Report on Advanced Embedded Systems Design & IOT Workshop

The IoT workshop was conducted by Texas Instruments. The workshop was held on the premises of Mount Carmel College Bangalore from 25th November 2019 to 30th November 2019. The students of MSC computer science, MCA and final year BCA participated in this workshop. We would like to extend our deep sense of Appreciation to Mr. Ganesh and Mr.Bharath for conducting this workshop.

Day 1

- Introduction to microcontroller architecture (TivacontrollerTM4c123G).

- Introduction to API based programming-Led lighting switching with combination of all colors

Day 2

- **IoT introduction**

- **Gateway**

  - OSI module

  - IP -IPv4 and IPv6

Practical session: Connecting TIVA to CC3100BOOST for WiFi connection

Day 3

- Subnet mask in detail

- Practical session: Program to make device (TIVA and CC3301) as a router in order to connect to our phone. TIVA board acts like Wifi and with help of username and password we can connect this network to our device.

Day 4

- SPI protocol

- Practical session: Program to connect between two machines

Day 5

- Pulse width modulation and introduction to TCP/IP module

- HTTP programming

- Practical session: Server client program

- Introduction to clouds and Blynk app

- Practical session: Program to transmit data from Blynk app to the device

Day 6

- Introduction to robotics and learning how to assemble the robot with necessary connection

- Practical session: Program to rotate the wheels of robot automatically in different direction

- Practical session: Program to automatically move the robot using Blynk app.

- Number of participants: Students of MCA, MSC and final year BCA: 100