	Internet Of Things - Training
1	**Overview of IoT**
	• Evolution of Internet • IoT for the general world • IoT for technology professionals • Technical knowhow needed for IoT • Embedded Systems
2	**Overview of Open source hardware**
	• What is open source hardware? • Arduino • Raspberry Pi • Beaglebone • Intel Galileo • ESP8266
3	**Building components for IoT**
	• Sensors • Motors • Actuator • Solenoid valves • Power adapters • Shields
4	**Setting up first Raspberry Pi**
	• Lab1 - Installing Raspbian in SD card • Making essential connections • Booting up the Raspberry Pi • Running simple programs • Lab2 - Programming and Interfacing LED with Raspberry Pi • Lab3 - Interfacing Sensor with Raspberry Pi and analyzing the data
5	**Overview of Communication protocols used in IoT**
	• Bluetooth • WiFi • Zigbee • Xbee • NFC
6	**Advance technologies and concepts building up the IoT**
	• IPv6 • Sensor networks • Cloud computing • M2M • Wearables • Complex Event • Processing (CEP)

7	**Creating a live IoT solution**
	• Setting up the development board – Arduino • Connecting required components • Setting up solution design • Final implementation
9	**Application layer protocols for IoT**
	• HTTP • MQTT • Understanding HTTP v/s MQTT • Quality of Service • Retain Flag • CoAP • XMPP • AMQP
10	**IoT Hands-on**
	• Lab4- Writing a Python Code for MQTT Publishing Client • Lab5- Publishing sensor data from Raspberry Pi using MQTT analyzing data on Smartphone • Lab6 – Writing a Python Code for MQTT Subscribing Client • Lab7- Controlling devices/appliances connected to Raspberry Pi over MQTT from Smartphone
10	**IoT Cloud Services**
	• ThingSpeak – an open IoT Cloud Platform • Lab8 – Analyzing telemetry sensor data from Raspberry Pi on thingspeak using HTTP Protocol • AWS IoT • Understanding AWS IoT Architecture and components • AWS IoT Device registry, policy and security certificates • Lab9- registering a device, creating security certificates and building policy for device • Lab10 – connecting Raspberry Pi to Publish sensor data to AWS IoT • IBM Watson IoT Overview • Microsoft Azure IoT Overview
10	**Advance technologies and concepts building up the IoT**
	• IPv6 • Sensor networks • IoT Gateway • Cloud computing • M2M • Wearables • Complex Event • Processing (CEP) • IoT Project Management • Do’s and Don’ts for handling an IoT Project • IBM Watson IoT Overview • Microsoft Azure IoT Overview