



## **“Internet of Things (IoT) Workshop”**

IoT(Internet of things) Workshop is 2 day workshop. In which participants will program on Arduino and cloud for controlling system over wifi network. This workshop will be divided into 4 sessions participants are introduced to various concepts practically implements these concepts towards the end of each session. By the end of the workshop student will learn to control electronics system using wifi network and program accordingly.

# **Topic to be covered**

## **IoT definition and use cases of IoT for different domains**

- What is IoT?
- How IoT is applied in different domains?
- Use cases ranging from Smart Home to Smart Cities
- How large is the IoT Market in different domains?

## **Introduction to Microcontroller**

- Introduction to **Microcontroller**.
- Difference between Microcontroller and Microprocessors.

## **Introduction to Arduino (Hardware)**

- Brief specification of all the peripherals on board.
- Why we are using arduino?
- Learn about NodeMCU

## **Introduction to Various sensors**

- Introduction to **LM35 (Temperature IC)**
- Introduction to Photoresistor.
- Introduction to relays.

## **Installing of Cloud based server**

- Introduction to cloud web server.
- Connecting wifi to cloud web server.
- Assigning Tokens and sensor Variables

## **Programming**

- Program Arduino IDE Software.
- Connectivity between arduino/Node-mcu and local web server.
- Motor interfacing with Arduino
- Interrupts programming

### **Creating circuit for smart device**

- Assembling
- Testing

### **After the workshop. Students learn:**

- How to local web server over Wifi.
- How to upload PHP page to control robot over wifi
- How to program in Processing software.

### **Take away for participants:**

#### **Certification:**

- Each Participant will get a participation certificate.

#### **Toolkit:**

- Each participant will get a toolkit containing various software and applications.
- Each participant will get EBook and future guidance for their projects.
- IoT kit will be given in group of 4-5 students

#### **Email Support:**

- Lifetime Email support

#### **Summer/Winter Training:**

- 15% Discount on summer & Winter Training Program by Infizeal Technologies