

## INTERNET OF THINGS [IOT]

The Internet of Things (IoT) is the network of physical devices, home appliances and other items embedded with electronics, software, sensors, actuators, and connectivity which enables these things to connect and exchange data.

### **KEY FEATURES**

# Effective Upskilling Planned Curriculum Team Learning Awesome Quizzes Complete Hands on

The below Curriculum is Schedule for 2 weeks

#### CURRICULUM

#### Session – 1: Insights about IoT

Introduction to Internet of Things (IoT) Complete Big Outline of IoT 4D – 5L Architecture of IoT Use Cases

#### **Session – 2: IoT Platform**

Introduction to IoT Platform
Architecture and Specifications
Basic Information about the platform
Use Cases

#### **Session – 3: Python Outline**

Python
Why Python is preferable in IoT?
Basic Syntaxes
Examples and Exercises

#### Session - 4: Getting Started

Getting Started with IoT Platform Configuring Keyboard Configuring LAN Booting program onto IoT Platform

#### Session - 5: Basic Electronics

Interfacing Basic I/O with IoT Platform Interfacing Sensors with IoT Platform Examples
Use Cases

#### **Session – 6: IoT Dashboard – Cloud**

Introduction to ORL IoT Dashboard
Creating an account
Benefits and Advantages
Getting Started

#### Session - 7: Sensor Cloud

Creating a Channel
Generating unique API Requests
Programming the sensory motes
Uploading data onto IoT Dashboard

#### Session - 8: Device Cloud

Generating unique API Requests Programming the Device Controlling through IoT Dashboard Making Devices Live



## INTERNET OF THINGS [IOT]

The Internet of Things (IoT) is the network of physical devices, home appliances and other items embedded with electronics, software, sensors, actuators, and connectivity which enables these things to connect and exchange data.

#### CURRICULUM

#### **Session – 9: Socket Communication**

Socket Communication Advantages and Benefits Implementation Use Cases

#### Session - 10: Local Web Server

Building a Local Web Server on IoT Platform Python Web Framework – Flask Creating UI and Python Scripts Use Cases

#### Session – 11: IoT Gateway

IoT Gateway Gateway Configuration Deploying PAN Use Cases

#### Session - 12: PAN Network

Adding a Device to PAN
Removing a Device from PAN
Gateway Integration
Use Cases

#### Session - 13: SPI External ADC

Interfacing Air Quality Sensor
Integration of SPI ADC with IoT platform
Connecting with IoT Dashboard
Use Cases

#### Session – 14: Wireless Nodes

Interfacing Humidity Sensor
Gateway Integration
Building the Wireless Nodes
Use Cases

#### **Session – 15: Data Encryption**

IoT Security
Encryption Algorithms
API Integration with Cloud
Use Cases

#### **Session – 16: MQTT Protocol**

MQTT Protocol Advantages over HTTP Architectural Layout Implementation on ORL MQTT Broker

#### Session – 17: MQTT Network

Device Communication
Building MQTT Network
Gateway Integration with MQTT
Use Cases

#### Session - 18: IFTTT Cloud

IFTTT Cloud Creating an account on IFTTT Creating an applet on IFTTT Examples

#### Session - 19: Notifications over IoT

Connecting IFTTT Applet with ORL Cloud Creating an applet with Maker Web hooks Creating an API Request Getting Started

#### **Session – 20: Easy Coding**

Deployment of Architecture Creating a Flow Generating Code Use Cases