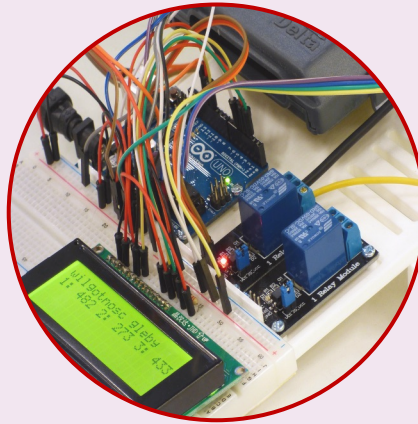


**Hands-On Workshop**  
on  
**ROBOTICS & IOT & EMBEDDED SYSTEMS**  
**March 28-30, 2025**



**Organized by**  
**Precision Engineering Hub,**  
**Indian Institute Technology (BHU), Varanasi**



**Organizing Committee**

**Patron**

**Prof. Amit Patra, Director, IIT (BHU), Varanasi**

**Coordinators**

**Prof. Santosh Kumar, Dr. G. M. Karthik, Dr. S. K. Mandal**

**Precision Engineering Hub, IIT (BHU), Varanasi**

## **About IIT BHU**

The Indian Institute of Technology (Banaras Hindu University) owes its existence to Mahamana Pandit Madan Mohan Malviya, Bharat Ratna- the founder of the first residential university of modern India, the Banaras Hindu University. The three erstwhile engineering colleges of BHU, named BENCO, MINMET, and TECHNO, were merged to form the Institute of Technology (IT-BHU) in 1968 to provide an integrated educational base. The ITBHU has been admitting students through the JEE conducted by the IITs since 1972 and has been consistently ranked among the top few engineering institutions in the country. IT-BHU became IIT (BHU) on June 29, 2012, by an Act of Parliament. The Institute has maintained high academic standards since its inception. It has turned out luminary engineers and administrators who served the nation with great distinction.

## **About PEH**

The Precision Engineering Hub (PEH) facility at IIT (BHU) is a 24x7 central facility supported by Defence Industrial Corridor (DIC), Design Innovation Centre (DIC) and Technology Innovation Hub (TIH). It is an initiative at IIT (BHU), established with a goal to provide support to students, faculties, and industries in the development of new products or improvement of existing product. The PEH facility is planned to provide a systematic digital integration of design, simulation, and manufacturing. The digital environment of the facility is structured into four spaces namely the Makers space, Designer space, Tool room space, and Product Design and Development space. The PEH houses state-of-the-art CAD and CAM tools with the latest capabilities in shape acquisition, modelling, and prototyping. Through its unique digital environment, the facility aims to provide professional training to industries and MSME employees. It also provides infrastructural support for sponsored research and industrial consultancy. The facility is chargeable to have a helping hand in radically expanding the domain of geometric shapes that can be realized for any product.

# Syllabus of the Workshop

- Basic Electrical Concepts
- Introduction to Robotics & IoT
- Introduction to Sensors
- Difference Between Microprocessors & Microcontrollers
- Introduction to Arduino UNO, Mega & Mini
- 2 Projects using Sensors, 1 with Servo
- 1 Project with Bluetooth Technology
- 1 Project with IoT Cloud
- 1 Project with Wifi-Module
- 1 Project with Home Automation using 220v Electrical Appliances
- 1 Project using RFID Technology
- 1 Project on Remote Based Automation
- 2 Projects with Raspberry Pi
- 2 Projects with STM32
- Introduction to basic OS Design
- Introduction to Qemu
- Writing a Basic OS using Assembly

Each Team of 5 Students will get 1 Robotics & IoT Kit that will contain the Arduino UNO, 5 different sensors, LCD display, servo motor, resistors, leds, RFID cards and sensors, IR sensors, and all essential components, during the workshop.

## Note

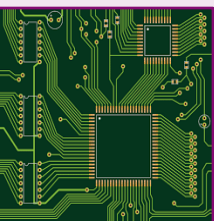
## Benefit

After the completion of the workshop you will be able to **make your own project** with Robotics, IoT and Automation.

After completion of the training session, you **get a certificate of completion**. This certificate will also contain the project that you carried out during the workshop.

## Certificate

**18 Hours**



## Registration Fees

- UG Students : Rs.400,
- PG/IDD Students : Rs.800
- Ph.D Scholars : Rs.1200,
- Industry Persons : Rs.3000,
- MSME/Startup : Free



**Scan to register**

## Payment Details

Account Holder's Name	: IIT (BHU)-Main Account (Institute Development Fund)
Bank Name	: State Bank of India
Account type	: Current
Account Number	: <b>32778803937</b>
IFSC Code	: <b>SBIN0011445</b>
Address	: IT-BHU Branch
MICR Code	: 221002036

## Registration Details

(Max 100 seats for IITBHU students, MSME, and industry participants)

**Link for registration:** [https://docs.google.com/forms/d/e/1FAIpQLSf11i-4NpT09AzcdXmhPDe-5HQGuQZ\\_V0KSA\\_QrXlzh-2u-pw/viewform?usp=sharing](https://docs.google.com/forms/d/e/1FAIpQLSf11i-4NpT09AzcdXmhPDe-5HQGuQZ_V0KSA_QrXlzh-2u-pw/viewform?usp=sharing)

**Registration Deadline** : March 23, 2025

**Note:** 1. No food (Only Tea and Snacks will be served).  
2. No Accommodation.

## Contact Details

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