“2 Day Hands on Workshop on IOT and Embedded System Design”

Day 1

Essentials of Embedded system

Theory & Hands-On Session on TIVA C series TM4C123GXL launchpad board using Energia software/ code composer studio6.1

- Introduction to ARM Boards and features of ARM
- Introduction to Tiva C Series Launchpad
- Understanding and configuring GPIO
- Interrupt Programming with GPIO
- Hibernation and Wakeup on an RTC Interrupt
- Interfacing Potentiometer with TIVA GPIO
- PWM Generation
- UART - ECHO!

Day2

Theory & Hands-On Session on TIVA boards/Msp430 using Energia software/ code composer studio6.1

- Push Button (Input)
- Potentiometer (Variable Resistor)
- Photoresistor (Light Sensor)
- Temperature (Thermistor and Temp Sensor)
- 7 Segment Display (Digital Display)
- Playing Music - (Buzzer)

- Control the Electric - (Relays)
- Display- (4-Digital Display)
- Potentiometer - (Rotary Angle Sensor)
- Sensing the Light - (Light Sensor)
- Hearing - (Sound Sensor)
- Is anybody there- (PIR Sensor)
- Taking care of your plants- (Moisture Sensor)
- Sensing the Distance - (Ultrasonic Ranger Sensor)
- Feeling the Environments - (Temperature Humidity Sensor)

Theory **& Hands-On Session on IOT TIVA/Msp430 and wifi cc3100 boards using Energia software/ code composer studio6.1**

- TI Internet of Things Overview
    - Application Areas for the Internet of Things
    - Featured IoT Products from TI
    - Cloud Solutions supporting TI solutions
    - Challenges in the Internet of Things
- Hands-On using WIFI boards (TIVA and CC3100) through Energia.
- Working with Cloud Service providers. Discussing Pubnub and Freeboard.
    - Publishing Sensor Readings to PUBNUB.
    - Subscribing a Sensor Readings from PUBNUB.
    - Visualization of Sensor Readings using free-Board.