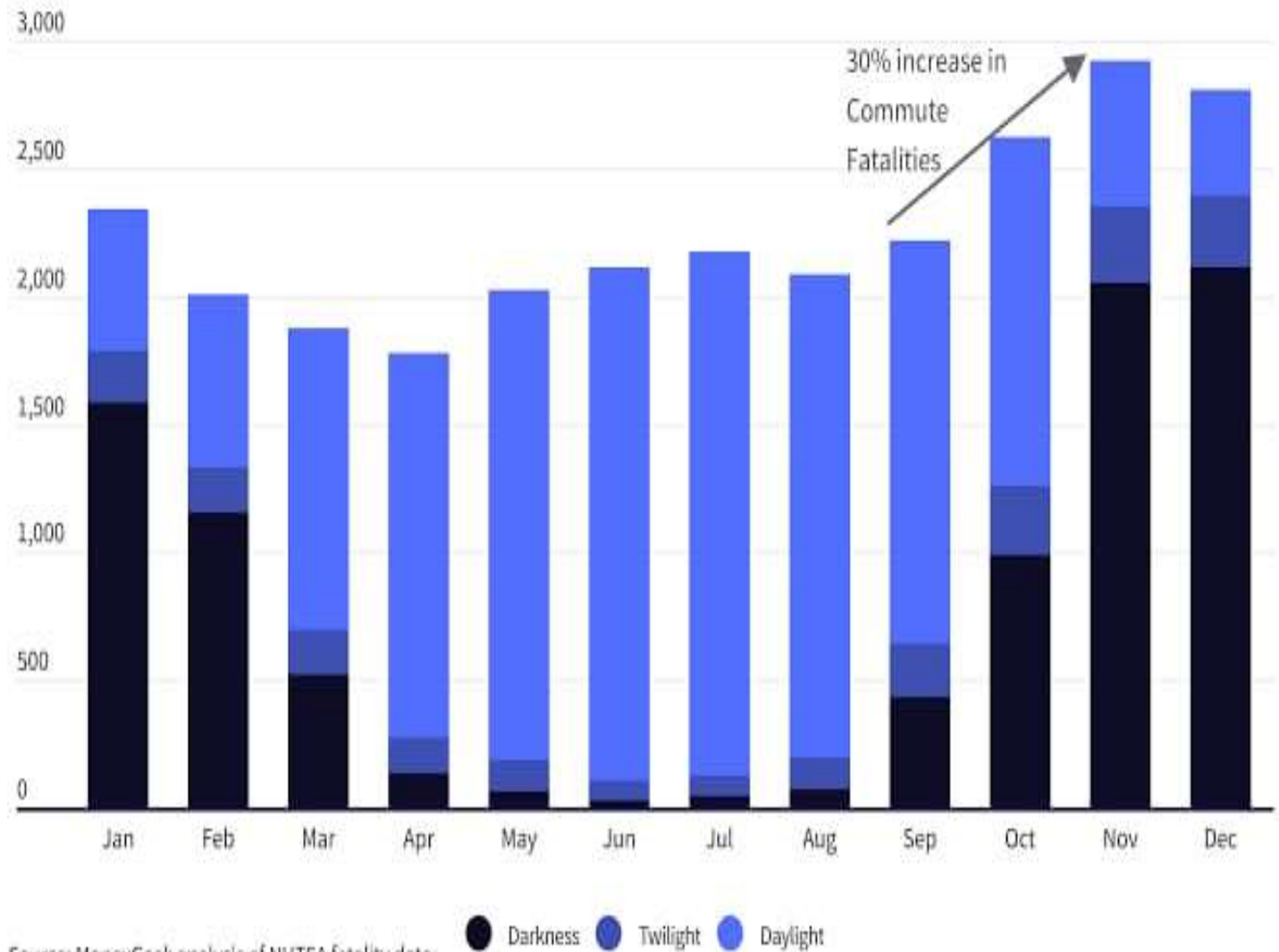
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SOME HIGHLIGHT OF OUR INTERNSHIP PROGRAM



FEEDBACK

VANDANA SAHU

The best thing I liked was that we were given a visit to the entire IDEA LAB and I saw a lot machines and understood their working.



**GOVT. V. Y. T. PG. AUTONOMOUS
COLLEGE, DURG, C.G., INDIA**

GUEST LECTURES

2024



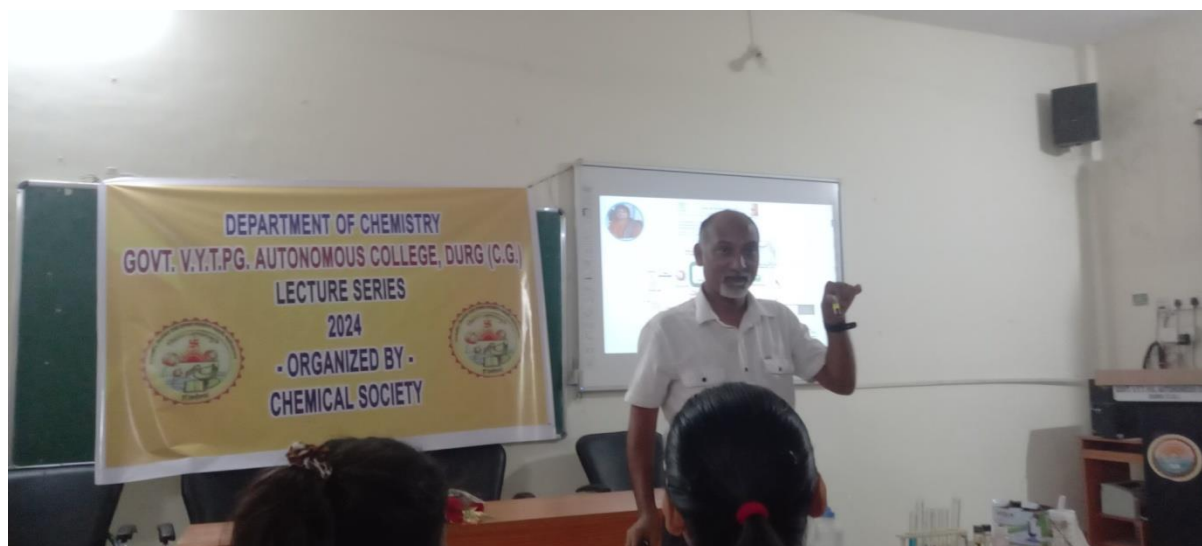
DEPARTMENT OF CHEMISTRY

Following Capacity development and skills enhancement activities are
organised for improving student's capability

GUEST LECTURES
Department of Chemistry
2024

S. No.	Details of the capability enhancement program	Date of implementation (DD-MM-YYYY)
1	Invited Talk on “Optical Spectroscopy Fundamental and Applications”	11-01-2024
2	Invited lecture on “XRD Theory and Applications”	03-02-2024
3	Invited lecture on “Atomic Absorption Spectroscopy”	03-02-2024
4	Invited lecture on “Modeling in Chemistry”	08-02-2024
5	Invited lecture on “Electron Spectroscopy”	08-02-2024
6	Invited lecture on “Recyclable Catalyst and Green Synthesis”	10-02-2024
7	Invited lecture on “Chemistry and Lab Techniques”	27-03-2024
8	Invited lecture on “Green Electronics”	28-03-2024
9	Invited lecture on “Micro-alloying of transition metals on Mg/MgH₂ for hydrogen storage system”	28-03-2024
10	Guest lecture on “Chemical Kinetics”	22-03-2024
11	Guest Lecture on “Nuclear Magnetic Resonance”	22-03-2024
11	Guest Lecture on “Applications of Nuclear Magnetic Resonance”	23-02-2024
12	Guest Lecture on “Organometallic Chemistry”	26-02-2024
13	Guest Lecture on “Electron Spin Resonance”	26-02-2024
14	Invited Lecture on “ Adsorption Theory”	27-02-2024
15	Invited lecture on “Physical Chemistry”	28-02-2024
16	Guest Lecture on “Solid State Chemistry”	20-02-2024

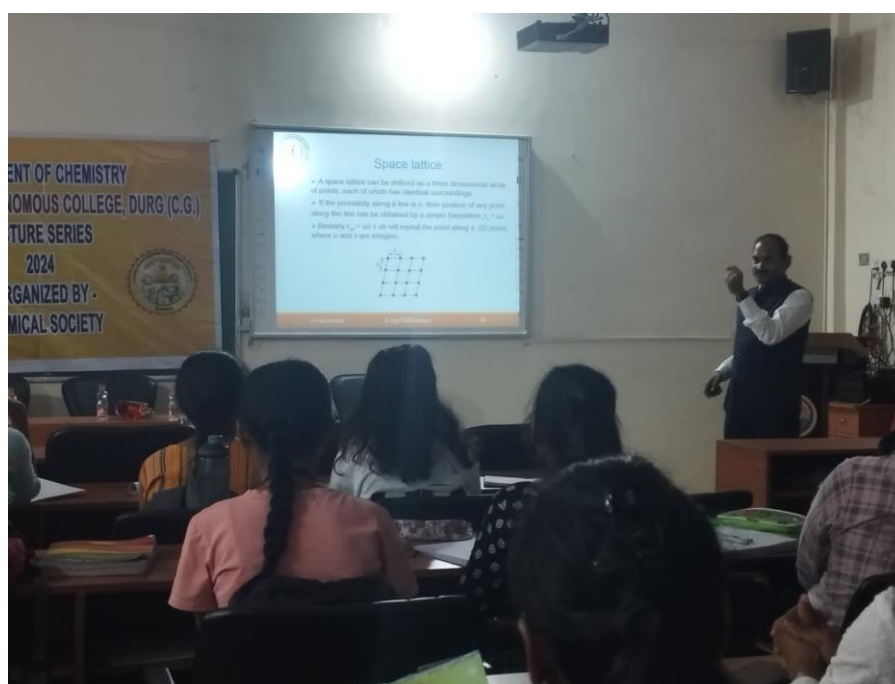
1. A guest lecture was organised by Department of Chemistry on topic **“Optical Spectroscopy Fundamental and Applications”** at seminar hall on 11st January 2024 delivered by **Dr. M. L. Satnami**, Associate Professor, SOS in Chemistry, Pt. R. S. University, Raipur (C.G.).



Outcome: From the lecture students gain a thorough comprehension of the theoretical foundations and principles governing optical spectroscopy techniques. Students learnt how to avail funds for their academic development and the importance of spectral analysis in the

study of chemical sciences. Participants acquire insights into the broad spectrum of applications spanning various fields, including chemistry, physics, biology, materials science, and engineering. The lecture inspires attendees to explore new avenues for applying optical spectroscopy in their respective domains, fostering innovation and discovery.

2. A guest lecture was organised by Department of Chemistry on topic **“XRD Theory and Applications”** at seminar hall on 3rd February 2024 delivered by **Dr. Vijay Tangade**, Professor, SOS in Chemistry, R.T.M. Nagpur University, Maharashtra.



Outcome: From the lecture students Attendees gain a deep understanding of the theoretical principles underlying X-ray diffraction (XRD) techniques, including crystallography, scattering theory, and instrumentation. Attendees develop the ability to interpret complex XRD data and extract valuable information about crystal structure, phase identification, lattice parameters, and other material properties, thereby enhancing their problem-solving capabilities. The lecture fosters collaboration and knowledge exchange among attendees from different backgrounds and disciplines, creating opportunities for interdisciplinary research and innovation in XRD-related areas.

3. A guest lecture was organised by Department of Chemistry on topic “**Atomic Absorption Spectroscopy**” at seminar hall on 3rd February 2024 delivered by **Dr. Ravin Jugade**, Professor, SOS in Chemistry, R.T.M. Nagpur University, Maharashtra.





Outcome: From the lecture students Participants acquire practical skills in sample preparation, instrument operation, calibration, and data analysis for AAS measurements, enabling them to perform accurate and reliable elemental analysis in their research or analytical work. Attendees learn about the importance of quality control measures, method validation, and compliance with regulatory standards in AAS analysis, ensuring the reliability and reproducibility of results in analytical laboratories. The lecture provides a platform for knowledge exchange, networking, and collaboration among attendees from academia,

industry, and regulatory agencies, fostering interdisciplinary interactions and partnerships in the field of atomic absorption spectroscopy.

4. A guest lecture was organised by Department of Chemistry on topic “**Modelling in Chemistry**” at seminar hall on 8th February 2024 by **Dr. Narayan Prasad Adhikari**, Professor, Department of Physics, Tribhuvan University Kathmandu, Nepal.



Outcome: From the lecture students develop a deep understanding of the theoretical foundations and principles behind various modelling techniques used in chemistry, including quantum mechanics, molecular dynamics, and statistical mechanics. Participants gain practical skills in utilizing computational tools and software packages for modelling chemical systems, enabling them to simulate molecular structures, predict properties, and analyze chemical reactions with accuracy and efficiency. Attendees learn how to integrate computational modelling with experimental techniques to complement and enhance their

research efforts, leading to deeper insights into complex chemical phenomena and accelerating scientific discovery.

5. A guest lecture was organised by Department of Chemistry on topic “**Electron Spectroscopy**” at seminar hall on 8th February 2024 delivered by **Dr. Rameshwar Adhikari**, Professor, Department of Physics, Tribhuvan University Kathmandu, Nepal.





Outcome: Students develop a comprehensive understanding of the principles, methodologies, and instrumentation involved in electron spectroscopy techniques, including X-ray photoelectron spectroscopy (XPS) and Auger electron spectroscopy (AES). Participants acquire practical skills in sample preparation, instrument operation, data acquisition, and analysis for electron spectroscopy experiments, enabling them to conduct advanced surface analysis and elemental identification with high sensitivity and resolution. The lecture explores a wide range of applications of electron spectroscopy in materials science, surface chemistry, nanotechnology, catalysis, semiconductor technology, and other fields, demonstrating its versatility and importance in characterizing surface properties and interfaces. Attendees learn about advanced techniques and emerging trends in electron spectroscopy, such as angle-resolved XPS, scanning Auger microscopy, and time-resolved spectroscopy, expanding their toolkit for studying complex materials and dynamic processes at the nanoscale.

6. A guest lecture was organised by Department of Chemistry on topic **“Recyclable Catalyst and Green Synthesis”** at seminar hall on 10th February 2024 delivered by **Dr.**

Sreekantha B. Jonnalagadda, Professor, School of Chemistry, University of Kwazulu-Natal, South Africa

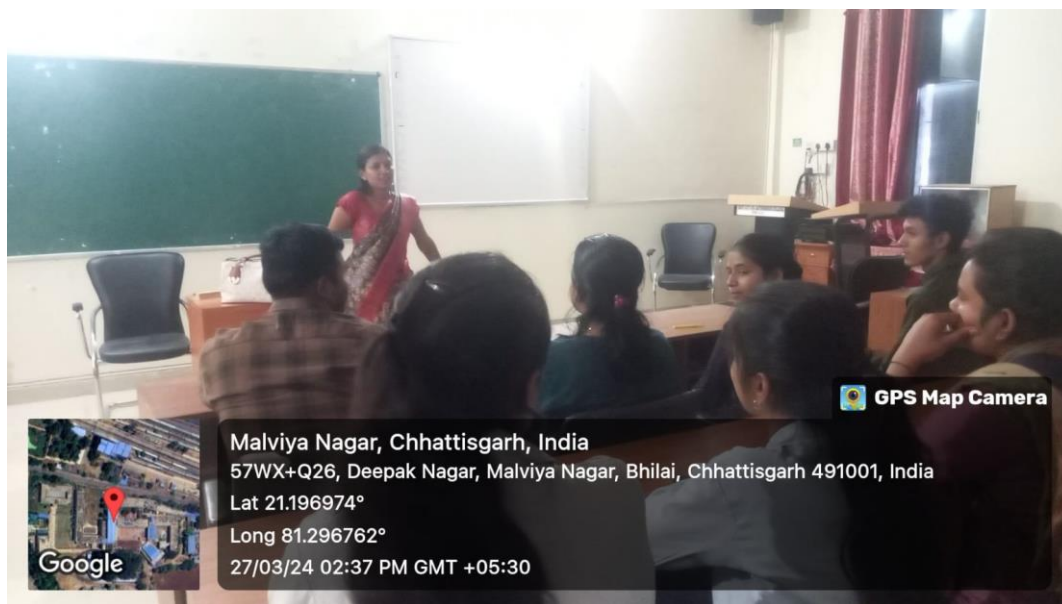


Outcome: Invited lectures provide a platform for experts to share the latest advancements, methodologies, and best practices in recyclable catalysts and green synthesis. This dissemination of knowledge helps educate researchers, students, and professionals about sustainable chemistry principles and techniques. Engaging and informative lectures can inspire audience members to incorporate recyclable catalysts and green synthesis into their own research projects or industrial practices. Learning about successful case studies and innovative approaches can motivate individuals to explore sustainable alternatives in their

work. Invited lectures often attract attendees from diverse backgrounds, including academia, industry, and government agencies. These events provide valuable networking opportunities for participants to connect with peers, collaborators, and potential partners who share an interest in sustainable chemistry. Attending lectures on recyclable catalysts and green synthesis can contribute to the professional development of individuals working in the field of chemistry. Learning about new methodologies, techniques, and research findings enhances participants' knowledge and skills, thereby advancing their careers. : Invited lectures raise awareness about the importance of sustainable chemistry practices and the role of recyclable catalysts in promoting green synthesis. By advocating for environmentally friendly approaches to chemical synthesis, speakers can inspire audience members to become champions for sustainability within their respective organizations and communities.

7. A guest lecture was organised by Department of Chemistry on topic “**Chemistry and Lab Techniques**” at seminar hall on 27th March 2024 by **Dr. Bhawna Jain**, Siddhachalam Laboratory, Raipur (CG).





Outcome: Learning chemistry and lab techniques provides a deeper understanding of fundamental principles and concepts in chemistry. This knowledge forms the basis for further scientific inquiry and innovation. Chemistry and lab techniques often involve experimental design, data analysis, and troubleshooting. Engaging in these activities helps develop critical thinking and problem-solving skills applicable across various disciplines. Laboratory work offers hands-on experience with chemical reactions, instrumentation, and experimental procedures. This practical training is essential for developing proficiency in executing experiments and handling chemicals safely. Working in a laboratory environment instills an understanding of safety protocols and practices, including proper handling, storage, and disposal of chemicals. This awareness promotes a culture of safety and reduces the risk of accidents or incidents. Mastery of chemistry and lab techniques enables researchers to conduct experiments, analyze data, and draw conclusions. This research contributes to the advancement of scientific knowledge and drives innovation in fields such as materials science, pharmaceuticals, and environmental science. In industrial settings, chemistry and lab techniques play a crucial role in quality control and assurance. Analytical techniques such as spectroscopy, chromatography, and titration are used to assess the purity and composition of raw materials, intermediates, and final products. Understanding chemistry and lab techniques

allows for the optimization of chemical processes and reactions to improve efficiency, yield, and product quality. This includes the development of green synthesis methods, recyclable catalysts, and waste minimization strategies to reduce the environmental footprint of chemical processes. Proficiency in chemistry and lab techniques opens doors to various career paths in academia, industry, government, and healthcare. These roles may include research scientist, analytical chemist, quality control specialist, forensic scientist, or laboratory technician.

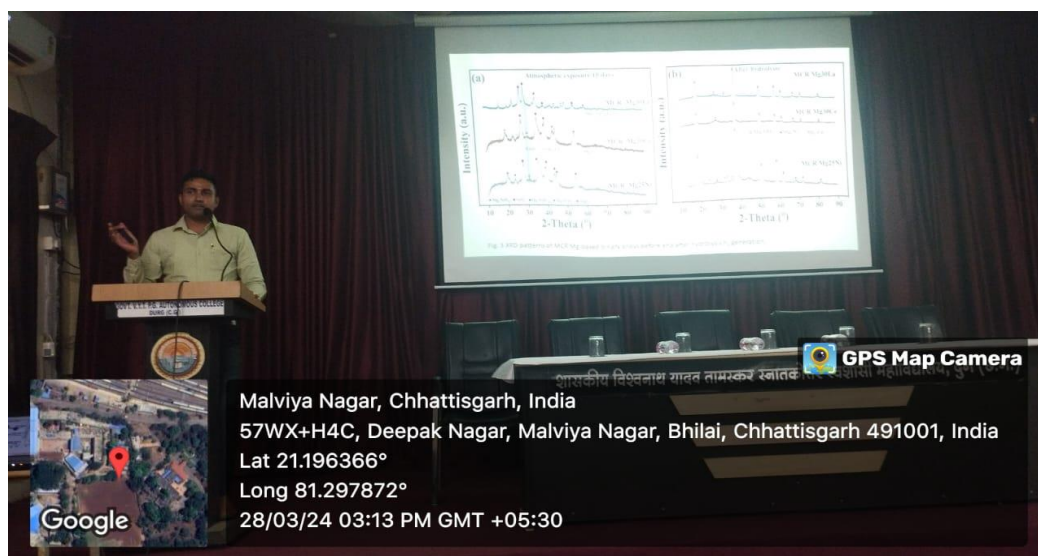
8. A guest lecture was organised by Department of Chemistry on topic “**Green Electronics**” at seminar hall on 28th March 2024 by guest lecturer **Mr. Kshitij RB Singh**, Doctoral Researcher, Graduate School of Life Science and Systems Engineering, Kyushu Institute of Technology, 2-4 Hibikino, Wakamatsu, Kitakyushu (808-0196), Japan.



Outcome: Green electronics aim to minimize the environmental footprint of electronic devices throughout their lifecycle. This includes reducing energy consumption during manufacturing and operation, minimizing the use of hazardous materials, and promoting responsible end-of-life disposal through recycling and proper waste management practices.

Green electronics prioritize energy-efficient design and operation, leading to reduced power consumption and lower greenhouse gas emissions. Energy-efficient devices contribute to global efforts to combat climate change by reducing the demand for electricity and decreasing reliance on fossil fuels for energy generation. Sustainable electronics promote the efficient use of natural resources by incorporating recycled materials, reducing material waste during manufacturing, and designing products for longevity and reparability. By extending the lifespan of electronic devices and minimizing resource extraction, green electronics help conserve valuable natural resources. Green electronics strive to eliminate or minimize the use of toxic chemicals and hazardous substances, such as lead, mercury, and brominated flame retardants. By using safer alternatives and adhering to strict environmental regulations, manufacturers mitigate the environmental and health risks associated with electronic waste (e-waste) disposal and recycling. Green electronics embrace principles of the circular economy by designing products for reuse, refurbishment, and recycling. By adopting closed-loop manufacturing processes and implementing take-back programs, manufacturers can recover valuable materials from end-of-life products and reintegrate them into the production cycle, reducing the need for virgin resources. While there may be upfront costs associated with implementing green design and manufacturing practices, such as investing in energy-efficient technologies and recyclable materials, the long-term benefits can result in cost savings. Energy-efficient devices reduce operating costs for consumers through lower electricity bills, while extended product lifespan and reduced material waste contribute to overall cost-effectiveness.

9. A guest lecture was organised by Department of Chemistry on topic “**Micro-alloying of transition metals on Mg/MgH₂ for hydrogen storage system**” at seminar hall on 28th March 2024 delivered by **Dr. Santosh Kumar Verma**, Associate Professor, School of New Energy, Yulin University, China.

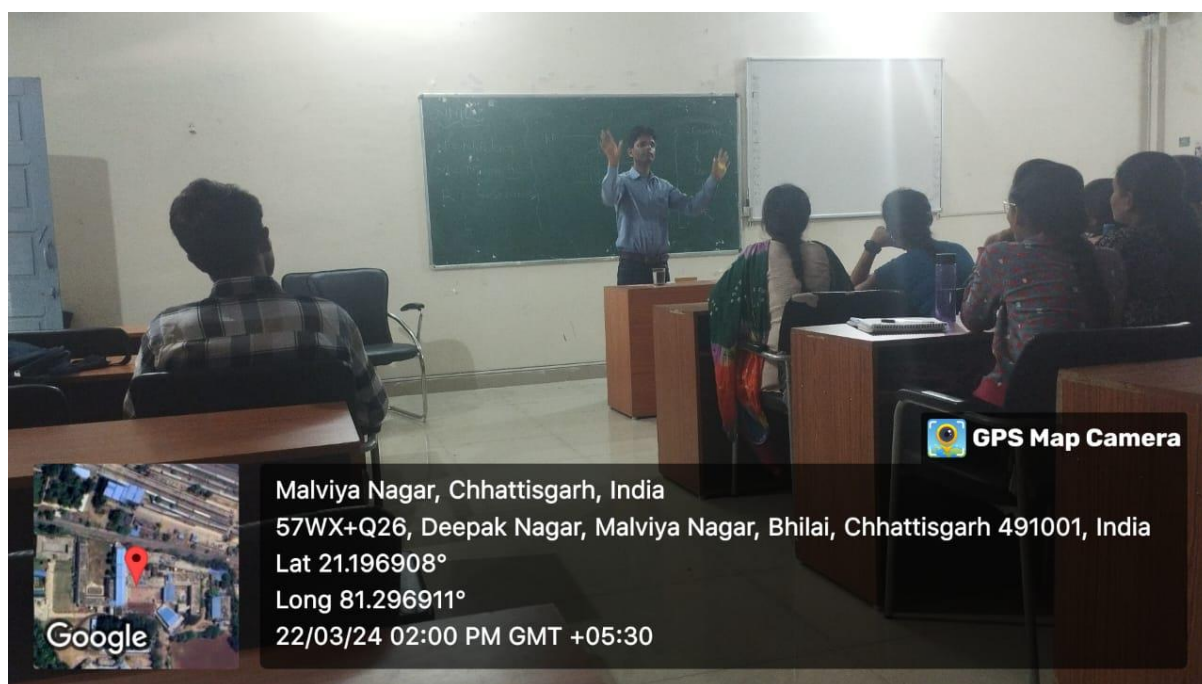


Outcome: Micro-alloying of transition metals with magnesium (Mg) or magnesium hydride (MgH₂) for hydrogen storage systems can have several outcomes, depending on the specific transition metal used and its concentration. Transition metals can act as catalysts, promoting hydrogen absorption and desorption kinetics in Mg or MgH₂. This can lead to enhanced hydrogen storage capacity, allowing for higher hydrogen uptake and release at lower temperatures and pressures. They can facilitate hydrogen diffusion within the Mg or MgH₂

lattice, reducing the activation energy barriers for hydrogen uptake and release. This results in faster sorption kinetics and improved hydrogenation/dehydrogenation rates. Micro-alloying with certain transition metals can modify the thermodynamics of hydrogen sorption reactions in Mg or MgH_2 , lowering the enthalpic and entropic barriers associated with hydrogen absorption and desorption. They can also improve the mechanical properties of Mg-based materials, such as hardness, ductility, and fracture toughness. Overall, micro-alloying of transition metals on Mg or MgH_2 for hydrogen storage systems offers a promising approach to overcome the limitations of pure Mg-based materials, enabling improved hydrogen storage capacity, kinetics, stability, and mechanical properties.

10. A guest lecture was organised by Department of Chemistry on topic “**Nuclear Magnetic Resonance**” on 22th March 2024, at seminar hall delivered by **Dr. Dakeshwar Verma**, Assistant Professor, Govt. Digvijay Autonomous PG College, Rajnandgaon.

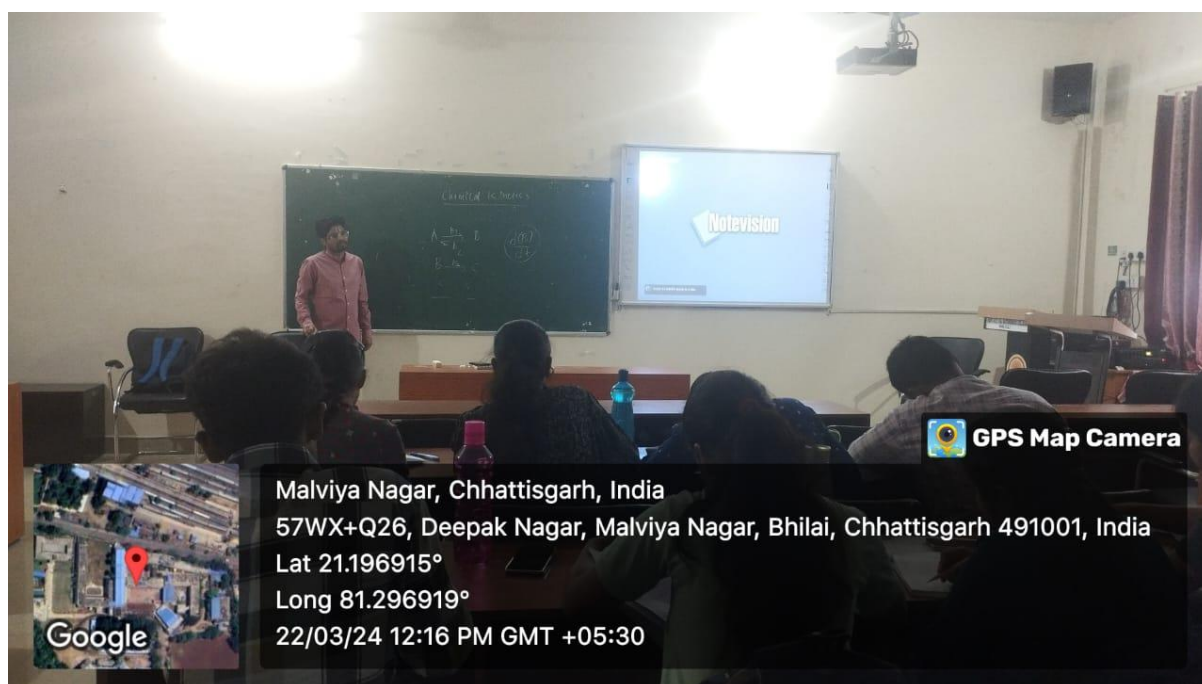




Outcome: The application of Nuclear Magnetic Resonance (NMR) spectroscopy yields various outcomes across different fields, including chemistry, biochemistry, medicine, and materials science. NMR spectroscopy is highly valuable for determining the structures of organic and inorganic compounds. By analyzing the chemical shifts, coupling constants, and integrals of NMR signals, researchers can deduce the connectivity and stereochemistry of molecules. This is often used to identify unknown compounds by comparing their NMR spectra to those of known compounds. This is particularly useful in fields such as forensics, environmental science, and drug discovery. It can be used for quantitative analysis, where the intensity of NMR signals is proportional to the concentration of specific compounds in a sample. This is commonly applied in chemical analysis and quality control processes. This spectroscopy can provide insights into the conformational dynamics of molecules, including proteins, nucleic acids, and polymers. By observing chemical shifts and coupling patterns, researchers can study molecular motions, protein folding, and intermolecular interactions. In metabolomics studies, NMR spectroscopy is used to analyze complex mixtures of metabolites in biological samples such as blood, urine, and tissue extracts. This enables researchers to

characterize metabolic profiles and identify biomarkers associated with diseases or physiological states. In conjunction with other techniques such as X-ray crystallography and cryo-electron microscopy, NMR spectroscopy plays a crucial role in determining the structures of proteins and protein-ligand complexes in solution. This is particularly important for studying proteins that are difficult to crystallize. Overall, the application of NMR spectroscopy generates a wealth of information that contributes to advancing scientific knowledge, solving practical problems, and developing new technologies across various disciplines.

11. A guest lecture was organised by Department of Chemistry on topic “**Chemical Kinetics**” on 23rd February and 28th March 2024, “**Electron Spin Resonance**” respectively at seminar hall delivered by **Mr. Ashish Dewangan**, (NET qualified) Alumni of Chemical society Govt.V.Y.T. Auto PG college Durg (C.G.).



Outcome: The Electron Spin Resonance (ESR) can provide valuable information about their electronic structure and reactivity. ESR spectroscopy is particularly useful for studying

species with unpaired electrons, such as radicals, transition metal complexes, and certain organic molecules. The ESR spectrum provides information about the number of unpaired electrons, their spin state, and their environment within the molecule. This can be used to characterize metal centers in organometallic complexes. By observing the hyperfine coupling between the unpaired electron(s) and nearby nuclei, information about the electronic structure, coordination environment, and spin distribution at the metal center can be obtained. ESR spectroscopy can provide information about the dynamics of spin systems, including relaxation processes and spin-spin interactions. In conjunction with other spectroscopic techniques and computational methods, ESR spectroscopy can contribute to the structural elucidation of organometallic compounds. By correlating experimental ESR parameters with theoretical calculations, the geometry, bonding, and electronic properties of organometallic species can be elucidated. On the whole, ESR spectroscopy is a powerful technique for studying paramagnetic species in organometallic chemistry, providing valuable insights into their electronic structure, reactivity, and properties.

Outcome: Chemical kinetics deals with the rates of chemical reactions and the factors that influence these rates. This gives mathematical relationship between the rate of a reaction and the concentrations of reactants. This elucidates the sequence of elementary steps by which a chemical reaction occurs and also useful in identifying intermediates and transition states. These constants provide quantitative information about the speed of reactions under specific conditions. Chemical Kinetics provide information about measurement of reaction rates under various conditions, such as temperature, pressure, and concentration, to understand how these factors affect the rate of reaction. This calculate the activation energy, which is the energy barrier that must be overcome for a reaction to occur and also identify order of a reaction with respect to each reactant which provides insights into the feasibility of reactions and how they respond to changes in temperature. Chemical Kinetics develops mathematical

models to describe and predict the behavior of chemical reactions over time. These models can help simulate and optimize reaction conditions in industrial processes. Overall, the outcome of chemical kinetics studies provides fundamental understanding and practical applications for a wide range of chemical processes, from industrial manufacturing to biological systems.

12. A guest lecture was organised by Department of Chemistry on topic “**Adsorption Phenomenon**” and “**Adsorption isotherms**” on 27th and 28th February 2024, respectively at seminar hall delivered by **Mr. Sandeep Kumar**, Assistant Professor, Model College, Dhanora, Durg (C.G.).



Outcome: The phenomenon of adsorption, where molecules or ions adhere to the surface of a solid or liquid, leads to various outcomes across different fields of science and engineering. Adsorption is widely used for separating and purifying components from mixtures. It plays a crucial role in gas storage and purification applications. Porous materials like activated carbon, zeolites, and metal-organic frameworks (MOFs) are utilized to adsorb gases such as hydrogen, methane, and carbon dioxide for storage and purification purposes. Adsorption influences catalytic reactions by facilitating the adsorption of reactant molecules onto the surface of a catalyst, where chemical transformations occur. Adsorption phenomena provide valuable insights into the properties of solid surfaces, including surface area, pore structure, and surface chemistry. Techniques such as BET (Brunauer-Emmett-Teller) analysis are used to characterize adsorption isotherms and determine surface area and pore size distribution of materials. It is employed for removing contaminants from air and water in environmental remediation applications. Adsorbent materials like activated carbon are used to adsorb pollutants, including volatile organic compounds (VOCs), heavy metals, and organic dyes, from contaminated air and water streams. Adsorption plays a role in drug delivery systems where active pharmaceutical ingredients are adsorbed onto carrier materials. Porous materials, nanoparticles, and hydrogels are used as carriers to adsorb and release drugs in a controlled manner, improving drug efficacy and reducing side effects. In general, the outcomes of adsorption phenomena contribute to numerous industrial, environmental, and biomedical applications, driving innovation and advancements in various fields of science and engineering.

The different types of adsorption isotherms provide valuable insights into the adsorption behavior of substances onto solid surfaces under specific conditions. The Langmuir isotherm describes monolayer adsorption, where adsorbate molecules form a single layer on the surface of the adsorbent. It provides the maximum adsorption capacity

(saturation capacity) of the adsorbent, as well as the equilibrium constant, which represents the affinity between the adsorbate and adsorbent. The Freundlich isotherm describes multilayer or heterogeneous adsorption, where adsorbate molecules form multiple layers on the adsorbent surface. It gives the information about the adsorption capacity and affinity of the adsorbent. It is an empirical model that describes adsorption on heterogeneous surfaces with varying affinities for adsorbate molecules. The BET isotherm is commonly used to characterize the adsorption of gas molecules onto porous materials, such as activated carbon and zeolites. It allows determination of the surface area and pore size distribution of the adsorbent material. It is based on the assumption that adsorption occurs on a homogeneous surface with a limited number of adsorption sites. The Temkin isotherm accounts for the decrease in the heat of adsorption with increasing surface coverage, which is often observed in physical adsorption processes. This gives insights into the interaction between the adsorbate and adsorbent, taking into account the effects of surface heterogeneity and adsorbent-adsorbate interactions.

Overall, the outcomes associated with different types of adsorption isotherms include information about the adsorption capacity, affinity, surface properties, and adsorption mechanisms, which are essential for understanding and optimizing adsorption processes in various applications.

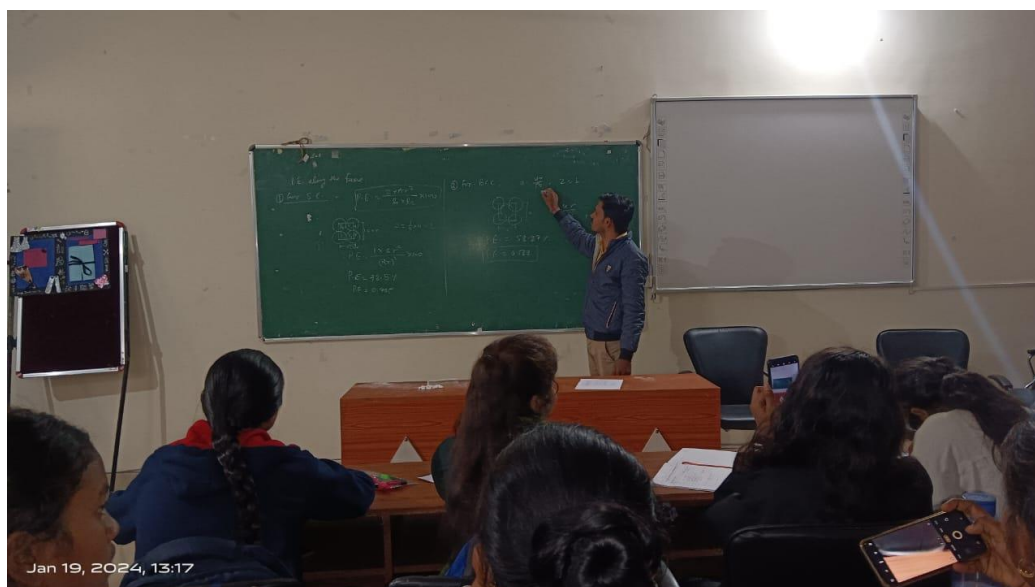
13. A guest lecture was organised by Department of Chemistry on topic **“Organometallic Compound”** on 26th February 2024 at seminar hall delivered by **Miss Pragati Agarwal** (NET qualified) Ex. Student, Govt. V. Y. T. Auto PG college, Durg (C.G.).



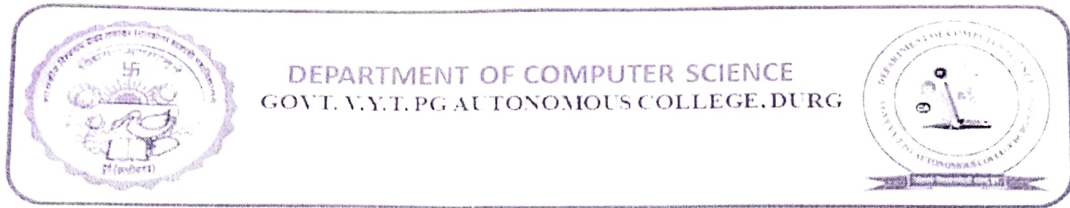
Outcome: Organometallic chemistry is a highly interdisciplinary field that explores the interactions between organic molecules and metal atoms. The outcomes of organometallic compounds can vary widely depending on their specific structure, reactivity, and intended application. Many organometallic compounds are used as catalysts in various chemical reactions. They can facilitate reactions by activating substrates, stabilizing intermediates, or providing new reaction pathways. For example, transition metal complexes like Wilkinson's catalyst are used in hydrogenation reactions. They are widely used in organic synthesis to create complex molecules and also participate in various reactions such as coupling reactions (e.g., Suzuki coupling, Heck reaction), metathesis reactions, and cycloadditions, enabling the construction of carbon-carbon and carbon-heteroatom bonds. Some organometallic compounds have shown promising potential in medicinal chemistry. Compounds containing metals like platinum, gold, and ruthenium have been investigated for their anticancer properties. Additionally, certain organometallic complexes exhibit antimicrobial activity and can be used as antimicrobial agents. These compounds serve as important research tools in

chemistry. They enable the study of reaction mechanisms, the development of new synthetic methodologies, and the exploration of fundamental chemical principles. Overall, organometallic chemistry has a wide range of applications spanning from academia to industry, contributing significantly to advancements in diverse fields of science and technology.

14. A guest lecture was organised by Department of Chemistry on topic **“Solid State Chemistry”** on 20th February 2024, respectively at seminar hall delivered by **Dr. Somnath**, Alumni of Chemical society Govt. V. Y. T. PG. Auto. College, Durg (C.G.).



Outcome: Students gain a deeper understanding of solid-state chemistry concepts, including crystal structures, phase transitions, and electronic properties. The lecture inspires attendees to explore new research avenues or apply solid-state chemistry principles in their own work. The lecture serves as an educational tool for students, researchers, or professionals looking to expand their knowledge in solid-state chemistry. The lecture provides insights into solving practical problems related to materials science, nanotechnology, electronics, and other fields that rely on solid-state chemistry principles. The lecture sparks discussions on emerging research directions, potential applications, or challenges in the field of solid-state chemistry.



Date :09.01.2024

Notice

All the student of Computer Science and Information Technology are here by informed that a skill enhancement program on the topic " Social Media and Cyber Security " is organized in 13.01.2024 (Saturday).

All of you must be present in this program.

A handwritten signature in blue ink, appearing to be "Sahu", written over the printed text "HOD".

HOD

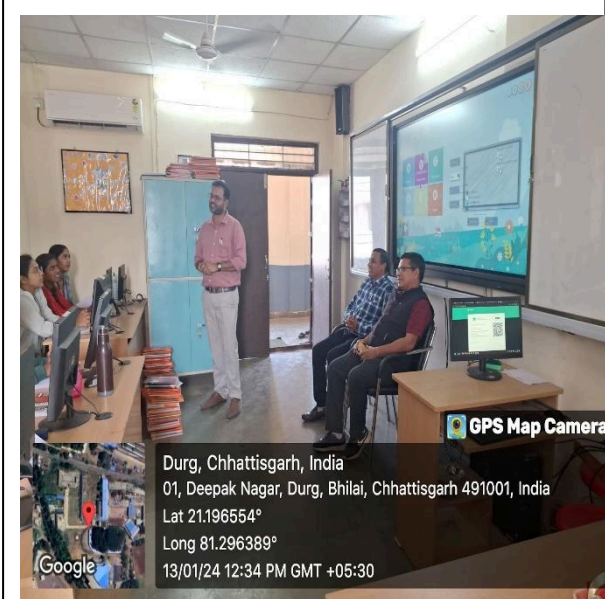
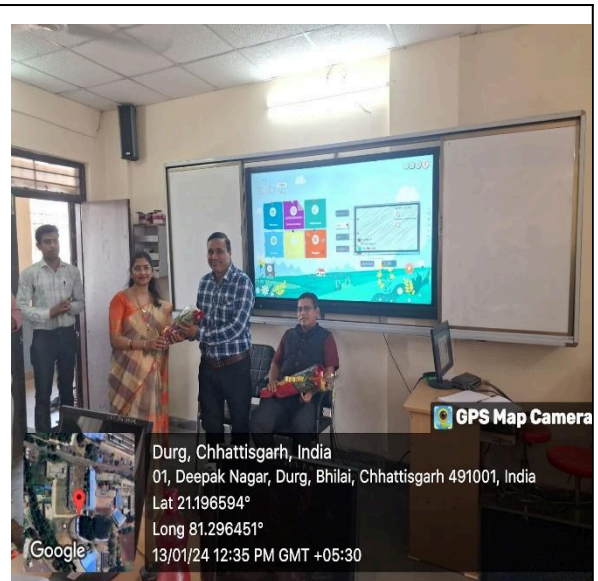
Department of Computer Science
H.O.D.
Department of Computer Science
Govt. V.Y.T.P.G. Autonomous College
Durg (C.G.)

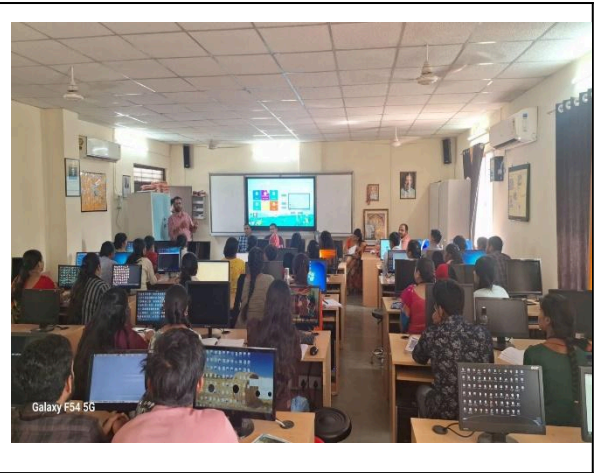
कम्प्यूटर साईंस एवं सूचना प्रौद्योगिकी विभाग अतिथि व्याख्यान का आयोजन

शासकीय विश्वनाथ यादव तामस्कर स्नातकोत्तर स्वशासी महाविद्यालय, दुर्ग में कम्प्यूटर साईंस एवं सूचना प्रौद्योगिकी विभाग द्वारा दिनांक 13/01/2024 को रूसा मद के अंतर्गत “Social Media & Cyber Security ” विषय पर व्याख्यान का आयोजन किया गया। कार्यक्रम के प्रारंभ में विभाग के विभागाध्यक्ष डॉ. सनत कुमार साहू ने अतिथि वक्ता डॉ. रोहित मिरि, एसोसिएट प्रोफेसर, सीएसवीटीयू , अतिथि वक्ता डॉ. मिथिलेश प्रजापति , एसोसिएट प्रोफेसर, संजय रंगटा महाविद्यालय ,दुर्ग का स्वागत किया एवं डॉ. दिलीप कुमार साहू ने दोनों अतिथि वक्ताओं का परिचय दिया। अतिथि वक्ता डॉ. रोहित मिरि ने रिसेंट ट्रेंड्स इन कम्प्यूटर साइन्स विषय पर विस्तृत जानकारी प्रदान की तथा अन्य व्याख्याता डॉ. मिथिलेश प्रजापति ने सोशल मीडिया एवं साइबर क्राइम विषय पर विस्तार से चर्चा की। डॉ. मिरि ने विभिन्न उद्योगों में आर्टिफिशियल इंटेलिजेंस और मशीन लर्निंग के बढ़ते प्रभाव पर जोर दिया। उन्होंने चर्चा की कैसे ये तकनीकें डेटा विश्लेषण, पैटर्न पहचान, और निर्णय निर्माण प्रक्रियाओं के लिए उपयोग हो रही हैं, जो विभिन्न क्षेत्रों में प्रगति में महत्वपूर्ण योगदान दे रहे हैं। डॉ. मिथिलेश प्रजापति ने अपने समय में साइबर सुरक्षा के महत्वपूर्ण मुद्दे पर ध्यान केंद्रित किया। डिजिटल प्लेटफॉर्म पर बढ़ते हुए आश्रितता तथा साइबर खतरों द्वारा पैदा की जाने वाली चुनौतियों और संवेदनशील जानकारी की सुरक्षा के लिए मजबूत साइबर सुरक्षा उपायों की आवश्यकता पर चर्चा की।

अतिथि वक्ताओं अपने व्याख्यान के दौरान उपस्थित विद्यार्थियों के शंकाओं का निराकरण किया तथा इस क्षेत्र में उपलब्ध विभिन्न कैरियर विकल्पों से अवगत कराया।

इस कार्यक्रम में विभाग के अतिथि व्याख्याताओं समीर कुमार, श्रीमती अर्चना पात्रा, दिव्या जायसवाल, राधिका साहू, अम्बे साहू, मेघराज सोनी एवं लक्ष्मण देवांगन के साथ ही लगभग 39 विद्यार्थी उपस्थित हुये। कार्यक्रम के अंत में विभाग के डॉ. लतिका ताम्रकार ने धन्यवाद ज्ञापन किया।





Date
13/04/2024

Guest Lecture on "Social Media & Cyber Security"

The Department of Computer Science Organized a Guest Lecture on "Social Media & Cyber Security" on 13/04/2024 for the PGDCA Students. The Lecture was Presented by Dr. Mithlesh Prajapati.

Faculties of
CS Department

Dr. Samant Sahu (Head)

Mr. Dileep Kumar Sahu

Mrs. Latika Tammela

Mrs. Archana Patra

Shri Sameer Ku.

Ms. Divya Jaiswal

Ms. Radhika Sahu

Ms. Ambe Sahu

Mr. Meghraj Soni

Mr. Lakshman Dewangan

Guest Speaker
Dr. Mithlesh Prajapati

Dr. Mithlesh Prajapati
Associate Professor

S.N.	Student Name	Sign.
01	Nagayamie	Nagayamie
02	Kaishna Kenwari	K

S.N.	Student Name	Sign.
03	Tanuj Bisai	Tanuj Bisai
04	Mukesh Dewangan	Mukesh
05	Hemlata Nirmalkar	Hemlata
06	Smriti Banjare	Smriti
07	SURYAPRAKASH DEEPTIMUKHI	Surya
08	Shikha Mishra	Shikha
09	Shivani Pandey	Shivani
10	Swati Sahu	Swati Sahu
11	Dipti Sahu	Dipti
12	Chandrasekhar Yadav	Chandrasekhar
13	Sumit Kumar Sahu	Sumit
14	Gaurav Kumar Sahoo	Gaurav
15	Pradeep Kumar	Pradeep
16	Bhupesh Kumar	Bhupesh
17	BHANUPRAKASH VERMA	Bhanu
18	Shreya Tiwari	Shreya
19	Bhupeshwari Sh. Sinha	Bhupeshwari
20	Damini Verma	Damini
21	MEGHNA YADAV	Meghna
22	Kamini Sahu	Kamini
23	Jyoti Yadav	Jyoti
24	Sanita Gupta	Sanita
25	Neha Shrivastava	Neha
26	Abhinav Mandavi	Abhinav
27	Pushpendra Yadav	Pushpendra
28	Pratibha Sahu	Pratibha
29	Sandhya Chhipkara	Sandhya Chhipkara
30	Groisha Sinha	Groisha
31	Babita Sahu	Babita
32	Gopika Khare	Gopika
33	Nikita	Nikita
34	S. Sheela	Sheela

35. Parjanya Khadun

36. Pratibha Kumari

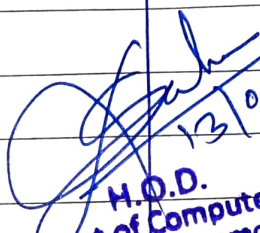
37. Yamuna Sarthi

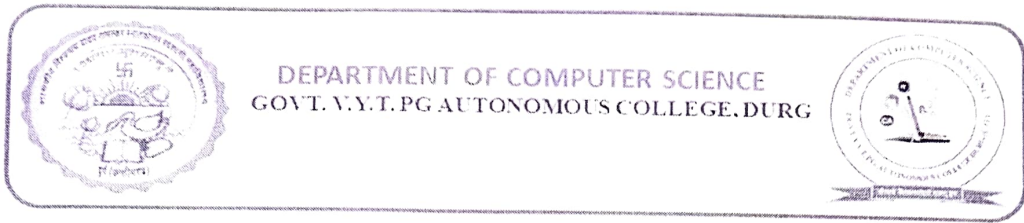
38. Jyoti

39. Radhika Yadav

Parjanya Khadun

PratibhaYamunaJyotiRadhika


13/01/2024
H.O.D.
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Govt. V.Y.T.P.G. Autonomous College
Durg (C.G.)



Date :17.01.2024

Notice

All the student of Computer Science and Information Technology are here by informed that a skill enhancement program on the topic "Web Development and Hosting Service" is organized in 19.01.2024 (Friday).

All of you must be present in this program.

HOD

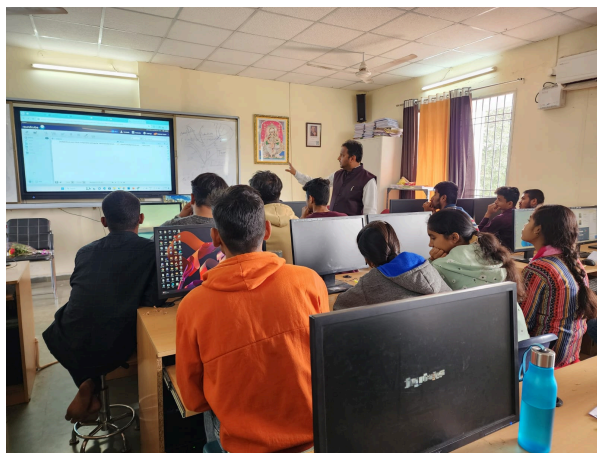
Department of Computer Science
Department of Computer Science
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Durg (C.G.)

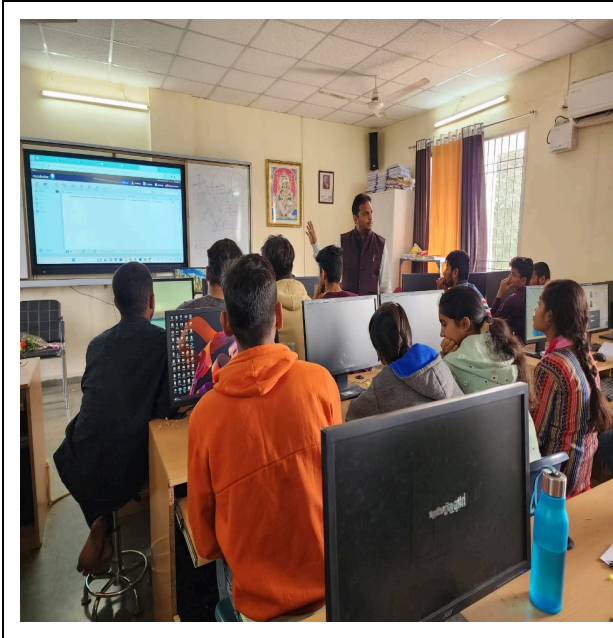
कम्प्यूटर साईस एवं सूचना प्रौद्योगिकी विभाग द्वारा वेब डेवलपमेंट एवं होस्टिंग सर्विसेस विषय पर अतिथि व्याख्यान का आयोजन

शासकीय विश्वनाथ यादव तामस्कर स्नातकोत्तर स्वशासी महाविद्यालय, दुर्ग में कम्प्यूटर साईस एवं सूचना प्रौद्योगिकी विभाग द्वारा रूसा मद के अंतर्गत “वेब डेवलपमेंट एवं होस्टिंग सर्विसेस” विषय में व्याख्यान का आयोजन किया गया। कार्यक्रम के प्रारंभ में विभाग के विभागाध्यक्ष डॉ. सनत कुमार साहू ने अतिथि वक्ता डॉ. प्रशांत ताम्रकार, सहायक प्रोफेसर, आर एस आर - रंगटा कॉलेज ऑफ इंजीनियरिंग एवं टेक्नोलॉजी, भिलाई का स्वागत किया एवं डॉ. लतिका ताम्रकार ने अतिथि वक्ता का परिचय दिया। डॉ. प्रशांत ताम्रकार ने वेब डेवलपमेंट एवं होस्टिंग सर्विसेस विषय पर विस्तृत जानकारी प्रदान की तथा विद्यार्थियों को प्रायोगिक प्रदान किया गया। विद्यार्थियों ने वेब डेवलपमेंट की बारीकियों को सीखा। प्रशिक्षण के दौरान विद्यार्थियों ने वेबसाइट डेवलपमेंट, वेबसाइट होस्टिंग, डोमेन ईमेल आई डी बनाना, तथा सर्वर में विभिन्न फ़ाइल सिस्टम के लिए एक्सेस प्राप्त करना आदि सीखा। अतिथि वक्ता ने अपने व्याख्यान के दौरान उपस्थित विद्यार्थियों के शंकाओं का निराकरण किया तथा इस क्षेत्र में उपलब्ध विभिन्न कैरियर विकल्पों से अवगत कराया।

इस कार्यक्रम में विभाग के अतिथि व्याख्याताओं समीर कुमार, श्रीमती अर्चना पात्रा, दिव्या जायसवाल, राधिका साहू, अम्बे साहू, मेघराज सोनी एवं लक्ष्मण देवांगन के साथ ही लगभग 100 से अधिक विद्यार्थी उपस्थित हुये। कार्यक्रम के अंत में विभाग के डॉ. दिलीप कुमार साहू ने धन्यवाद ज्ञापन किया।







Date " Guest Lecture on Web Development
19/01/24 and Hosting Services "

Page No.	
Date:	

The department of Computer Science and Information Technology organized a guest Lecture on " Web Developing and Hosting Service " for all the students of department.

The Lecture was presented by Mr. Prashant Tamrakar , Sanjay Raut Group of Institution Bhilai (G.G.)

The program helped out the Students to include self employability and area of Computer Science in today's scenario.

Faculties of
CS & IT Dept.

1. Dr. Sanat Kumar Sahoo Sahoo
2. Mr. Dileep Kumar Sahoo Sahoo
3. Mrs. Lakshmi Tamrakar Lakshmi
4. Mrs. Archana Patra Patra
5. Mr. Sameer Kumar Kumar
6. Ms. Divya Jaiswal Jaiswal
7. Ms. Radhika Sahoo Sahoo
8. Ms. Anshu Sahoo Sahoo
9. Mr. Meghraj Soni Soni
10. Mr. Laxman Desai Desai

Resource Person

Mr. Prashant Tamrakar
RSR - RCET, Bhilai (G.G.)

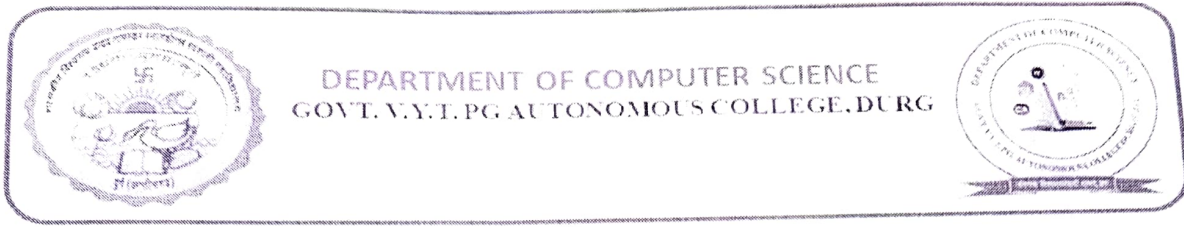
Sl. No. Name of Students.

Signature

1. Shubham Madariq
2. Moideul Kumar Sahu
3. Harsh Kumar Junghare
4. I. Rohit
5. Akalaya Yadav
6. Surajbakhsh Deshmukh
7. P. Krishna Kumar
8. Rahul Pal
9. Khushboo Ray
10. Yamuna Sathi
11. Harjana Khakun
12. Sanjan
13. Y. Jyotsna
14. Satyam
15. Damini Yadav
16. Dnyeshwari Nawaye
17. Pratibha Sahu
18. Pratibha
19. Ravi Kumar
20. Swati Sahu
21. Chandrasekhar Yadav
22. Krishna Kumari
23. Kamini Sahu
24. Sunita Gupta
25. Smriti Banjare
26. Harsi Chaurap
27. Nikita Banjare
28. P. Rambhar Sahu
29. Khushal Sen
30. Gurudayal
31. Vinay Kumar Dewangan

- Shubham
- I. Bahu
-
- I. Rohit Kumar
- A. K. S.
-
- P. Krishna
- Rahul
- K. Ray
- Yamuna
- Harjana Khakun
- Sanjan
- Jyotsna
- Satyam
- Yadav
- Dnyeshwari
- Pratibha
- Pratibha
- Ravi Kumar
- Swati
- Chandrasekhar
- Krishna
- Kamini
- Sunita
- Smriti
- Smriti
- Nikita
- P. Rambhar
- Khushal Sen
- Gurudayal
- Vinay

Sl. No.	Name of Students	Signature
32	Gopal Verma	Gopal
33	Pradeep Kumar	Pradeep
34	Ashwini Kumar	Ashwini
35	Jyoti Fawikau	Jyoti
36	Divya Dhurve	Divya Dhurve
37	Rishabh Narayan Nimohi	RISHABH NIMOH
38	Pankaj Shah	Pankaj
39	Vishnu Saw	Vishnu
40	Pooja Markande	Pooja Markande
41	Rachna	Rachna
42	P Narain Reddy	Narain
43	manish kumar fetei	manish
44	Poonam Sahu	Poonam
45	Maniso	maniso
46	Kaushiki Sinha	Kaushiki
47	Hema Jadhav	Hema
48	Lipika Sahu	Lipika
49	Jyoti	Jyoti
50	sandhya chhipikar	sandhya chhipikar
51	Jayendra Kumar Sahu	Jayendra
52	Ragini Sahu	Ragini
53	Pooja	Pooja
54	pujanita Thakur	pujanita Thakur
55	Priya Gupta	Priya
56	preeti sharma.	preeti
57	Sangeeta Adak	Adak
58	Rupeshwari Sarda	Rupeshwari
59	Kalpna Kumari	Kalpna
60	Bakshi Tilakkar	Bakshi
61	Bhumika Bhargava	Bhumika
62	Subhashik	Subhashik
63	Abeer Kapoor	Abeer



Date :11.01.2024

Notice

All the student of Computer Science and Information Technology are here by informed that a skill enhancement program on the topic " Career Opportunities in Computer Science " is organized in 15.01.2024 (Tuesday).

All of you must be present in this program.

HOD

Department of Computer Science
H.O.D.
Department of Computer Science
Govt. V.Y.T.P.G. Autonomous College
Durg (C.G.)

कम्प्यूटर साईंस एवं सूचना प्रौद्योगिकी विभाग द्वारा CAREER OPPORTUNITIES IN COMPUTER SCIENCE विषय पर अतिथि व्याख्यान का आयोजन

शासकीय विश्वनाथ यादव तामस्कर स्नातकोत्तर स्वशासी महाविद्यालय, दुर्ग में कम्प्यूटर साईंस एवं सूचना प्रौद्योगिकी विभाग द्वारा दिनांक 15/01/2024 को “CAREER OPPORTUNITIES IN COMPUTER SCIENCE AND IT” विषय में व्याख्यान का आयोजन किया गया। कार्यक्रम के प्रारंभ में विभाग के विभागाध्यक्ष डॉ. सनत कुमार साहू ने अतिथि वक्ता प्रो. राजू खूंटे , सहायक प्राध्यापक , शा.दिग्विजय स्वशासी महाविद्यालय, राजनांदगांव , का स्वागत किया एवं डॉ. लतिका ताम्रकार ने अतिथि वक्ता का परिचय दिया। प्रो. राजू खूंटे ने कम्प्यूटर के क्षेत्र में विभिन्न रोजगार के संभावनाओं पर विस्तृत जानकारी प्रदान की तथा विद्यार्थियों को प्रायोगिक प्रदान किया गया । अतिथि वक्ता ने अपने व्याख्यान के दौरान उपस्थित विद्यार्थियों के शंकाओं का निराकरण किया तथा इस क्षेत्र में उपलब्ध विभिन्न कैरियर विकल्पों से अवगत कराया।

इस कार्यक्रम में विभाग के अतिथि व्याख्याताओं समीर कुमार, श्रीमती अर्चना पात्रा, दिव्या जायसवाल, राधिका साहू, अम्बे साहू, मेघराज सोनी एवं लक्ष्मण देवांगन के साथ ही लगभग 49 विद्यार्थी उपस्थित हुये। कार्यक्रम के अंत में विभाग के डॉ. दिलीप कुमार साहू ने धन्यवाद ज्ञापन किया



Date 15/04/2024 "Guest lecture on Career Opportunities
in Computer Science &
Information Technology"

Page No.	
Date	

The department of Computer science and information technology organized a guest lecture on "Career opportunities in Computer Science and information technology" for the all student of department. The lecture was presented by Asst. prof. Raju khuntley.

faculty of
CSIT Department

Guest Speaker

15.04.24

Asst. prof. Raju khuntley

Govt. Digvijay PCr Auto
College, Rajmandawa

1. Dr. Sanat Sahu
2. Mr. Dileep Ku. Sahu
3. Mrs. Latika Tamrakar
4. Mrs. Archana Patra
5. Shri Sameer.
6. Ms. Divya Jaiswal
7. Radhika Sahu
8. Lakshman Dewangan
9. Ambe Sahu
10. Meghraj Soni

15.04.24

Sahu

Sahu

Soni

Soni

S.N.	Name of student	Signature.
1.	Swati Sahu	<u>Swati</u>
2.	Chandrabas Yadav	<u>Chandrabas</u>
3.	Bhupesh Kumar	<u>Bhupesh</u>
4.	Tanuj Kumar Boroti	<u>Tanuj</u>
5.	Samit Kumar Sahu	<u>Samit</u>
6.	Omprakash	<u>Omprakash</u>
7.	SURIA PRAKASH DESHMUKH	<u>SURIA PRAKASH</u>
8.	Bhanu Prakash Verma	<u>Bhanu</u>
9.	Pushpendra Yadav	<u>Pushpendra</u>
10.	Arun Mandavi	<u>Arun</u>
11.	Gopal Verma	<u>Gopal</u>
12.	Narayanees	<u>Narayanees</u>
13.	Kushma Kunwar	<u>Kushma</u>
14.	Dipti Sagar	<u>Dipti</u>
15.	Vivek Kumar Gajendran	<u>Vivek</u>
16.	Jyoti Yadav	<u>Jyoti</u>
17.	Gurudayal	<u>Gurudayal</u>
18.	Rajendra Singh	<u>Rajendra Singh</u>
19.	Hiteshwar	<u>Hiteshwar</u>
20.	Ravi Gupta	<u>Ravi</u>
21.	Sangana Singh	<u>Sangana</u>
22.	Srishti Kumari	<u>Srishti</u>
23.	Bhupeshwar Singh	<u>Bhupeshwar</u>
24.	Sumit Nishad	<u>Sumit</u>
25.	Damini Gendre	<u>Damini Gendre</u>
26.	Damini Varma	<u>Damini Verma</u>
27.	Shreya Thakur	<u>Shreya</u>
28.	Smida Banjara	<u>Smida</u>
29.	Kamini Sahu	<u>Kamini</u>
30.	Khushboo Thakur	<u>Khushboo</u>
31.	Dalee Chandrakar	<u>Dalee</u>
32.	Yash Kumar	<u>Yash</u>

S.N. Name of student.

Signature.

33 Pratibha Sahu

~~Pratibha~~

34 Pratibha

~~Pratibha~~

35 CHETAN DEB

~~Chetan~~

36 Gouriha Sinha

~~Gouriha~~

37 Babita Sahu

~~Babita~~

38 Chandni Sahu

chandni sahu

39. Amrapali Meshram

~~Amrapali~~

40 Bhawna

~~Bhawna~~

41 Kumud dhanekar

kumud

42 Sandhya Sahu

~~Sandhya Sahu~~

43 Priya Sahu

~~Priya~~

44. Radhika Yadav

~~Radhika~~

45 Jyoti

Jyoti

46 Yamuna Sarthi

~~yamuna~~

47 Parjanya Khatur

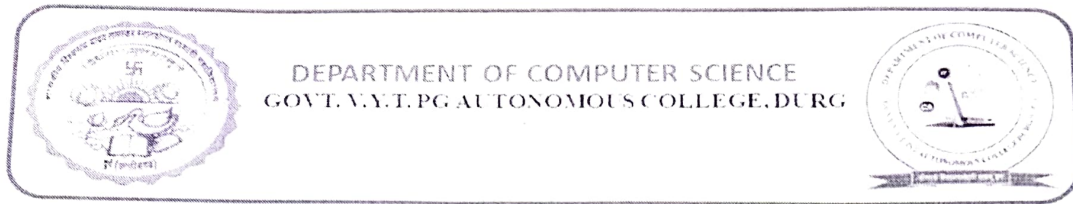
Parjanya Khatur

48 S. Sneha

~~Sneha~~

49 Nikita

Nikita



Date :09.01.2024

Notice

All the student of Computer Science and Information Technology are here by informed that a skill enhancement program on the topic "Latest Trends in Computer Science" is organized in 13.01.2024 (Saturday).

All of you must be present in this program.

HOD

Department of Computer Science

H.O.D.

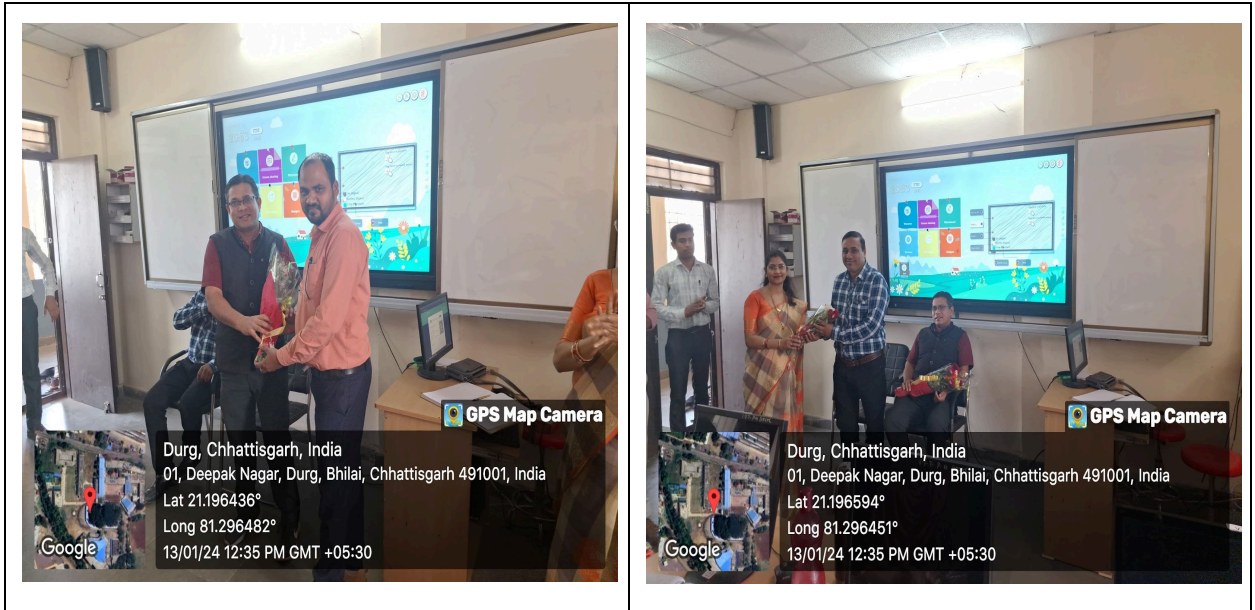
Department of Computer Science
Govt. V.Y.T.P.G. Autonomous College
Durg (C.G.)

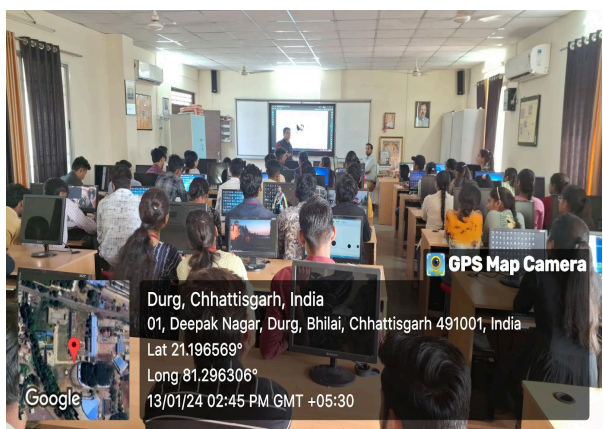
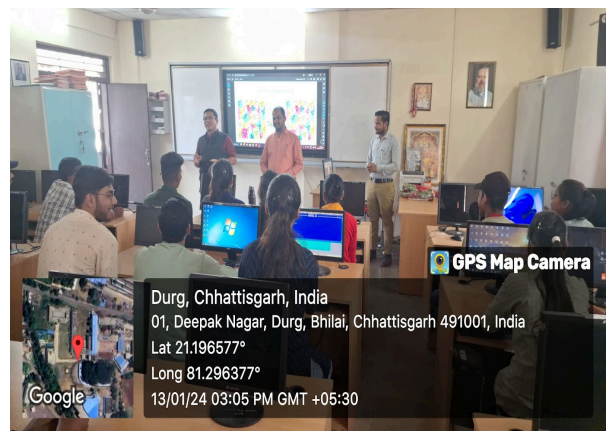
कम्प्यूटर साईस एवं सूचना प्रौद्योगिकी विभाग अतिथि व्याख्यान का आयोजन

शासकीय विश्वनाथ यादव तामस्कर स्नातकोत्तर स्वशासी महाविद्यालय, दुर्ग में कम्प्यूटर साईस एवं सूचना प्रौद्योगिकी विभाग द्वारा रूसा मद के अंतर्गत “Recent technologies in field of CS & IT” विषय पर व्याख्यान का आयोजन किया गया। कार्यक्रम के प्रारंभ में विभाग के विभागाध्यक्ष डॉ. सनत कुमार साहू ने अतिथि वक्ता डॉ. रोहित मिरि, एसोसिएट प्रोफेसर, सीएसवीटीयू, अतिथि वक्ता डॉ. मिथिलेश प्रजापति, एसोसिएट प्रोफेसर, संजय रंगटा महाविद्यालय, दुर्ग का स्वागत किया एवं डॉ. दिलीप कुमार साहू ने दोनों अतिथि वक्ताओं का परिचय दिया। अतिथि वक्ता डॉ. रोहित मिरि ने रिसेंट ट्रेंड्स इन कम्प्यूटर साइन्स विषय पर विस्तृत जानकारी प्रदान की तथा अन्य व्याख्याता डॉ. मिथिलेश प्रजापति ने सोशल मीडिया एवं साइबर क्राइम विषय पर विस्तार से चर्चा की। डॉ. मिरि ने विभिन्न उद्योगों में आर्टिफिशियल इंटेलिजेंस और मशीन लर्निंग के बढ़ते प्रभाव पर जोर दिया। उन्होंने चर्चा की कैसे ये तकनीकें डेटा विश्लेषण, पैटर्न पहचान, और निर्णय निर्माण प्रक्रियाओं के लिए उपयोग हो रही हैं, जो विभिन्न क्षेत्रों में प्रगति में महत्वपूर्ण योगदान दे रहे हैं। डॉ. मिथिलेश प्रजापति ने अपने समय में साइबर सुरक्षा के महत्वपूर्ण मुद्दे पर ध्यान केंद्रित किया। डिजिटल प्लेटफॉर्म पर बढ़ते हुए आश्रितता तथा साइबर खतरों द्वारा पैदा की जाने वाली चुनौतियों और संवेदनशील जानकारी की सुरक्षा के लिए मजबूत साइबर सुरक्षा उपायों की आवश्यकता पर चर्चा की।

अतिथि वक्ताओं अपने व्याख्यान के दौरान उपस्थित विद्यार्थियों के शंकाओं का निराकरण किया तथा इस क्षेत्र में उपलब्ध विभिन्न कैरियर विकल्पों से अवगत कराया।

इस कार्यक्रम मे विभाग के अतिथि व्याख्याताओं समीर कुमार, श्रीमती अर्चना पात्रा, दिव्या जायसवाल, राधिका साहू, अम्बे साहू, मेघराज सोनी एवं लक्ष्मण देवांगन के साथ ही लगभग 80 विद्यार्थी उपस्थित हुये। कार्यक्रम के अंत में विभाग के डॉ. लतिका ताम्रकार ने धन्यवाद ज्ञापन किया।





Date
13/01/2024

Guest Lecture on "Latest trend in Computer Science"

Page No.	
Date:	

The Department of Computer Science Organized a Guest Lecture on "Latest trends in Computer Science" for the BCA students. The Lecture was presented by Dr. Rohit Ku. Mini

Faculties of
C.S Department

Guest speaker

Dr. Rohit Ku. Mini

1. Dr. Sanat Sahu
2. Mr. Dileep Ku. Sahu
3. Mrs. Latika Tomriakar
4. Mrs. Archana Patra
5. Shri Sameer
6. Ms. Dnya Jaiswal
7. Radhika Sahu Sahu
8. Lakshman Dewangan Dewangan
9. Anbe Sahu Sahu
10. Meghraj Soni Soni

S.N.

Student's Name

Sign

Sl No	Name of Students	Signature
01	SHATROVAN BANJARE	Shat
02.	PARVATI DEWANGAN	<u>Parvati</u>
03.	ROSHANEE BANJARE	<u>Roshani</u>
04	Laxmisahu	<u>Laxmisahu</u>
05	Lakeshwari Nismalkar.	<u>Lakeshwari</u>
06	Deepthi	<u>Deepthi</u>
07	Tilleshwari Yadav	<u>Tilleshwari</u>
08	Yamini Dewangan	<u>Yamini</u>
09	Yogpriya Sahu	<u>Yogpriya</u>
10	Bhawani Mandavi	<u>Bhawani</u>
11	Tejaswinee Sahu	<u>Tejaswini</u>
12	Tanisha Patel	<u>Tanisha</u>
13.	Nihanika Gupta	Nihanika
14	Kritika Sahu	<u>Kritika Sahu</u>
15	Mamta Sahu	<u>Mamta</u>
16.	Chitrakala Sinha	<u>Chitrakala</u>
17.	Devika Dewangan	<u>Devika</u>
18.	Donisha	<u>Donisha</u>
19.	Sakeena	<u>Sakeena</u>
20	Devesh	<u>Devesh</u>
(21)	Khilendra Sahu.	<u>Khilendra</u>
(22)	Rohit Kumar	<u>Rohit</u>
(23)	Tamashvar verma	<u>Tamashvar</u>
(24)	Thamesh Kumar.	<u>Thamesh</u>
(25)	Kaushilya Chandraker	<u>Kaushilya</u>
(26)	Jasvinder kaur	<u>Jasvinder Kaur</u>
(27)	Yashoda Nishad	<u>Yashoda</u>
(28)	Ku Diya Gurupanch	<u>Ku Diya Gurupanch</u>
29.)	Monika Thakur	<u>Monika</u>
30)	Poonam sahu	<u>Poonam</u>
31)	Kalpna Joshi	<u>Kalpna</u>

Sl No	Name of Students	Signature
32	Purni Sahu	<u>Purni</u>
33	Durgesh Nandini	<u>D Nandini</u>
34	Sheetika choudhary	<u>Sheetika</u>
35	Aashish Kanyon	<u>Aashish</u>
36	ATTAUL MUSTAFA	<u>attaul</u>
37	Harsn Soni	<u>ईई सोनी</u>
38	CHANCHAL SAHU	<u>Chanchal Sahu</u>
39	Iskendra Kumar Jonendra	<u>Iskendra</u>
40	Sitanshu Dhruw	<u>Sitanshu</u>
41	Krishna Gupta	<u>Krishna</u>
42	Jay Sahu	<u>Jay Sahu</u>
43	Yogesh Kumar Sahu	<u>Yogesh</u>
44	Dharmendra Yadav	<u>Dharmendra</u>
45	Sachin Kansari	<u>Sachin</u>
46	Garima Marco	<u>Garima</u>
47	Bhavesh Kumar Sinha	<u>Bhavesh</u>
48	Devendra Kumar	<u>Devendra</u>
49	Labh Kumar Dewangan	<u>Labh</u>
50	Rishabh Dewangan	<u>Rishabh Dewangan</u>
51	Vikash Kumar	<u>Vikash</u>
52	Chandni Sahu	<u>Chandni</u>
53	Chandani Sahu	<u>Chandani</u>
54	Pooja Barchhava	<u>Pooja</u>
55	Tami Dewangan	<u>Tami</u>
56	Shashwati Tiwari	<u>Shashwati</u>
57	Vikas Dewangan	<u>Vikas Dewangan</u>
58	Anurag Yadav (BBA-1sem)	<u>Anurag</u>
59	Jayant Dewangan (BBA-1sem)	<u>Jayant</u>
60	Souzabh Pandey	<u>Souzabh</u>
61	Dyendran Sahu (BBA-1sem)	<u>Dyendran</u>
62	Bhupesh Sahu (BBA-1sem)	<u>Bhupesh</u>



DEPARTMENT OF COMPUTER SCIENCE
GOVT. V.Y.T. PG AUTONOMOUS COLLEGE, DURG



Date :08.01.2024

Notice

All the student of Computer Science and Information Technology are here by informed that a skill enhancement program on the topic " Latest Trends in Software Development " is organized in 09.01.2024.

All of you must be present in this program.

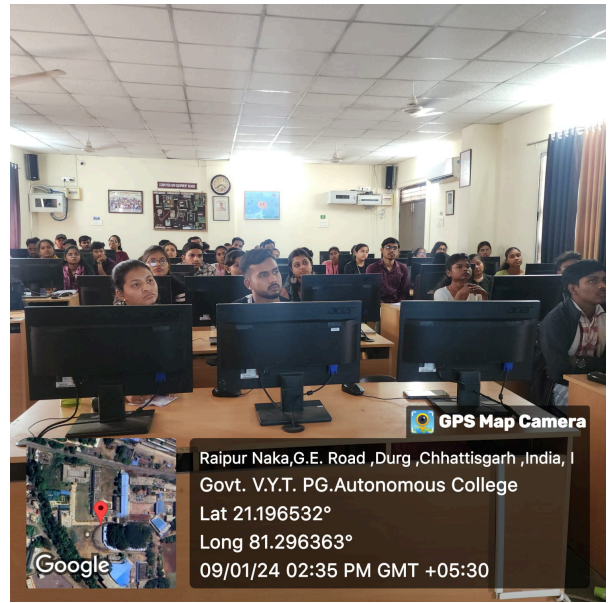
HOD

Department of Computer Science

कम्प्यूटर साईंस एवं सूचना प्रौद्योगिकी विभाग द्वारा क्लाउड कंप्यूटिंग के तकनीकी और वाणिज्यिक पहलुओं पर अतिथि व्याख्यान का आयोजन

शासकीय विश्वनाथ यादव तामस्कर स्नातकोत्तर स्वशासी महाविद्यालय, दुर्ग में कम्प्यूटर साईंस एवं सूचना प्रौद्योगिकी विभाग द्वारा रूसा मद के अंतर्गत दिनांक 09/01/2024 को “Latest Trends in Software Development ” विषय में क्लाउड कंप्यूटिंग पर व्याख्यान का आयोजन किया गया। कार्यक्रम के प्रारंभ में विभाग के विभागाध्यक्ष डॉ. सनत कुमार साहू ने अतिथि वक्ता प्रोफेसर सुदीप भट्टाचार्य ,बी आई टी महाविद्यालय ,दुर्ग का स्वागत किया एवं डॉ. दिलीप कुमार साहू ने अतिथि वक्ता का परिचय दिया। प्रोफेसर सुदीप भट्टाचार्य ने क्लाउड कंप्यूटिंग के तकनीकी और वाणिज्यिक पहलुओं पर विस्तार से चर्चा की। क्लाउड कंप्यूटिंग उभरते क्षेत्रों में से एक है और हम सभी किसी न किसी रूप में क्लाउड आधारित सेवाओं का उपयोग कर रहे हैं। व्याख्यान ने क्लाउड कंप्यूटिंग मॉडल जैसे की स्केलेबिलिटी के फायदों को समझाया। छात्रों को अमेज़ॅन और माइक्रोसॉफ्ट एज़ूर जैसे क्लाउड कंप्यूटिंग विक्रेताओं द्वारा उपयोग की जाने वाली तकनीकों और उपकरणों के बारे में भी समझाया गया। अंत में व्याख्यान ने क्लाउड कंप्यूटिंग में विभिन्न नौकरी और कैरियर विकल्पों पर प्रकाश डाला। उन्होंने अपने व्याख्यान के दौरान उपस्थित विद्यार्थियों के शंकाओं का निराकरण किया तथा इस क्षेत्र में उपलब्ध विभिन्न कैरियर विकल्पों से अवगत कराया।

इस कार्यक्रम में विभाग के अतिथि व्याख्याताओं समीर कुमार, श्रीमती अर्चना पात्रा, दिव्या जायसवाल, राधिका साहू, अम्बे साहू, मेघराज सोनी एवं लक्ष्मण देवांगन के साथ ही लगभग 56 विद्यार्थी उपस्थित हुये। कार्यक्रम के अंत में विभाग के डॉ. लतिका ताम्रकार ने धन्यवाद ज्ञापन किया।



<https://www.shivnathsamvad.in/science-college-durg-it-department/>



UNCATEGORIZED

दुर्ग-मिलान्ड ऑफिस

सेटिंग अप-अपडेट

CG BREAKING: साइंस कॉलेज दुर्ग के कम्प्यूटर साइंस एवं सूचना प्रौद्योगिकी विभाग में हुआ क्लाउड कंप्यूटिंग पर व्याख्यान, 100 से अधिक विद्यार्थीयों ने जाना क्लाउड कंप्यूटिंग में कैरियर के रास्ते

January 14, 2024

शिवनाथ संवाद, दुर्ग। कम्प्यूटर साइंस एवं सूचना प्रौद्योगिकी विभाग द्वारा क्लाउड कंप्यूटिंग के तकनीकी और वाणिज्यिक पहलुओं पर अतिथि व्याख्यान का आयोजन

शासकीय विश्वनाथ यादव तामस्कर सातकोत्तर स्वशासी महाविद्यालय, दुर्ग में कम्प्यूटर साइंस एवं सूचना प्रौद्योगिकी विभाग द्वारा "Latest Trends in Software Development" विषय के अन्तरगत क्लाउड कंप्यूटिंग पर व्याख्यान का आयोजन किया गया। कार्यक्रम के प्रारंभ में विभाग के विभागाध्यक्ष डॉ. सनत कुमार साहू ने अतिथि वक्ता प्रोफेसर सुदीप भट्टाचार्य, बी आई टी महाविद्यालय, दुर्ग का स्वागत किया एवं डॉ. दिलीप कुमार साहू ने अतिथि वक्ता का परिचय दिया। प्रोफेसर सुदीप भट्टाचार्य ने क्लाउड कंप्यूटिंग के तकनीकी और वाणिज्यिक पहलुओं पर विस्तार से चर्चा की। क्लाउड कंप्यूटिंग उभरते क्षेत्रों में से एक है और हम सभी किसी न किसी रूप में क्लाउड आधारित सेवाओं का उपयोग कर रहे हैं। व्याख्यान ने क्लाउड कंप्यूटिंग मॉडल जैसे की स्केलेबिलिटी के फायदों को समझाया। छात्रों को अमेज़न और माइक्रोसॉफ्ट एज़र जैसे क्लाउड कंप्यूटिंग विक्रेताओं द्वारा उपयोग की जाने वाली तकनीकों और उपकरणों के बारे में भी समझाया गया। अंत में व्याख्यान ने क्लाउड कंप्यूटिंग में विभिन्न नौकरी और कैरियर विकल्पों पर प्रकाश डाला। उन्होंने अपने व्याख्यान के दौरान उपस्थित विद्यार्थियों के शंकाओं का निराकरण किया तथा इस क्षेत्र में उपलब्ध विभिन्न कैरियर विकल्पों से अवगत कराया।

"Guest Lecture on 'Latest Trends in SW Development'"

Guest Lecture - 2

Page No.	
Date:	9.1.24

The Department of computer Science organized a Guest Lecture on "Latest trends in Software development" on 9.01.24 for the Iu sem students of B.C.A. The Lecture was presented by Sudip Bhattacharya from BIT Durg (C.G.).

The program helped out the students to imculate self emphyability and area of computer Science in today scenario

~~Sah~~ 9/1/24

Faculties of C.S.&IT
Department

Mr. Sudip Bhattacharya
(A.P.) Guest Speaker

BIT, Raipur
Durg

1. Dr. Sanat Ku. Sahu
2. Shri Dilip Ku. Sahu
3. Mrs. Latika Tamrakar
4. Mrs. Archana Patra
5. Shri Sameer Ku.
6. Miss Divya Jaiswal
7. Miss Radhika
8. Miss Ambe
9. Shri Meghraj soni
10. Shri Laxman

~~Sah~~

~~Sah~~

~~Latika~~
9/1/24

~~Sh~~

~~Sah~~

~~Ambe~~

SN.	Student's Name
01	Sarvpreet Kaur
02	Neesraj Kumar Mounya
3	Harshit Banjara
4.	Harsh Kumar Sonkar
5.	Rahul Sahu
6.	R. Shailesh
7.	Prabhat Kumar Mahale

Sign.

~~Neesraj~~

~~Harshit~~

~~Harsh~~

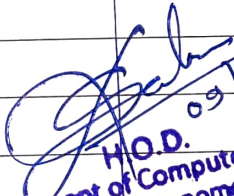
~~Rahul~~

~~R~~

~~Prabhat~~

S.N.	Student's Name	Sign
8.	chanchal.	chanchal.
9.	Bhany prakash Khuntel	Bhany
10.	Mridul Kumar Sahu	Mridul
11.	Khushboo Sahu	Khushboo
12.	Ayush Pradyuman	Ayush
13.	Sagar Sahu	Sagar
14.	Vagisha Lu. Sinha	Vagisha
15.	Yana Meshram	Yana
16.	Reeja Gupta	Reeja
17.	Aditi Yadav	Aditi
18.	Vandna Sahu	Vandna
19.	Sorajum Sharma	Sorajum
20.	Anjali Kishwaha	Anjali
21.	Panjana Soni	Panjana
22.	Divya Dewangan	Divya
23.	Payal Sahu	Payal Sahu
24.	Dolly Chakradhari	Dolly
25.	Ritika Chaudhari	Ritika
26.	Prachi Nirmalkar	Prachi
27.	Khushi Shahare	Khushi
28.	Purnima Sahani	Purnima
29.	S. Sneha	Sneha
30.	Nikita	Nikita
31.	Faryana Khatun	Faryana
32.	Pratibha	Pratibha
33.	Akshaya Yadav	Akshaya
34.	BHUPESH KUMAR YADAV	Bhupesh
35.	Chandru Chandras	Chandru
36.	Swati Sahu	Swati
37.	Sanjay Bisai	Sanjay Bisai
38.	Krishna Kunwar	Krishna
39.	Narayanae	Narayanae
40.	CH Moni ka	Moni ka

41	Tsha	<u>Tsha</u>
42	Anjali Yadav	<u>Anjali</u>
43	Dipti Duggan	<u>Dipti</u>
44	Kumud dhanekar	<u>Kumud</u>
45	Jyoti Yadav	<u>Jyoti</u>
46	Arun Mandavi	<u>Arun</u>
47	Rushpendra Yadav	<u>Rushpendra</u>
48	Suryashash Deshmukh	<u>Suryashash</u>
49	Bhrami prakashverma	<u>Bhrami</u>
50	Jyoti	<u>Jyoti</u>
51	Radhika Yadav	<u>Radhika</u>
52	Shikha Mishra	<u>Shikha</u>
53	Damini Gendre	<u>Damini Gendre</u>
54	Bhusheshwar	<u>Bhusheshwar</u>
55)	Pamini verma	<u>Pamini</u>
56)	Shreya Tiwari	<u>Shreya</u>


 09/01/2023
 H.O.D.
 Department of Computer Science
 Govt. V.Y.T.P.G. Autonomous College
 Durg (C.G.)

To,

The Principal
Govt. V.Y.T.PG Autonomous College
Durg.

Subject: Regarding permission to invite Resource Person for Skill Enhancement Course on Hardware & Networking.

Respected Sir,

With due respect I would like to inform you that the Computer Science & Information Technology department wants to organize a Skill Enhancement Course on Hardware & Networking from 23/01/2024 to 31/01/2024 under PM Usha fund. Kindly provide permission and support for inviting resource persons to conduct the course at our department.

Thanking You



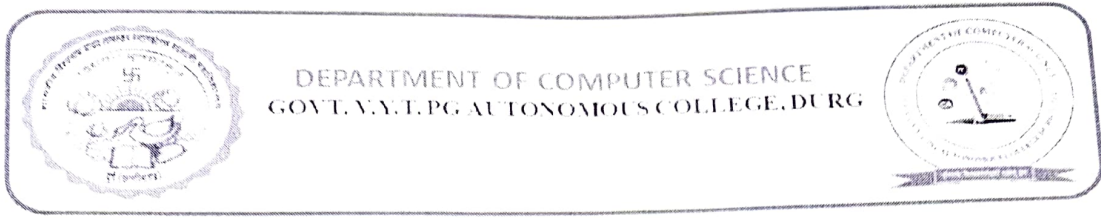
H.O.D

Dept of Computer Science & Information Technology

H.O.D.
Department of Computer Science
Govt V.Y.T.P.G. Autonomous Collage
Durg (C.G.)



Principal
Govt. V.Y.T.P.G. Autonomous
College, Durg (C.G.)



Date :20.01.2024

Notice

All the student of Computer Science and Information Technology are here by informed that a skill enhancement course on the Hardware and Networking is organized from 23.01.2024 to 31.01.2024.

All of you must be present in this workshop.

HOD

Department of Computer Science
H.O.D.
Department of Computer Science
Govt. V.Y.T.P.G. Autonomous College
Durg (C.G.)

VT. V.Y.T. P.G. AUTO. COLLEGE, DURG (C.G.)



**DEPARTMENT OF COMPUTER SCIENCE AND
INFORMATION TECHNOLOGY
ORGANIZE**



SKILL ENHANCEMENT COURSE

**IN
HARDWARE AND NETWORKING**

ON DATE: 23 TO 31 JAN, 2024

SPONSORED BY: PM-USHA

SCHEDULE

- 23 JAN, 2024 : HARDWARE PARTS DEMOSTRATIONS
- 24 JAN, 2024 : HARDWARE ASSEMBLING
- 27 JAN, 2024 : WINDOWS OPERATING SYSTEM INSTALLATION
- 29 JAN, 2024 : LINUX OPERATING SYSTEM INSTALLATION
- 30 JAN, 2024 : NETWORKING(CAT6- PATCH CORD ASSEMBLE)
& TESTING
- 31 JAN, 2024 : ROUTER INSTALLATION & SOFTWARE
INSTALLATION

SOURCE PERSON



DR. DHIRENDRA PANDEY

ASSOCIATE PROFESSOR & HEAD DEPARTMENT OF
INFORMATION TECHNOLOGY BABASAHEB
BHIMRAO AMBEDKAR UNIVERSITY, LUCKNOW



DR. ANIL KUMAR SHARMA

ASSISTANT PROFESSOR DEPARTMENT OF IT
ACHARYA PANTH SHRI GRINDH MUNI NAAM
SAHEB GOVT. PG COLLEGE, KAWARDHA

M. A. SIDDIQUI

DR. SANAT KUMAR SAHU

DR. DILEEP KUMAR SAHU

DR. LATIKA TAMTRAKAR

PATRON

CONVENER

CO-CONVENER

**ORGANIZING
SECRETARY**

ORGANIZING COMMITTEE

- MR. SAMEER KUMAR
- MS. DIVYA JAISWAL
- MRS. ARCHANA PATRA
- MS. AMBE SAHU
- MS. RADHIKA SAHU
- MR. MEGHRAJ SONI
- MR. LAKSHMAN DEWANGAN

कम्प्यूटर साईंस एवं सूचना प्रौद्योगिकी विभाग द्वारा हार्डवेयर एवं नेटवर्किंग विषय पर 6 दिवसीय स्किल एनहेंसमेंट कोर्स का आयोजन

शासकीय विश्वनाथ यादव तामस्कर स्नातकोत्तर स्वशासी महाविद्यालय, दुर्ग में कम्प्यूटर साईंस एवं सूचना प्रौद्योगिकी विभाग द्वारा पीएम उषा मद के अंतर्गत हार्डवेयर एवं नेटवर्किंग विषय पर 6 दिवसीय स्किल एनहेंसमेंट कोर्स का पीएम उषा योजना के अंतर्गत आयोजन किया गया। कम्प्यूटर विज्ञान और सूचना प्रौद्योगिकी विभाग के छात्रों के लिए, कार्यक्रम के संयोजक डॉ. सनत कुमार साहू, विभागाध्यक्ष, सह संयोजक श्री दिलीप कुमार साहू, आयोजन सचिव-श्रीमती लतिका ताम्रकार, संरक्षक एवं प्राचार्य डॉ. एम ए सिद्दीकी। पहले दिन कार्यक्रम का उद्घाटन किया गया, पहले दिन अतिथि वक्ताओं का स्वागत किया गया।

कार्यक्रम का शेड्यूल नीचे दिया गया है-

पहले दिन के वक्ता डॉ. प्रेम चंद्राकर का विषय कम्प्यूटर सिस्टम कंपोनेंट्स फंडामेंटल

दूसरे और तीसरे दिन के वक्ता श्री मेघराज सोनी विषय हार्डवेयर असेंबलिंग और ओएस इंस्टालेशन

चौथे दिन के वक्ता डॉ. धीरेंद्र पांडे विषय साइबर अपराध डेटा प्रबंधन के लिए एक चुनौती

दिन 5 के वक्ता श्री अजीत सिंह विषय हार्डवेयर और नेटवर्किंग

छठे दिन के वक्ता डॉ. अनिल कुमार शर्मा विषय नेटवर्क सुरक्षा

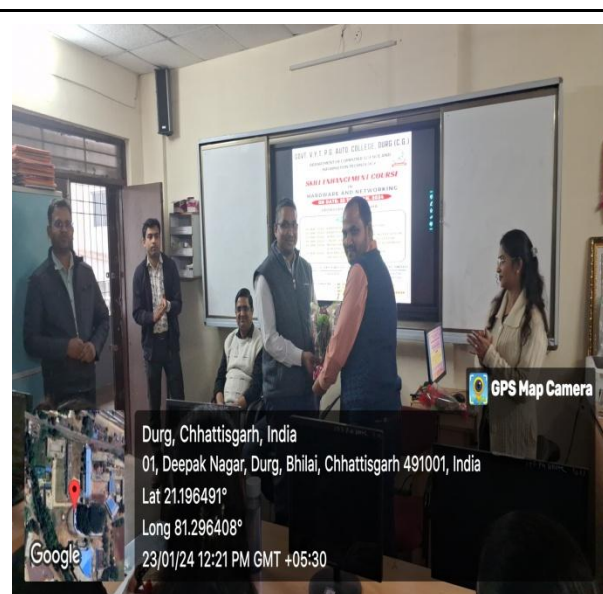
आयोजन समिति के सदस्य हैं:

श्री समीर कुमार, सुश्री. दिव्या जयसवाल,

श्रीमती अर्चना पात्रा, सुश्री. राधिका साहू, सुश्री अम्बे साहू, श्री. मेघराज सोनी, श्री. लक्ष्मण देवांगन

अंतिम दिन समापन समारोह आयोजित किया जाता है और संसाधन व्यक्ति और प्रतिभागियों को प्रमाणपत्र वितरित किया जाता है।

इस कार्यक्रम मे विभाग के अतिथि व्याख्याताओं समीर कुमार, श्रीमती अर्चना पात्रा, दिव्या जायसवाल, राधिका साहू, अम्बे साहू, मेघराज सोनी एवं लक्ष्मण देवांगन के साथ ही लगभग 80 विद्यार्थी उपस्थित हुये। कार्यक्रम के अंत में विभाग के धन्यवाद ज्ञापन कार्यक्रम की आयोजन सचिव श्रीमती लतिका ताम्रकार द्वारा किया गया।





साइंस कॉलेज में हार्डवेयर एवं नेटवर्किंग विषय पर स्किल एनहैंसमेंट कोर्स का आयोजन

कम्प्यूटर साइंस एवं सूचना प्रौद्योगिकी विभाग द्वारा पीएम उषा पद के अंतर्गत हुआ कार्यक्रम

दुर्ग शासकीय विश्वनाथ यादव तामस्कर स्नातकोत्तर स्वशासी महाविद्यालय में कम्प्यूटर साइंस एवं सूचना प्रौद्योगिकी विभाग द्वारा पीएम उषा पद के अंतर्गत हार्डवेयर एवं नेटवर्किंग विषय पर द्विदिवसीय स्किल एनहैंसमेंट कोर्स आयोजन किया गया। उक्त आयोजन के संरक्षक प्राचार्य डॉ. एम. ए. सिद्धीकी रहे। अतिथि वक्ताओं का स्वागत विभागाध्यक्ष एवं कार्यक्रम के संयोजक डॉ. सनत कुमार साहू तथा परिचय सहसंयोजक दिलीप कुमार साहू, सहायक प्राध्यापक द्वारा दिया गया।

प्रथम दिवस के वक्ता डॉ. प्रेम चंद्राकर सहायक-प्राध्यापक एवं विभागाध्यक्ष महंत लक्ष्मी नारायण दास महाविद्यालय रायपुर ने कम्प्यूटर सिस्टम-कंपोनेंट्स एवं फंडामेंटल के विषय में महत्वपूर्ण एवं रोचक जानकारी विद्यार्थियों को दिए। द्वितीय एवं तृतीय दिवस, महाविद्यालय के अतिथि मेधराज सोनी ने कम्प्यूटर हार्डवेयर-असेंबलिंग और ऑपरेटिंग सिस्टम इंस्टालेशन (विण्डो और लीनेक्स) विषय पर सैद्धांतिक एवं



प्रयोगिक प्रशिक्षण दिया। चतुर्थ दिवस डॉ. धीरेंद्र पांडे, सह-प्राध्यापक एवं विभागाध्यक्ष इन्फॉर्मेशन टेक्नोलॉजी, बाबा साहेब भीमराव अंबेडकर केन्द्रीय विश्वविद्यालय, लखनऊ द्वारा साइबर अपराध डेटा प्रबंधन के लिए एक चुनौती पर सचेत करते हुए सैद्धांतिक एवं प्रायोगिक प्रशिक्षण प्रदान किया गया एवं इस विषय में रोजगार के विस्तृत जानकारी दिया गया। पांचवें दिन के वक्ता अजीत सिंह, प्रोजेक्ट मैनेजर, आईआईटी, भिलाई द्वारा हार्डवेयर और नेटवर्किंग विषय पर महत्वपूर्ण रोचक जानकारी, सैद्धांतिक एवं प्रायोगिक प्रशिक्षण के साथ प्रदान किया गया। छठवें दिन के वक्ता डॉ. अनिल कुमार शर्मा, सहायक-प्राध्यापक एवं विभागाध्यक्ष इन्फॉर्मेशन टेक्नोलॉजी शासकीय महाविद्यालय, कवर्धा द्वारा नेटवर्क सुरक्षा के विषय

पर जानकारी प्रदान करते हुए जागरूक किया। व्याख्यान के अंत में विद्यार्थियों से विषय संबंधित प्रश्नोत्तर सत्र के दौरान प्रश्नों के सही जवाब देने पर विद्यार्थियों को पुरस्कृत किए एवं उनका उत्साहवर्धन किया।

महाविद्यालय के प्राचार्य ने कार्यक्रम के गुणवत्ता प्रकाश डालते हुए इस विषय को वर्तमान में रोजगारपरक बताते हुए सराहना की एवं विद्यार्थियों को प्रमाण पत्र प्रदान किए। कार्यक्रम सचिव लतिका ताम्रकार, सहायक-प्राध्यापक (आईटी) द्वारा धन्यवाद ज्ञापन किया गया। कार्यक्रम में लक्ष्मण देवांगन एवं मेधराज सोनी का विशेष योगदान रहा। कार्यक्रम में आयोजन समिति के सदस्य समीर कुमार, दिव्या जायसवाल, अर्चना पात्रा, राधिका साहू, अम्बे साहू उपस्थित रहे।

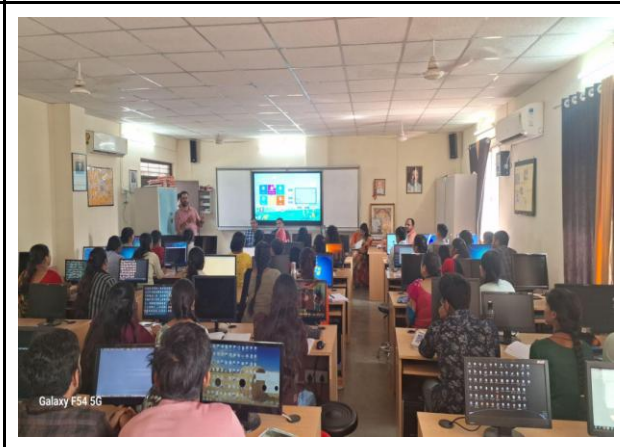
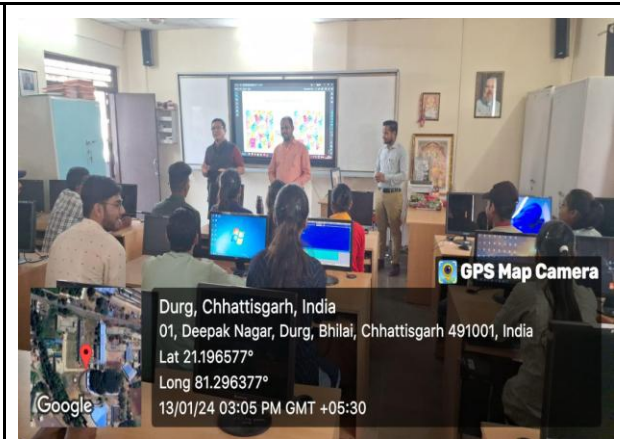
कम्प्यूटर साइंस एवं सूचना प्रौद्योगिकी विभाग अतिथि व्याख्यान का आयोजन

शासकीय विश्वनाथ यादव तामस्कर स्नातकोत्तर स्वशासी महाविद्यालय, दुर्ग में कम्प्यूटर साइंस एवं सूचना प्रौद्योगिकी विभाग द्वारा रूसा मद के अंतर्गत “Recent technologies in field of CS & IT” विषय पर व्याख्यान का आयोजन किया गया। कार्यक्रम के प्रारंभ में विभाग के विभागाध्यक्ष डॉ सनत कुमार साहू ने अतिथि वक्ता डॉ रोहित मिरि, एसोसिएट प्रोफेसर, सीएसवीटीयू , अतिथि वक्ता डॉ मिथिलेश प्रजापति , एसोसिएट प्रोफेसर, संजय रंगटा महाविद्यालय ,दुर्ग का स्वागत किया एवं डॉ दिलीप कुमार साहू ने दोनों अतिथि वक्ताओं का परिचय दिया। अतिथि वक्ता डॉ रोहित मिरि ने रिसेंट ट्रेंड्स इन कम्प्यूटर साइन्स विषय पर विस्तृत जानकारी प्रदान की तथा अन्य व्याख्याता डॉ मिथिलेश प्रजापति ने सोशल मीडिया एवं साइबर क्राइम विषय पर विस्तार से चर्चा की। डॉ. मिरि ने विभिन्न उद्योगों में आर्टिफिशियल इंटेलिजेंस और मशीन लर्निंग के बढ़ते प्रभाव पर जोर दिया। उन्होंने चर्चा की कैसे ये तकनीकें डेटा विश्लेषण, पैटर्न पहचान, और निर्णय निर्माण प्रक्रियाओं के लिए उपयोग हो रही हैं, जो विभिन्न क्षेत्रों में प्रगति में महत्वपूर्ण योगदान दे रहे हैं। डॉ. मिथिलेश प्रजापति ने अपने समय में साइबर सुरक्षा के महत्वपूर्ण मुद्दे पर ध्यान केंद्रित किया। डिजिटल प्लेटफॉर्म पर बढ़ते हुए आश्रितता तथा साइबर खतरों द्वारा पैदा की जाने वाली चुनौतियों और संवेदनशील जानकारी की सुरक्षा के लिए मजबूत साइबर सुरक्षा उपायों की आवश्यकता पर चर्चा की।

अतिथि वक्ताओं अपने व्याख्यान के दौरान उपस्थित विद्यार्थियों के शंकाओं का निराकरण किया तथा इस क्षेत्र में उपलब्ध विभिन्न कैरियर विकल्पों से अवगत कराया।

इस कार्यक्रम मे विभाग के अतिथि व्याख्याताओं समीर कुमार, श्रीमती अर्चना पात्रा, दिव्या जायसवाल, राधिका साहू, अम्बे साहू, मेघराज सोनी एवं लक्ष्मण देवांगन के साथ ही लगभग 80 विद्यार्थी उपस्थित हुये। कार्यक्रम के अंत में विभाग के डॉ. लतिका ताम्रकार ने धन्यवाद ज्ञापन किया।

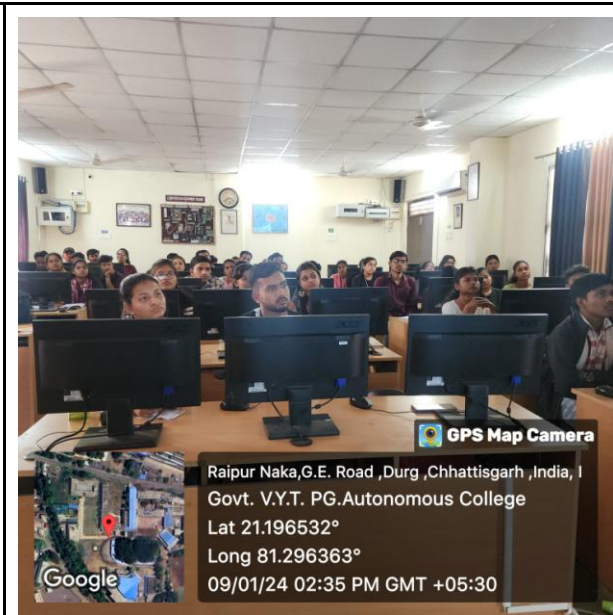
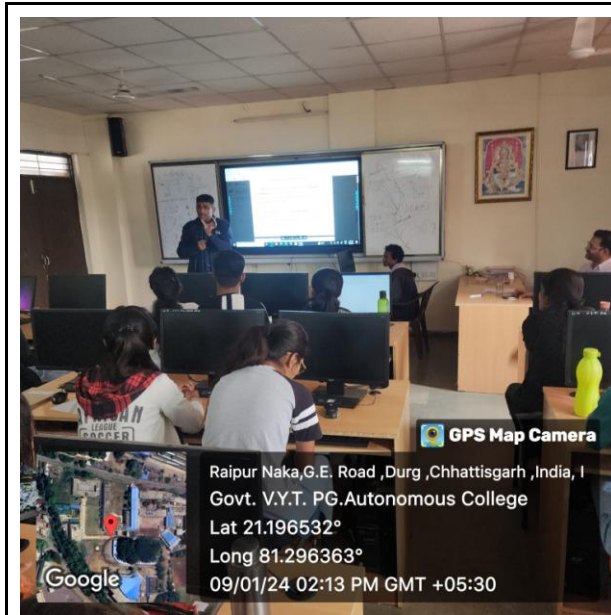




कम्प्यूटर साईंस एवं सूचना प्रौद्योगिकी विभाग द्वारा क्लाउड कंप्यूटिंग के तकनीकी और वाणिज्यिक पहलुओं पर अतिथि व्याख्यान का आयोजन

शासकीय विश्वनाथ यादव तामस्कर स्नातकोत्तर स्वशासी महाविद्यालय, दुर्ग में कम्प्यूटर साईंस एवं सूचना प्रौद्योगिकी विभाग द्वारा रूसा मद के अंतर्गत “Latest Trends in Software Development ” विषय मे क्लाउड कंप्यूटिंग पर व्याख्यान का आयोजन किया गया। कार्यक्रम के प्रारंभ में विभाग के विभागाध्यक्ष डाॅ. सनत कुमार साहू ने अतिथि वक्ता प्रोफेसर सुदीप भट्टाचार्य ,बी आई टी महाविद्यालय ,दुर्ग का स्वागत किया एवं डाॅ. दिलीप कुमार साहू ने अतिथि वक्ता का परिचय दिया। प्रोफेसर सुदीप भट्टाचार्य ने क्लाउड कंप्यूटिंग के तकनीकी और वाणिज्यिक पहलुओं पर विस्तार से चर्चा की। क्लाउड कंप्यूटिंग उभरते क्षेत्रों में से एक है और हम सभी किसी न किसी रूप में क्लाउड आधारित सेवाओं का उपयोग कर रहे हैं। व्याख्यान ने क्लाउड कंप्यूटिंग मॉडल जैसे की स्केलेबिलिटी के फायदों को समझाया। छात्रों को अमेज़ॅन और माइक्रोसॉफ्ट एज़ूर जैसे क्लाउड कंप्यूटिंग विक्रेताओं द्वारा उपयोग की जाने वाली तकनीकों और उपकरणों के बारे में भी समझाया गया। अंत में व्याख्यान ने क्लाउड कंप्यूटिंग में विभिन्न नौकरी और कैरियर विकल्पों पर प्रकाश डाला। उन्होंने अपने व्याख्यान के दौरान उपस्थित विद्यार्थियों के शंकाओं का निराकरण किया तथा इस क्षेत्र में उपलब्ध विभिन्न कैरियर विकल्पों से अवगत कराया।

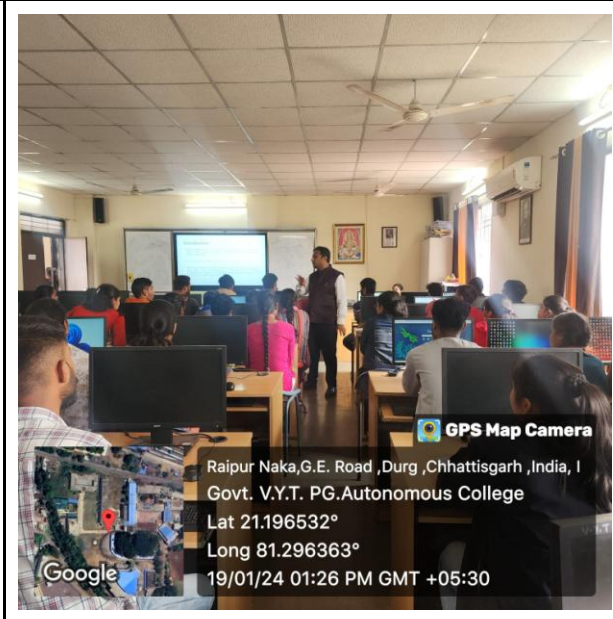
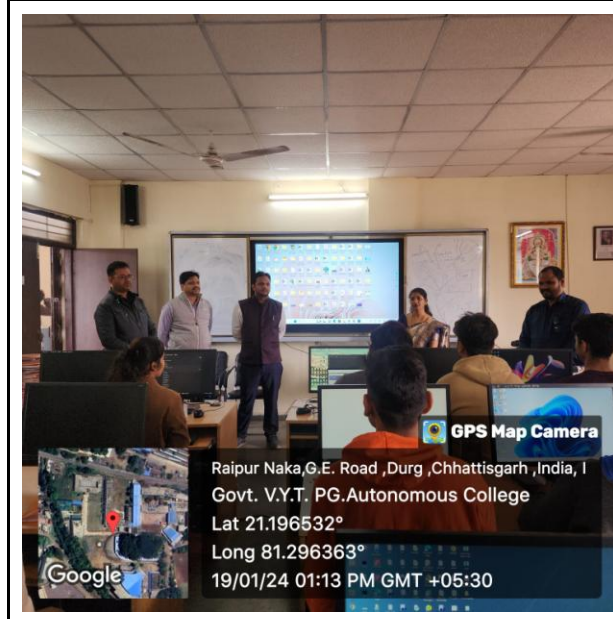
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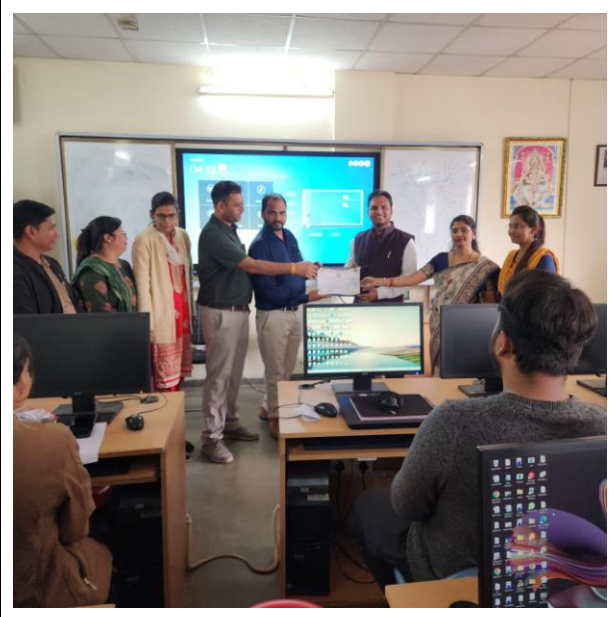
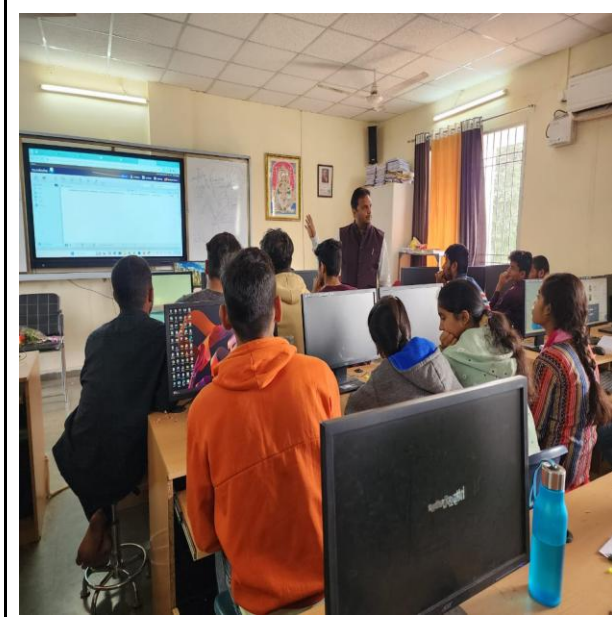
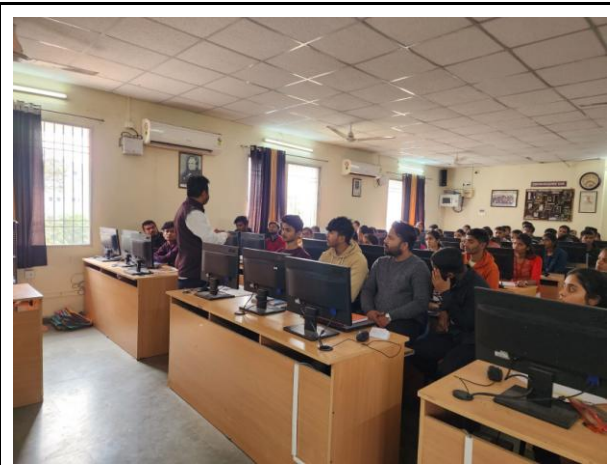
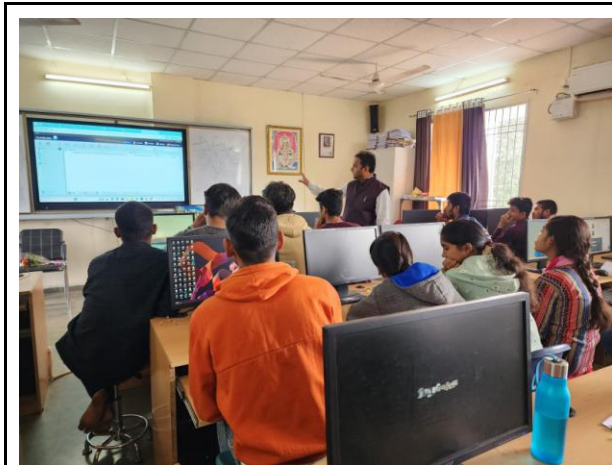


कम्प्यूटर साईंस एवं सूचना प्रौद्योगिकी विभाग द्वारा वेब डेवलपमेंट एवं होस्टिंग सर्विसेस विषय पर अतिथि व्याख्यान का आयोजन

शासकीय विश्वनाथ यादव तामस्कर स्नातकोत्तर स्वशासी महाविद्यालय, दुर्ग में कम्प्यूटर साईंस एवं सूचना प्रौद्योगिकी विभाग द्वारा रूसा मद के अंतर्गत “वेब डेवलपमेंट एवं होस्टिंग सर्विसेस” विषय में व्याख्यान का आयोजन किया गया। कार्यक्रम के प्रारंभ में विभाग के विभागाध्यक्ष डाॅ. सनत कुमार साहू ने अतिथि वक्ता डाॅ प्रशांत ताम्रकार , सहायक प्रोफेसर , आर एस आर - रूंगटा कॉलेज ऑफ इंजीनियरिंग एवं टेक्नोलोजी , भिलाई का स्वागत किया एवं डाॅ. लतिका ताम्रकार ने अतिथि वक्ता का परिचय दिया। डाॅ प्रशांत ताम्रकार ने वेब डेवलपमेंट एवं होस्टिंग सर्विसेस विषय पर विस्तृत जानकारी प्रदान की तथा विद्यार्थियों को प्रायोगिक प्रदान किया गया । विद्यार्थियों ने वेब डेवलपमेंट की बारीकियों को सीखा । प्रशिक्षण के दौरान विद्यार्थियों ने वैबसाइट डेवलपमेंट ,वैबसाइट होस्टिंग ,डोमैन ईमेल आई डी बनाना, तथा सर्वर में विभिन्न फ़ाइल सिस्टम के लिए एक्सेस प्राप्त करना आदि सीखा । अतिथि वक्ता ने अपने व्याख्यान के दौरान उपस्थित विद्यार्थियों के शंकाओं का निराकरण किया तथा इस क्षेत्र में उपलब्ध विभिन्न कैरियर विकल्पों से अवगत कराया।

इस कार्यक्रम में विभाग के अतिथि व्याख्याताओं समीर कुमार, श्रीमती अर्चना पात्रा, दिव्या जायसवाल, राधिका साहू, अम्बे साहू, मेघराज सोनी एवं लक्ष्मण देवांगन के साथ ही लगभग 100 से अधिक विद्यार्थी उपस्थित हुये। कार्यक्रम के अंत में विभाग के डाॅ. दिलीप कुमार साहू ने धन्यवाद ज्ञापन किया।





Date
23/01/2024

"SKILL ENHANCEMENT COURSE
ON
HARDWARE & NETWORKING

Page No.

Date 23/01/2024 to 31/01/2024.

The Department of Computer Science
organized a Skill
Enhancement Course on "Hardware &
Networking" from 23/01/2024 to
31/01/2024 sponsored by PMI - Usha

Schedule :-

23 Jan 2024 - Hardware parts demonstrations

24 Jan 2024 - Hardware Assembling

27 Jan 2024 - Window OS Installation

29 Jan 2024 - Linux OS Installation

30 Jan 2024 - Networking (CAT-6 Patch Cord
Assemble & Testing)

31 Jan 2024 - Router Installation & S/W Installation

Faculties of
CSIT Dept.

1. Dr. Sunit Kumar Sahu
2. Mr. Dileep Kumar Sahu
3. Mrs. Latika Tamrakar
4. Mr. Sameer Kumar
5. Ms. Divya Jaiswal
6. Mrs. Archana Patra
7. Ms. Ambe Sahu
8. Ms. Radhika Sahu
9. Mr. Meghraj Soni
10. Mr. Lakshman Dewangan

Sm

Asch

Sah

msu

ajgha

Page No. _____ Date: _____		DAY-1	
Sr.	Name of Student	Mobile No.	23/01/2024
1	SHATRUHAN ✓	8103554586	Shatruhan
2	Praveen kumar Banjare ✓	9399539070	Praveen
3	Purjiana Khatun ✓	7389664244	Purjiana Khatun
4	Pratibha Kumari ✓	7828679378	Pratibha
5	Ninay kumar Dewangan ✓	6266784899	Ninay
6	chandrachas yadav ✓	9067707728	chandru.
7	Swati sahu ✓	7389688162	Swati
8	BHANUPRAKASH VERMA ✓	7667045526	Bhanu
9	Yashwant kumar ✓	6232516948	Yashwant
10	Anurag Yadav ✓	8223966286	Anurag
11	Bhupesh Kumar Sahu ✓	7440707497	Bhupesh
12	ARJUN SONI ✓	6266123431	ARJUN SONI
13	Suraj Sharma ✓	9439089307	Suraj
14	Tikesh Dewangan ✓	9399496190	Tikesh
15	Tulshwar nishad ✓	8269337901	Tulshwar
16	Akhilesh yandhanua ✓	7772022939	Akhilesh
17	Akshat Shrivastava ✓	8815357790	Akshat
18	Topash Kumar Sinha ✓	9691348317	Topash
19	Pawan kumar bidko ✓	6261715301	Pawan
20	Lokendra kumar Joranda ✓	7470671067	Lokendra
21	Shreyas Tiwari ✓	8770209787	Shreyas
22	Bhupeshwari sinha ✓	6267048111	Bhupesh
23	Smity Banjare ✓	8120734204	Smity
24	Kamini Sahu ✓	9589293380	Kamini
25	megha yadav ✓	9098558927	Megha
26	Hemlata Nirmalkar ✓	9171108926	Hemlata
27	Vikas Dewangan ✓	9155193076	Vikas Dewangan
28	Tofeshwari Sahu ✓	8305228337	Tofesh
29	Laxmi Chauhan ✓	7974725601	Laxmi Chauhan
30	JAYANT DEWARVAN ✓	6266179917	Jayant
31	Ishita Raine ✓	7646841228	Ishita
32	SURYAPRAKASH DESHMUKH ✓	6264204878	Surya
	Banjara Singh	9179692410	Banjara
	Smriti kumari	7587069209	Smriti

Page No. _____ Date: _____		DAY-2	DAY-3	DAY-4	DAY-5	DAY-6
		24/01/2024	27/01/2024	29/01/2024	30/01/2024	31/01/2024
	Shatruhan	Shatruhan	Shatruhan	Shatruhan	Shatruhan	Shatruhan
	Praveen	Praveen	Praveen	Praveen	Praveen	Praveen
	Purjiana Khatun	Purjiana Khatun	Purjiana Khatun	Purjiana Khatun	Purjiana Khatun	Purjiana Khatun
	Pratibha	Pratibha	Pratibha	Pratibha	Pratibha	Pratibha
	Ninay	Ninay	Ninay	Ninay	Ninay	Ninay
	chandru	chandru	chandru	chandru	chandru	chandru
	Swati	Swati	Swati	Swati	Swati	Swati
	Bhanu	Bhanu	Bhanu	Bhanu	Bhanu	Bhanu
	Yashwant	Yashwant	Yashwant	Yashwant	Yashwant	Yashwant
	Anurag	Anurag	Anurag	Anurag	Anurag	Anurag
	Bhupesh	Bhupesh	Bhupesh	Bhupesh	Bhupesh	Bhupesh
	ARJUN SONI	ARJUN SONI	ARJUN SONI	ARJUN SONI	ARJUN SONI	ARJUN SONI
	Suraj	Suraj	Suraj	Suraj	Suraj	Suraj
	Tikesh	Tikesh	Tikesh	Tikesh	Tikesh	Tikesh
	Tulshwar	Tulshwar	Tulshwar	Tulshwar	Tulshwar	Tulshwar
	Akhilesh	Akhilesh	Akhilesh	Akhilesh	Akhilesh	Akhilesh
	Akshat	Akshat	Akshat	Akshat	Akshat	Akshat
	Topash	Topash	Topash	Topash	Topash	Topash
	Pawan	Pawan	Pawan	Pawan	Pawan	Pawan
	Lokendra	Lokendra	Lokendra	Lokendra	Lokendra	Lokendra
	Shreyas	Shreyas	Shreyas	Shreyas	Shreyas	Shreyas
	Bhupesh	Bhupesh	Bhupesh	Bhupesh	Bhupesh	Bhupesh
	Smity	Smity	Smity	Smity	Smity	Smity
	Kamini	Kamini	Kamini	Kamini	Kamini	Kamini
	Megha	Megha	Megha	Megha	Megha	Megha
	Hemlata	Hemlata	Hemlata	Hemlata	Hemlata	Hemlata
	Vikas	Vikas	Vikas	Vikas	Vikas	Vikas
	Tofesh	Tofesh	Tofesh	Tofesh	Tofesh	Tofesh
	Laxmi	Laxmi	Laxmi	Laxmi	Laxmi	Laxmi
	Jayant	Jayant	Jayant	Jayant	Jayant	Jayant
	Ishita	Ishita	Ishita	Ishita	Ishita	Ishita
	Surya	Surya	Surya	Surya	Surya	Surya
	Banjara	Banjara	Banjara	Banjara	Banjara	Banjara
	Smriti	Smriti	Smriti	Smriti	Smriti	Smriti

Sr.	Name of student	Mobile No.	23/01/2024
33	Tanuj Kumar Kothari	787951716	Fronti
34	Riya Sahu	9098938790	Riyalahu
35	Yogita Singh	7067995677	Yams
36	Dipti Sahu	7999630690	Dipti
37	Sanita Gupta	6266178374	Gupta
38	Jyoti Yadav	7770882465	Jyoti Yadav
39	Dipti Singh	9302629044	Dipti
40	Sarvpreet Kaur	8871058005	Spramit
41	Ankita Kumari	9685106449	Ankita
42	Khushi Shahane	9589264280	Khushi
43	Shivani Durugkar	6264597603	Shivani
44	Isha K	8828841477	Isha
45	Ch Monika	6266573400	Ch Monika
46	Lucky Jayakward	9691630910	lucky
47	Naina Dey	9049932404	Naina
48	Amrpal Mahpal	4389128970	Amrpal
49	Prachi Nismalkar	6263981103	Prachi
50	Shweta Shrivastava	9630878243	Sh
51	Jyoti	6265983373	Jyoti
52	S. Saha	9329217746	Saha
53	Nikita	8889294326	Nikita
54	Pradeep	6268941512	Pr
55	Payal	9691826880	Payal Sahu
56	Ritika Choudhary	6260022734	Ritika
57	Devi Chakradhari	8349465772	Devi
58	Sushmita Dhar	8435571114	Sushmita
59	Akshat Tiwari	9399860106	Akshat
60	Yamuna Sankhi	7803086084	Yamuna Sankhi
61	Khushboo Thakur	9691687109	Khushboo
62	MANDANA SAKH	7509393882	Mandana Sakh
63	Neeraj Sahu	6266595452	Neeraj Sahu
64	BHAWNA Sahu	7223078451	Bhawna
65	SHIVANI	8103843039	Shivani
66	Mukesh Gupta	7089062972	Mukesh

DAY-2	DAY-3	DAY-4	DAY-5	DAY-6
24/01/24	27/01/2024	29/01/2024	30/01/2024	31/01/2024
Fronti	Fronti	Fronti	Fronti	Fronti
Riyalahu	Riyalahu	Riyalahu	Riyalahu	Riyalahu
Yams	Yams	Yams	Yams	Yams
Dipti	Dipti	Dipti	Dipti	Dipti
Gupta	Gupta	Gupta	Gupta	Gupta
Jyoti Yadav	Jyoti Yadav	Jyoti Yadav	Jyoti Yadav	Jyoti Yadav
Dipti	Dipti	Dipti	Dipti	Dipti
Spramit	Spramit	Spramit	Spramit	Spramit
Ankita				
Khushi				
Shivani	Shivani	Shivani	Shivani	Shivani
Isha	Isha	Isha	Isha	Isha
Ch Monika	Ch Monika	Ch Monika	Ch Monika	Ch Monika
lucky	lucky	lucky	lucky	lucky
Naina	Naina	Naina	Naina	Naina
Amrpal				
Prachi	Prachi	Prachi	Prachi	Prachi
Sh	Sh	Sh	Sh	Sh
Jyoti	Jyoti	Jyoti	Jyoti	Jyoti
Saha	Saha	Saha	Saha	Saha
Nikita	Nikita	Nikita	Nikita	Nikita
Pr	Pr	Pr	Pr	Pr
Payal Sahu	Payal Sahu	Payal Sahu	Payal Sahu	Payal Sahu
Ritika	Ritika	Ritika	Ritika	Ritika
Devi	Devi	Devi	Devi	Devi
Sushmita				
Akshat	Akshat			
Yamuna Sankhi	Yamuna Sankhi	Yamuna Sankhi	Yamuna Sankhi	Yamuna Sankhi
Khushboo	Khushboo	Khushboo	Khushboo	Khushboo
Mandana Sakh	Mandana Sakh	Mandana Sakh	Mandana Sakh	Mandana Sakh
Neeraj Sahu	Neeraj Sahu	Neeraj Sahu	Neeraj Sahu	Neeraj Sahu
Bhawna	Bhawna	Bhawna	Bhawna	Bhawna
Shivani	Shivani			
Mukesh	Mukesh	Mukesh	Mukesh	Mukesh



GOVT. V.Y.T.P.G. AUTONOMOUS COLLEGE DURG, CHHATTISGARH
(Erstwhile: Govt. Arts and Science College, Durg)

CPE Phase- III By UGC
Awarded Star College by DBT, New Delhi



**Seven Days Research Methodology Course in Social Sciences with
Applications of SPSS**

From 27th October to 2nd November 2023

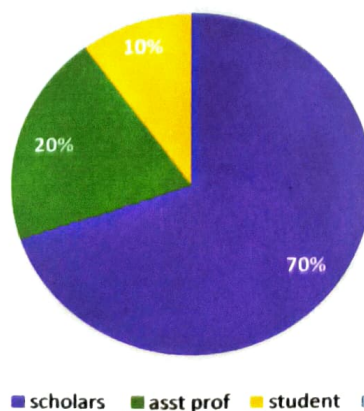


Organized by
Department of Economics, Govt. V.Y.T.P.G. Autonomous College, Durg (C.G.)

A REPORT

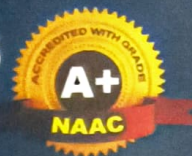
A workshop on Research Methodology Course in Social Sciences With Applications of SPSS was organized from 27th October to 2nd November 2023 by the Department of Economics, Govt. VYTPG Autonomous College, Durg (C..G.). Dr. Ranu Agrawal and Dr. Nilesh Tiwari was the resource person for the two day workshop. The objective of the workshop was to develop among participants a comprehensive understanding towards application of scientific research methodology and provide hands on training to the participants about use of statistical techniques in data analysis using SPSS software for data analysis. The need for such training workshop was felt after successful procurement of this licensed software by the Department of Economics. The direct beneficiaries of this workshop were the Assistant Professors, researchers and students also to better performance on their projects, on their empirical research work and completion of their final year dissertation work. The workshop received an overwhelming response in terms of student and faculty participation.

Participants



SEVEN DAYS RESEARCH METHODOLOGY COURSE IN SOCIAL SCIENCES WITH APPLICATIONS OF SPSS

From 27th October to 2nd November 2023



Organized by

Department of Economics

Govt. V.Y.T. PG Autonomous College, Durg (C.G.)



Patron / Principal

Dr. R.N. Singh

Course Coordinator

Dr. Shikha Agrawal

Prof. & Head, Department of Economics

Co-Coordinator

Dr. A.K. Khan

Dr. K. Padmawati

Dr. Anshumala Chandangar

Resource Person

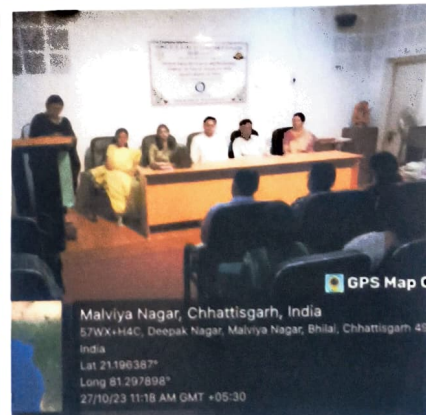
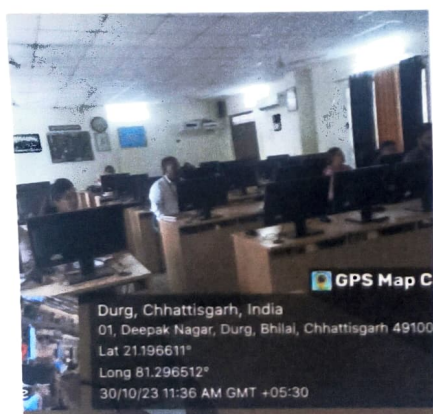
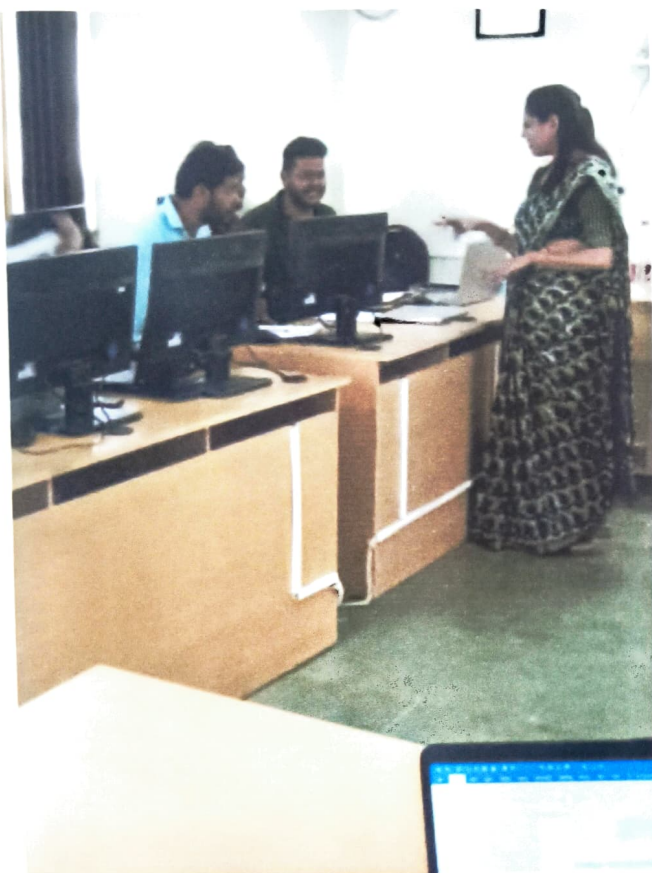
Dr. Ranu Agrawal

Dr. Nilesh Tiwari

Tel : (0788) 2359688

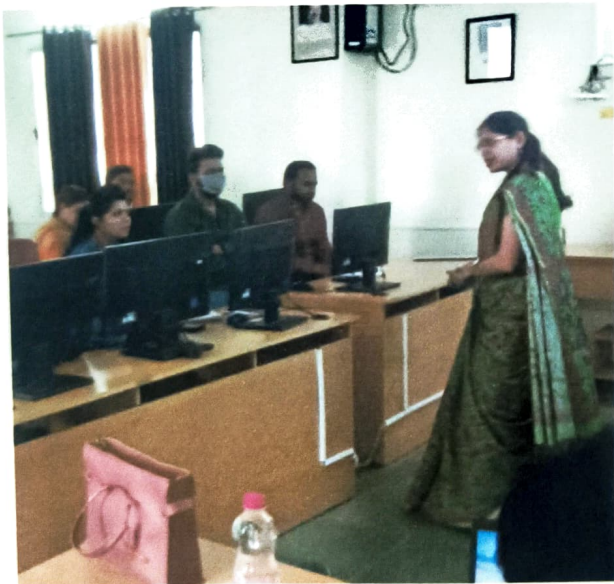
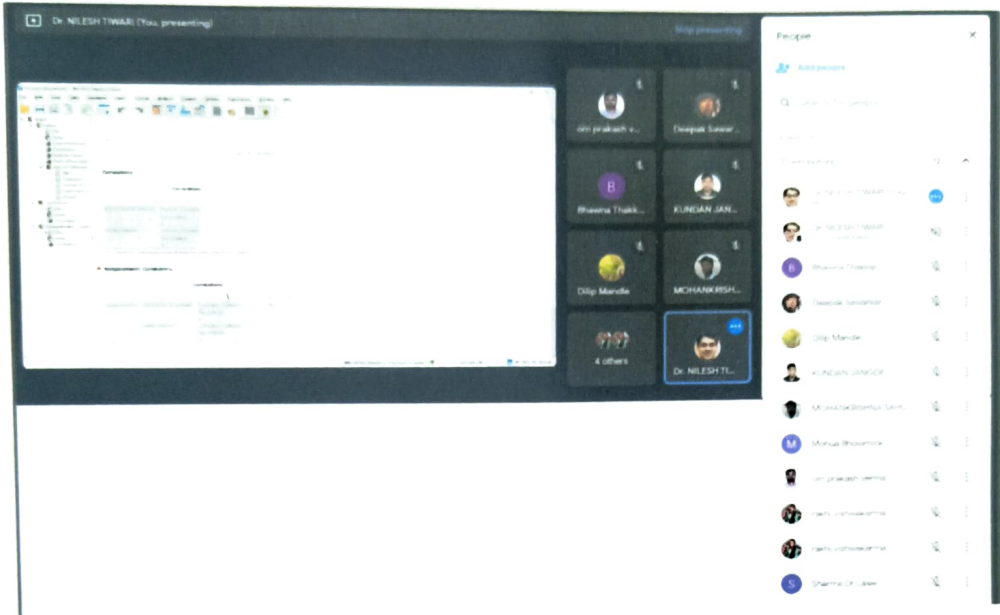
Email: pprinci2010@gmail.com

The first day of the workshop began with the garlanding Goddess Saraswati following that warm welcome with the anchor Abha Kujur who are research scholar in economics. The workshop started with a welcome address by Dr. Siddiqui, incharge principal, Govt. V.Y.T.P.G. Autonomous College Durg, who welcomed and encouraged the participants to make the best use of workshop, he narrated a beautiful story related to statistics to the participants in his welcome lecture. After this Prof. Shikha Agrawal (Head, Department of Economics and organizer of the workshop) shared his thoughts related to the workshop. After inaugural session first technical session has been started with the Introduction of Research and installation of trial version of SPSS software to the participants laptop.



second day Research types and entry of questionnaire topics has been taken by the resource person in two sessions. the participants freely asked their questions to resource persons every day and they get satisfactory answers. in the subsequent sessions, theoretical and practical classes were taken on research types, research design, Hypothesis formulation, hypothesis testing, normality and reliability test, correlation, regression analysis and research ethics respectively. all the participants were provided with workshop material as well as web link to

download SPSS software trail version. in advance. this helped the participants to have a hands on experience of the software in advance. this helped the participants to have a hands on experience of the software. An online session has also been taken by the resource persons when an holiday on the occassion of state formation day i.e. 1st Nov 2023 has declared by the State Government.



Manisha Bhimte

MOHANKRISHNA SAHU

Mohua Bhowmick

om prakash verma

Pankaj Nayak

rakhi vishwakar

SAGAR SAHU

on the last day of the workshop Dt. Shikha Agrawal the organizer of the workshop gave the vote of thanks. the workshop ended at a memorable note as the participants shared their positive feedbacks with the resource person and the organizer.

GOVT. V.Y.T.P.G. AUTONOMOUS COLLEGE, DURG
491001(C.G.)

Atmanirbhar Avam Viksit Bharat@2047

Date – 15 & 16 February 2024

Time 10.30 am to 5.30 pm



Organized by
Department of Economics GOVT. V.Y.T.P.G. AUTONOMOUS COLLEGE,
DURG 491001(C.G.)

List of Resource Persons –

- | | |
|-------------------------------------|--|
| 1. Dr. K.V. Das -
University | Rt. Ex. V.C. Fakir Mohan University Odisha State Public |
| 2. Dr. Ashwini Mahajan - | Professor, PGDCA College Delhi University, New Delhi |
| 3. Dr. R. K. Brahme -
University | Professor & HOD S.O.S. (Economics) Pt. Ravishankar
Raipur |
| 4. Dr. Dinesh Kumar - | Professor (Economics) Chaudhary Charan singh University |
| 5. Dr. Kanhaiya Ahuja -
Indore | Professor & HOD School of Economics Devi Ahilya University |
| 6. Dr. K.C. Jain -
Sagar (M.P.) | Ptd. Professor Economics Dr. Hari Singh Gaur University |
| 7. Dr. R. N. Singh - | Ex. Principal Govt. V.Y.T. PG. Autonomous College Durg |

रिपोर्ट

शा. वि. या. ता. स्ना. स्व. महाविद्यालय दुर्ग अर्थशास्त्र विभाग में आत्मनिर्भर एवं विकसित भारत @2047 विषय पर दो दिवसीय 15 व 16 फरवरी राष्ट्रीय संगोष्ठी का आयोजन किया गया। मुख्य अतिथि के रूप में फकीर मोहन यूनिवर्सिटी के पूर्व कुलपति डॉ. के. वी. दास उपस्थित थे। रिसोर्स परसन के रूप में डॉ. आर. के. ब्रह्मे, डॉ. डॉ. दिवेश कुमार, डॉ. आर. एन. सिंह, डॉ. के. सी. जैन, डॉ. कन्हैया आहूजा उपस्थित थे। सेमीनार का अद्देश्य 2047 तक भारत को विकसित राष्ट्र के रूप में स्थापित करने के सरकार के उद्देश्य को लेकर महाविद्यालय व समाज में जागरूकता फैलाना था, यह सेमीनार अपने उद्देश्य में सफल रहा। इस सेमीनार में 35 शोधपत्र प्रस्तुत किए गए तथा कुछ चुनिंदा शोध पत्रों का चयन कर पुस्तक (ISBN No.) का प्रकाशन किया गया।

Dr. K. Padmavati
Assistant Professor
Economics
GOVT. V.Y.T. P.G. AUTONOMOUS
COLLEGE, DURG (C.G.)

Principal
Govt. V.Y.T.P.G. Autonomous
College Durg (C.G.)

Guidelines for the Authors

Abstract

The papers should be developed and written in a symmetrical way of responding to a theme of seminar. Papers are acceptable in Hindi & English Language. Abstracts must pertain to original research works, either self-authored or co-authored, and must not exceed 350 words.

The abstract must include the title of the paper, objectives, methodology, keywords, the author's full name, address, e-mail and contact details.

The title of the abstract should be capitalized. It should clearly mention the subject of the research work for the abstract, full style 'Times New Roman' with size 12 and 1.5 line spacing should be followed. Abstract must contain only 3-5 keywords.

Full-Length Paper

The Full-Length Paper must be between 3,000 to 5,000 words. Text should be printed in 'Times New Roman' and 'Kruti Dev' with font size 12 and 1.5 line spacing on an A4 (in MS Word) paper layout with standard margins. The paper should contain introduction, Review of Literature, Methodology, Results/Analysis and Conclusion. At the end of the paper, there should be a reference list in the latest edition of APA format.

Publication

The selected papers will be published in the form of a book with ISBN.

Registration Details

Link for Online Registration and Abstract Submission:

<https://forms.gle/qbjMu55YiZUjGcN9>

Email-ID for abstract & paper submission:

goutvtpgeconomics@gmail.com

Registration Fee

Category	Registration Fee	With Book Chapter
Academicians/Faculties	Rs. 1000	Rs. 1500
Research Scholars	Rs. 500	Rs. 800
Student	Rs. 300	Rs. 500

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Account No. : 72900100005374
IFSC Code : BARB00BMDUR

Important Dates for Submission:

Last Date for Abstract : 31st January, 2024

Last Date for Paper : 12th February, 2024

Contact Details

Dr. K. Padmawati
Assistant Professor

Department of Economics, Govt. V.Y.T. PG Auto. College, Durg
Mobile - 9424131422/6263475258

Patron

Dr. M. A. Siddiqui
Principal
Govt. V.Y.T. PG Autonomous College, Durg

Head of Department

Prof. (Dr.) Shikha Agrawal
Govt. V.Y.T. PG Autonomous College, Durg

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Dr. Jigase Pandey	Department of Economics
Dr. Rishi Kant Chaudhary	Assistant Professor (Economics), Amity University



**NATIONAL SEMINAR
ON
ATMANIRBHAR AVAM VIKSIT BHARAT
@2047
(आत्मनिर्भर एवं विकसित भारत @2047)**

15 & 16 FEBRUARY 2024



SPONSORED BY - PM-USHA

ORGANIZED BY

DEPARTMENT OF ECONOMICS

GOVT. V.Y.T. PG AUTONOMOUS COLLEGE, DURG

आत्मनिर्भर एवं विकसित
भारत विषय पर हुई
संगोष्ठी, फकीर मोहन
स्टेट यूनिवर्सिटी ओडिशा
के पूर्व कुलपति डॉ. कुमार
बी. दास शामिल हुए

नवभारत रिपोर्टर । दुर्ग।

शास. वि. यु. ता. स्ना. स्व. महाविद्यालय दुर्ग के अर्थशास्त्र विभाग में आत्मनिर्भर एवं विकसित भारत/ 2047 विषय पर दो दिवसीय 15 एवं 16 फरवरी राष्ट्रीय संगोष्ठी का आयोजन किया गया। इस संगोष्ठी के उद्घाटन सत्र के मुख्य अतिथि के रूप में फकीर मोहन स्टेट यूनिवर्सिटी ओडिशा के पूर्व कुलपति डॉ. कुमार बी. दास, विशेष अतिथि के रूप में उपस्थित थे। उद्घाटन के प्रा. डॉ. कन्हैया आहुजा, जनरल सेक्रेटरी एवं रविशंकर शुक्ल विश्वविद्यालय रायपुर के प्रा. डॉ. आर. के. बर्मह तथा प्रबुध नन्दिरक भारती विश्वविद्यालय दुर्ग के डॉ. आर. एन. सिंह तथा अमृतमहा महाविद्यालय के प्राचार्य डॉ. एस. एन. झा ने की।

उद्घाटन सत्र में दिल्ली विश्वविद्यालय के अर्थशास्त्र विभाग के प्राध्यापक डॉ. अश्विनी महाजन ने कहा कि किस प्रकार प्राचीन काल से ही भारतीय अर्थव्यवस्था अत्यंत सुदृढ़ एवं आत्मनिर्भर रही है। उन्होंने कहा कि भारत को यू. हो सोने की चिड़िया नहीं कहा जाता था। डॉ. अश्विनी महाजन ने आरंभ से वर्तमान तक भारतीय अर्थव्यवस्था की नीतियों पर प्रकाश डालते हुए कहा कि गुलामी तथा अन्य कारणा

अपनी अर्थव्यवस्था को आत्मनिर्भर बना सकते हैं हम - डॉ. कुमार दास



से हमारी जींदगी में गिरावट दर्ज हुई है, किंतु 2047 तक हम निरन्तर ही सम्पूर्ण आत्मनिर्भर भारत के निर्माण में सफल होंगे। इसके पूर्व विशिष्ट अतिथि डॉ. आर. एन. सिंह ने कहा कि 2047 तक भारत को पूर्ण विकसित राष्ट्र की दर्जा दिलाने में युवाओं की भूमिका सर्वाधिक महत्वपूर्ण होगी और इसके लिये युवाओं को विवेकाबुद्धि के आदर्श का अंगना होना, जोशम उठाना होगा और स्वयं को स्कुल बनाना होगा। कार्यक्रम के विशिष्ट अतिथि डॉ. कुमार बी. दास ने कहा कि संगोष्ठी के आयोजकों ने एक बेहद सामाजिक

विषय को चुना है। आत्मनिर्भर एवं विकसित भारत 2047 यह वह स्वप्न है जो हमने खुली आंखों से देखा है। हमारे पास मानव संसाधन अग्रा-सत्र है, जिसके उपयुक्त प्रयोग से हम अपनी अर्थव्यवस्था को आत्मनिर्भर बना सकते हैं।

अर्थशास्त्र की विभागाध्यक्ष डॉ. शिखा अग्रवाल ने अपने संबोधन में कहा कि विकसित भारत का स्वप्न प्राप्त करने के लिये हमें दृढ़ संकल्पित होना होगा। संगोष्ठी के प्रारंभ में स्मारक का विमोचन भी अतिथियों द्वारा किया गया। संगोष्ठी की संयोजिका डॉ.

पद्मावती ने संगोष्ठी के उद्देश्य पर प्रकाश डालते हुए कहा कि आज भारत विश्व की एक बड़ी अर्थव्यवस्था के रूप में उभर रहा है, आत्मनिर्भर भारत की संकल्पना भारतीयों के आर्थिक, सामाजिक और सांस्कृतिक जीवन को और भी समृद्ध बनायेगी। संगोष्ठी के अध्यक्ष महाविद्यालय के प्राचार्य डॉ. एस. एन. झा ने यह विचारसंकल्पित किया इस दो दिवसीय विचार-विमर्श से निरन्तर ही हम अपने देश को आत्मनिर्भर एवं विकसित अर्थव्यवस्था के लक्ष्य तक पहुंचाने के प्रयासों में सफल होंगे।

प्रतिष्ठित विषय विशेषज्ञ भी शामिल हुए : पं. रविशंकर शुक्ल विश्वविद्यालय रायपुर के अर्थशास्त्र विभाग के विभागाध्यक्ष एवं डी. डी. एन. इकोनॉमिक एसोसिएशन के जनरल सेक्रेटरी डॉ. आर. ब्रह्म, शास. शिक्षा: महाविद्यालय, राजनांदगांव के प्रा. डॉ. डॉ. पी. कुं, डॉ. के. सी. जैन पूर्व विभागाध्यक्ष हरि सिंह गौर, शिक्षाविद्यालय, सागर, चौधरी चरण सिंह विश्वविद्यालय, मेरठ के अर्थशास्त्र विभाग के प्राध्यापक डॉ. दिनेश कुमार, जैसे- अनेक प्रतिष्ठित विषय विशेषज्ञ इस राष्ट्रीय संगोष्ठी में सम्मिलित हुए। देश के विभिन्न विश्वविद्यालयों व महाविद्यालयों से प्राध्यापकगण व शोधार्थीगणों ने अपनी रुचि, राष्ट्रीय संगोष्ठी में दिखाई है।



GPS Map Camera

Durg, Chhattisgarh, India

57WW+J36, Deepak Nagar, Durg, Bhilai, Chhattisgarh 491001, India

Lat 21.196533°

Long 81.295861°

16/02/24 04:05 PM GMT +05:30

ANONOMOUS COLLEGE
(TISGARH)
NAAC Bengaluru
Seminar On
Sukshiti Bharat @2047
सुखसित ढरत @2047
January 2024
PM-USHA



PRINCIPAL

GUEST



GPS Map



GPS Map Camera

Durg, Chhattisgarh, India

**57WW+J36 BIORESOURCE Complex, Deepak Nagar, Durg, Bhilai, Chhattisgarh
491001, India**

Lat 21.196564°

Long 81.295768°

16/02/24 05:01 PM GMT +05:30









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Atmanirbhar Eitam Viksit Bha
आत्मनिर्भर विकासित भारत
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Atmanirbhar Evam Viksit Bharat @2047
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GEOGRAPHY DEPARTMENT

Activities 2023-2024

S.No	Year	Date of Event	Theme/Title of the Event
1.	2023	20-23 march	Workshop on Remote Sensing & GIS
2.	2023	21-23 August	Heartfullness Workshop
3.	2023	5 September	Teachers Day Celebration
4.	2023	13 September	Inaguration of Certificate course on Remote Sensing
5.	2023	13 September	Inauguration of Value Added Course(Map reading & Map filling
6.	2023	23 September	Library visit
7.	2023	02 October	Swaksha Bharat Abhiyan
8.	2023	2 November	Guest lecture on Probabilism
9.	2023	3 November	Guest lecture on Applied Geomorphology
10.	2023	6 NOVEMBER	Guest lecture on GIS
11.	2024	2 Jan	Agrogopotandevpement
12.	2024	03-10 JAN	Workshop on Remote Sensing & GIS
13.	2024	17/01/2024	Guest lecture on Theodolite Surveying
14.	2024	18/01/2024	
15.	2024	23/01/2024	

S.No	Year	Date of Event	Theme/Title of the Event
16.	2024	24/01/2024	
17.	2024		
18.	2024		
19.	2024	12/02/2024	Introduction to Geoimformation
20.	2024	28/02/2024	Visit to Indian survey department on the occasion of science day.
21.	2024	10/02/2024 to 22/02/2024	Geographic tour of uttarakhand by the students of geography department
22.	2024	28/03/2024	Teacher- Parent conference in geography department
23.	2024	08/04/2024	Distribution of book to students in geography department .
24.	2024	09/09/2024	Organizing a function for teachers day and Welcome in the department of geography
25.	2024	18/10/2024 19/10/2024	National Seminar Topic People Environment and Sustainable Development Organize by Geography Department VYT Durg and Geography Council Chhattisgarh

Formation of Geography Council in the Department of Geography and inauguration Ceremony of value added courses; and-remote sensing and geographic information system (certificate course)

-A program for the formation of Geography Council was organized in the Department of Geography on 13, September 2023: Under this program, the formation of Geography Council, the launch of Value Added Courses (VAG) and Remote Sensing and Geographic Information System (RSB-GIS) (Certificate Course) and M.A. Welcome program

for the students of first semester were organized.

This program is being conducted by M.A.

Okar, a third year student, and the chief guest of the program was the Principal of the college, Dr.

R. N. Was a lion.

The program started with Saraswati

Vandana and lighting of lamp by the Principal. The Principal was welcomed by the students

with a bouquet of flowers. After this



Library Visit

Library visit by students of Geography Department

The Head of the Department of Geography, Dr. Anil Mishra and Dr. Omkumari Verma took the students of the department on a tour of the library on 23/9/2023.

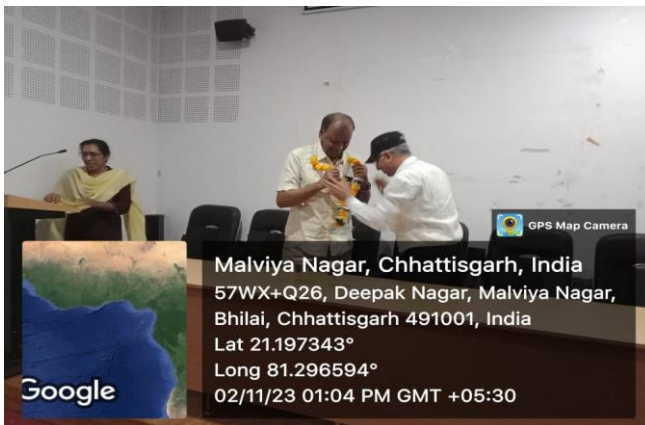
Librarian Dr. Vinod Ahirwar showed the ranking of books, e-library, journals and articles. Also, through a power point presentation, The told the students which link to use to search for subiect related books, journals and articles on the internet E-library was explained through computer.



Guest Lecture on GIS

Guest Lecture in the Department of Geography

A guest lecture was organized by the- Department of Geography on 2/11/23. At the beginning of the program, the Head of the Department, Dr. Anil Mishra, introduced Professor Rajendra Choubey. Professor Rajendra Chaubey, Head of the Department of Sociology, gave his lecture on "Positivism". He introduced the students to the scientific views presented by August Comte on positivism. He threw light on the important effects of society on a person and the subconscious mind. Dr. Preetibala Chandrakar conducted the program and expressed gratitude.



Heartfulness Workshop

Three day Heartfulness workshop concluded in Geography Department

Heartfulness workshop was organized- for the students of MA 1st and MA 3rd semester (Geography) in the Department of Geography from 21/8/2023 to 23/8/2023. The resource person-of this workshop was Dr. S. D. Deshmukh, Head of the Department of Geology of the college. On the first day of the workshop, Dr. S.D. Deshmukh shed light on the importance of meditation and said-that-meditation-improves-our-memory, reduces stress and makes-our-thinking positive.-After this, the Head of the Geography-Department, Dr. Anil Mishra conducted Heartfulness-Relaxation-and-Dr. Deshmukh conducted meditation.



Workshop on GIS & Remote Sensing

The Department of Geography and Geology jointly organized-a-workshop on the topic "Remote Sensing and GIS" from 3/1/24 to 10/1/24.-The program-was conducted by Dr. S. D. Deshmukh. Students of M.A. Geography second and fourth semester and M.Sc. Geography second and fourth semester students participated in workshop.As the keynote speaker in the first session of the first day of the workshop, Mr. Makhan Dewangan, Research Associate of Chhattisgarh Science and Technology, provided information to the students about cartography. Map -He also explained the types of maps and the elements required for a map. In the second session, Mr. Hitesh Malagar, Research Associate of Chhattisgarh Science and Technology, explained the computer map. Taught how to do georeferencing through.In the first session of the second day of the workshop guest lecturer Shri Ashish Manjhi of Shah Mohanlal Jain Mahavidyalaya Khursipar told about the history of maps and their types.. GIS. And gave detailed information about computers. In the second session, Mr. Ashish Manjhi gave detailed information about computers



विषय विशेषज्ञों ने व्याख्यान दिए

दुर्गा। शास. विधानमन्त्रालय शासक शास्त्रोक्ततां स्वशासी महाविद्यालय के भूविज्ञान एवं भूगोल विभाग के संयुक्त तालमन्त्रालय में 20 से 24 मार्च तक शास्त्रोक्ततां विद्यापीठों के लिए निर्मित संशोधन एवं जीवशास्त्र पर एक कार्यशास्त्र आयोजित हुआ। भूविज्ञान के विभागालय डॉ. एस. डी. शरमासु में कार्यशास्त्र के दौरान विज्ञान विरोधिता द्वारा दिए गए व्याख्यान के बारे में विज्ञान से जानकारी देने हुए शास्त्रालय इस कार्यशास्त्र में प्रो. शैलेश चौरा, होल्कर इंस्टीट्यूट स्वशासी विज्ञान महाविद्यालय अदरं (म.प्र.), डॉ. अभिषेक देवांगन, छग खनिज विज्ञान निगम अम्बिकपुर, श्रीमती बबिता निगम, निम्नोपेयलुनसुनसुन

[illegible][illegible]

Geography Department, Dr:-Anil Mishra conducted Heartfulness Relaxation and-Dr.Deshmukh conducted meditation.

Swaksha Bharat Abhiyan

Cleanliness campaign in Geography Department

A cleanliness drive was organised in the Geography Department on 2-October 2023. Under this, the Geography Department and surrounding areas were cleaned under the guidance of the Head of the Department, Dr Anil Mishra



Agropolitan Development



Theodolite Surveying

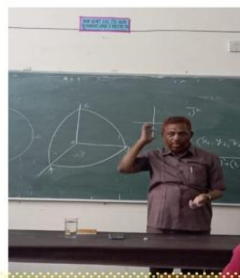


Introduction to Geoinformation



Distribution of books to students in Geography Department

The program of distribution of books for-the-workshop (Subject--Remote Sensing and GIS) organized by the Department of Geography -under PM Usha fund was organized on 14/24: The Principal of the college Dr. M.A. Siddiqui distributed the books of Remote Sensing and GIS to the students of MA second and fourth semester. At the beginning of the Head programme, the of the Department, Dr. Anil Mishra, introduced the personality of the Principal and informed about the various activities (guest lectures, career counselling; workshops and geographical tours) being conducted in the department under PM Usha Yojana. The program was conducted by Dr. Kirti Pandey. All the members of the department were present in the program. At the end of the program, MA fourth semester student Aishwaryakant Dwivedi expressed his gratitude.



Organizar of guest lectures at the Department of Geography

Visit to-Indian-Survey Department on the occasion of Science Day

-M.A. of Geography Department. Second and M.A. The students of the fourth semester were taken on a tour of the "Survey of India Department" on the occasion of-Science Day-on 28 February 2024 under the guidance of the Head of the Department, Dr. Anil Mishra. The students were welcomed by Mr. Sandeep Singh Gaur, Mr. Govind Nagvanshi and Ms. Renu provided complete information regarding mapping techniques and measurements. This tour was conducted under the guidance of Assistant Professor of Geography Department Mr. Prashant Dubey, Guest Lecturer Dr. Kirti Pandey, Dr. Vandana Yadav and Dr. Omkumari Verma.



Parent teacher Conference in the Department of Geography

By Geography Department on 28/3/24

A parent-guardian-meeting was organized. The program was conducted by Dr. Preetibala

-Chandrakar. At the beginning of the program, the head of the department, Dr. Anil Mishra, welcomed all the parents present.

After this, they were informed about all the achievements and facilities of the college and the department. The parents were also informed about the participation of students in the academic and other activities

organized in the department.

In the program, MA 4th semester student Priyanshu Sahu's elder brother Mr. Sagar Sahu, Nandini Prajapati's aunt Mrs. Deepmala Prajapati, Pooja - Devangan's mother Savita Devangan, Sandhya Sahu's mother Mrs. Neetu Sahu, Jageshwar Sahu's mother Mrs. Sushila Sahu and Dolly Devangan's father Mr. Jagannath Devangan were present.

At the end of the program, all the parents were asked for their suggestions. All the parents expressed happiness over the organization of studies and other activities. Dr. Preetibala thanked all the parents on behalf of the department.



Geographic tour of Uttarakhand by the students of

Geography Department

The students of MA fourth semester of Geography Department were divided into 5 groups under the guidance of the Head of the Department Dr. Anil Mishra and were taken on a tour of various places of Uttarakhand like Dehradun, Haridwar, Mussoorie, Badhnolti, Rishikesh etc.

under PM Usha fund till 22 February 2024, in which the students got acquainted with the cottage industries running in Dev Sanskriti University of Haridwar, which include making butter, ghee etc. from milk obtained from animal husbandry, incense sticks and soap from cow dung, weaving cloth from handloom, making new paper from waste papers, various types of pickles, bags from waste material, etc., various types of small industries. Apart from this, the Baltic Center running there for the exchange of cultures of different countries was also visited. The impact of the Ganges river and its religious importance on the business and tourism industry there was studied by the students in Haridwar.



Teachers' day and welcome ceremony was organized in the Geography department

Teachers' Day and Welcome Ceremony was -organized on-9th-September 2024 in the Department of Geography.

program was organized by the students of This - M.A. Prathav and M.A. third semester in honor of the teachers of the department.

The program was conducted by Arvind, a third year MA student. The program began with Saraswati Vandana Formation of Geography Council in the Department of

Geography and inauguration Ceremony of value added courses;and-remote sensing and geographic information system (certificate course)

-A program for the formation of Geography Council wasorganized in the Department of Geography oD-13, September 2023: Under this program,7 the formation of Geography Council, the launch of ValueFormation of Geography Council in the Department of

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Formation of Geography Council in the Department of Geography and inauguration Ceremony of value added courses; and-remote sensing and geographic information system (certificate course)

-A program for the formation of Geography Council was organized in the Department of Geography on 13, September 2023: Under this program, the formation of Geography Council, the launch of Value Added Courses (VAG) and Remote Sensing and Geographic Information System (RSB-GIS) (Certificate Course) and M.A. Welcome program

for the students of first semester were organized.

This program is being conducted by M.A.

Okar, a third year student, and the chief guest of the program was the Principal of the college, Dr.

R. N. Was a lion.

The program started with Saraswati

Vandana and lighting of lamp by the Principal. The Principal was welcomed by the students

with a bouquet of flowers. After this



National Seminar

A national research seminar is being organized on 18th and 19th October 2024 under the joint aegis of the Department of Geography, Government Vishwanath Yadav Tamskar Post Graduate (Autonomous) College, Durg (CG) and Chhattisgarh Geography Council.

The theme of this research seminar is "People, Environment and Sustainable Development (with special reference to Chhattisgarh)" in which geographers, subject experts and research scholars from Chhattisgarh as well as many states of India will participate in this seminar and present their research papers.

राष्ट्रीय शोध संगोष्ठी
लोग, पर्यावरण एवं संधारणीय विकास
(छत्तीसगढ़ के विशेष संदर्भ में)

National Seminar
People, Environment and Sustainable Development
(with Special Reference to Chhattisgarh)

Date : 18 & 19 October 2024



आयोजक
भूगोल विभाग
शासकीय विश्वनाथ यादव तामस्कर स्नातकोत्तर (स्वशासी) महाविद्यालय
दुर्ग, छत्तीसगढ़
एवं
छत्तीसगढ़ भूगोल परिषद

Lecture on millets and its benefits by Dr. Nisha Sharma and Dr. Umesh Patel

11th September 2023

Guest lecture on millets and its benefits was organized by department of botany on 11.09.2023. Dr. Nisha Sharma of KVK Durg and Dr. Umesh Patel a soil scientists at KVK Durg were the resource persons. This programme was very helpful for the students. Dr. Vijay Laxmi Naidu was the incharge of organizing this programme. Head of Department of Botany Dr. Ranjana Shrivastava and other professors Dr. G. S. Thakur, Dr. S. Kunjam, Dr. V. I. Naidu, Dr. S. Sen, prof. Moti Sahu and incharge of autonomous department of college Dr. J. Saluja was also present.

