

Internet of Things (IoT)

Technology	Duration	Project Base
Internet of things (IoT)	7 Sessions 2:00 hr/ Sessions	Hardware and Software

Introduction to IoT:

- Introduction to Internet of Things (IoT)
- Why IoT? How IoT is changing the world?
- Industrial Applications of IoT
- Future of IoT
- How IoT help in daily life

System components of IoT:

- The Thing
- The Local Network/Sensor Network
- The Internet and how it work with IoT
- The cloud Server

Introduction to Microcontroller

- What is Microprocessor and Microcontroller?
- Block Diagram of Microprocessors and Microcontrollers
- Overview of popular industrial microcontrollers & its classifications
- Exposure to ARDUINO hardware platform: Varieties of Arduino boards & Shields
- Exposure to ARDUINO software platform: functions & their syntax
- Advantage of Node MCU over Arduino board.

Wireless modules

- Bluetooth
- IR
- WiFi



Node MCU

- Introduction of Node MCU
- Node MCU pin diagram
- Memory and register segments
- Environment setup for programming
- Integrated Development Environment (IDE)

Sensor Interfacing

- Introduction to sensors
- Different types of sensors
- Ultrasonic sensor
- Digital Humidity Temperature(DHT) sensor
- Smoke sensor
- Soil Moisture Sensor

Blynk App

- Introduction to Blynk App
- Installation of Library
- Controlling of I/O over the Internet
- Monitoring on Blynk App
- Circuit Controlling over phone.

Project Covered:

- Smart Parking Alert System
- Fire Alarming System
- Distance measurement display on mobile
- Home security system with alarm
- Whether Monitoring system
- Home appliances control on local server
- Home appliances control from mobile.
- Secure from COVID-19.
- Smart Blind Stick
- Smart Agriculture System



Hardware Kit Detail

- Node Mcu Controller
- USB Cable
- Breadboard
- DHT Sensor
- Ultrasonic Sensor
- Smoke Sensor
- LED's
- Moisture Sensor
- Connecting Wires
- Buzzer