



**J.B. INSTITUTE OF ENGINEERING AND TECHNOLOGY**  
(UGC AUTONOMOUS)  
Bhaskar Nagar, Yenkapally Village, Moinabad Mandal, R.R. District,  
Hyderabad -500075

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**

5 Day  
Workshop on  
Hands on Internet of Things with ARDUINO  
9<sup>th</sup> -13<sup>th</sup> September, 2024

**Coordinator**

Dr. B.shravan Kumar

**Assistant Professor**

**HOD-ECE**

**Dr. Towheed Sultana**

**Professor & HOD**

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# **J.B. INSTITUTE OF ENGINEERING & TECHNOLOGY**

(UGC Autonomous)

(Accredited by NBA & NAAC, Approved by AICTE & Permanently Affiliated to JNTUH)

## **Department of Electronics and Communication Engineering**

Date:06-09-2024

### **Circular**

This is to inform all II Year-I Semester Students, Department of ECE is organizing 5-Day Workshop On Hands On Internet Of Things with Arduino on 9<sup>th</sup> -13<sup>th</sup> September, 2024. Details of the event is provided in the broacher.

#### **For registrations contact Coordinators**

Dr. B.Shravan Kumar

Copy to

- 1 Principal
2. HODs CSE, ECM, EEE
3. Class -in charges

Dr. Towheed Sultana,  
Professor & HOD,  
Dept. of ECE

## 5- Day Workshop on Hands on Internet of Things with ARDUINO

### **Vision of ECE Department:**

To be a guiding force enabling multifarious applications in Electronics and Communications Engineering, promote innovative research in the latest technologies to meet societal needs

### **Mission of ECE Department:**

- To provide and strengthen core competencies among the students through expert training and industry interaction.
- To promote advanced designing and modelling skills to sustain technical development and lifelong learning in ECE.
- To promote social responsibility and ethical values, within and outside the department.

### **About the Department:**

The Department of ECE is best known for its talented and dedicated professionals renowned for their excellence in various specializations in the field of Electronic & Communication Engineering. For the last ten years, the students of ECE, who walked out of the portals of the institute successfully, holding their degrees, were immediately inducted into the MNCs of high reputation in India & abroad. The intake of B. Tech Program is 120 and M.Tech program in VLSI System Design is 18. Department of ECE is having professional societies like IEEE, Department clubs etc.

### **About the Workshop:**

(What is Internet of Things?)

It's a global network infrastructure, linking physical and virtual objects using cloud computing, data capture, and network communications. It allows devices to communicate with each other, access information on the Internet, store and retrieve data, and interact with users, creating smart, pervasive and always-connected environments. The Internet of Things (IoT), sometimes referred to as the Internet of Objects, will change everything—including ourselves. This may seem like a bold statement, but consider the impact the Internet already has had on education, communication, business, science, government, and humanity. Clearly, the Internet is one of the most important and powerful creations in all of human history. Now consider that Internet of Things represents the next evolution of the Internet, taking a huge leap in its ability to gather, analyse, and distribute data that we can turn into information, knowledge, and, ultimately, wisdom. In this context, Internet of Things becomes immensely important.

## **Pofile of Reddy rani Nanapu**

Resource Person :Reddy rani Nanapu

Qualification B.E, M.tech (Embedded System )

**Embedded Systems Trainer | 4+ Years Experience**

Experienced Embedded Systems Trainer with over three years of expertise in delivering technical training to both college students and corporate professionals. Skilled in simplifying complex concepts, hands-on project guidance, and fostering a strong learning environment. Passionate about bridging the gap between theory and real-world applications in embedded technology.

# **Report on Five Day Workshop**

## **On**

### **“Hands on Internet of Things with ARDUINO”**

Five-Day Workshop on Hands on Internet of Things with ARDUINO was conducted by the Department of Electronics and Communication Engineering from 9<sup>th</sup> -13<sup>th</sup> September, 2024. Mrs. Reddy rani Nanapu was the Resource Person. Sessions were conducted both for theory and practical. Resource person enlightened the students about the scope and opportunities in this field.

Topics covered in the Workshop:

#### **Day 1**

Introduction to the Internet of Things, The Basics of Sensors & Actuators Introduction to Cloud Computing. The Arduino Platform, The Arduino Open-Microcontroller Platform, Arduino Basics, Arduino Board Layout & Architecture

#### **Day 2**

Reading from Sensors  
Programming fundamentals (C language )  
Arduino Programming & Interface of Sensors

#### **Day 3**

Interfacing sensors, Programming Arduino , Reading from Sensors  
Project 1: Simple LED Program for Arduino  
Project 2: Integrating Sensors & Reading Environmental Physical Values.

#### **Day4**

Project 3: Reading Environmental Values on Android Smartphone.  
Talking to Android Phone with Arduino ,Connecting Arduino with Mobile device.  
The Android Mobile OS. Using the Bluetooth Module  
Project 4: Voice Controlled Mini Home Automation using Android Smartphone

#### **Day5**

Project 5: Control Devices using Local host Web Server for Home Automation.  
Integrating Ethernet Module & Testing DHCP Connection Creating Program for Local host Web Server for controlling devices  
Project 6: Creating own Android App using MIT App Inventor & controlling Arduino connected devices.

**Tools :** Arduino UNO , Sensor, Rasbian Operating System

## **Skills Gained**

Current scenario/job opportunities of embedded industries.

Understanding the skill set required in a new employee in embedded industry.

Understanding the robotics future and scope Understanding the different microcontroller available in the industry & their use.

In-depth knowledge on design, construction and programming concepts involved in building an autonomous robot Learn & Interact with renowned Industry Experts.

## **Outcomes of attending the workshop:**

What “the Internet of Things” means and how it relates to Cloud computing concepts How open platforms allow you to store your sensor data in the Cloud

The basic usage of the Arduino environment for creating your own embedded projects at low cost

How to connect your Arduino with your Android phone

In this Five -day course, student gained valuable hands-on experience. A quiz was conducted in the last session and feedback was collected. The workshop was concluded with vote of thanks.

Number of **students attended this workshop:** 45.

## Glimpses of the workshop







