

“3 Day Hands on Workshop on IOT and Embedded System Design using MSP430”

Day 1

Essentials of Embedded system

Theory & Hands-On Session on MSP430 launchpad board using Energia software/ code composer studio6.1

- Blinking LED with GPIO
- Interrupt Programming with GPIO
- Hibernation and Wakeup on an RTC Interrupt
- Interfacing Potentiometer
- PWM Generation
- PWM based Speed Control of DC Motor using Potentiometer
- UART - ECHO!

Day2

Theory & Hands-On Session on MSP430 boards 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)

Day 3

Theory & Hands-On Session on IOT Msp430 and wifi 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.

❖ Discussing Pubnub and Freeboard Creating account on PubNub and Freeboard .

- Creating a simple HTML web server using MSP430 Launch Pad & CC3100 WiFi Booster Pack
- Getting Started with Temboo in Energia using Wi-Fi
- Building a cloud-connected moisture sensor

