SREE VIDYANIKETHAN ENGINEERING COLLEGE
(Autonomous)
Sree Sainath Nagar, Tirupati – 517 102

(Affiliated JNTU Anantapur, Approved by AICTE, New Delhi & Accredited by NBA)

Department of Electronics and Communication Engineering

Report

Program Details: 4-Day Workshop on**," Embedded System design with MSP430 using Open Source Tools for IOT Applications"** During 19-22 Aug. 2019

Resource Person Details : 1. Mr. T. S. Balaji, Embedded Application Engineer, Edgate Technologies, Bengaluru

2. Mr. T. Krishna Chaitanya, Embedded Systems Engineer, Edgate Technologies, Bengaluru

Venue: ECAD Lab Room no.

Participants: Faculty from ECE, EEE & EIE Departments handling Embedded Systems Theory and Lab courses for SVEC16 Regulations

20 In-house Faculty members handling Embedded Systems theory and lab courses have attended the workshop from Electrical Departments of Sree Vidyanikethan Engineering College, Tirupati. The Program was organized by ECE & EEE Departments in union.

19 Aug. 2019:

The session started at 10 AM with discussion on Architectures of MSP430 Family of microcontrollers, Pinout, Launch pad Schematics. Hands-on Training using MK-II Educational booster pack with MSP430F5529 Launch pad was demonstrated and exercised by participants using Energia library. Assembly Programming using MSP430 Courseware was demonstrated and practiced using CCS and Energia after the lunch break.

20 Aug. 2019:

Participants practiced Interfacing 10K Potentiometer as sensor with Launch pad to program and control on-chip ADC along with PWM generator to control the speed of DC Motor in the morning Session. The second session continued with demonstration of SPI (3-Wire & 4-Wire) network of Master and Slave Launch pads. E-mail transfer using WI-FI booster pack with CCS was demonstrated and practiced by the participants.

21 Aug. 2019:

IoT related experiments to demonstrate dynamic IP address generation for the launch pad, Server-Client deployment using TCP, Application layer Protocols like HTTP webserver, MQTT were demonstrated and practiced using open source MQTT dashboard from android play store by the participants. During the second Session TIVA programming to read Sensors available on sensor hub were demonstrated and practiced.

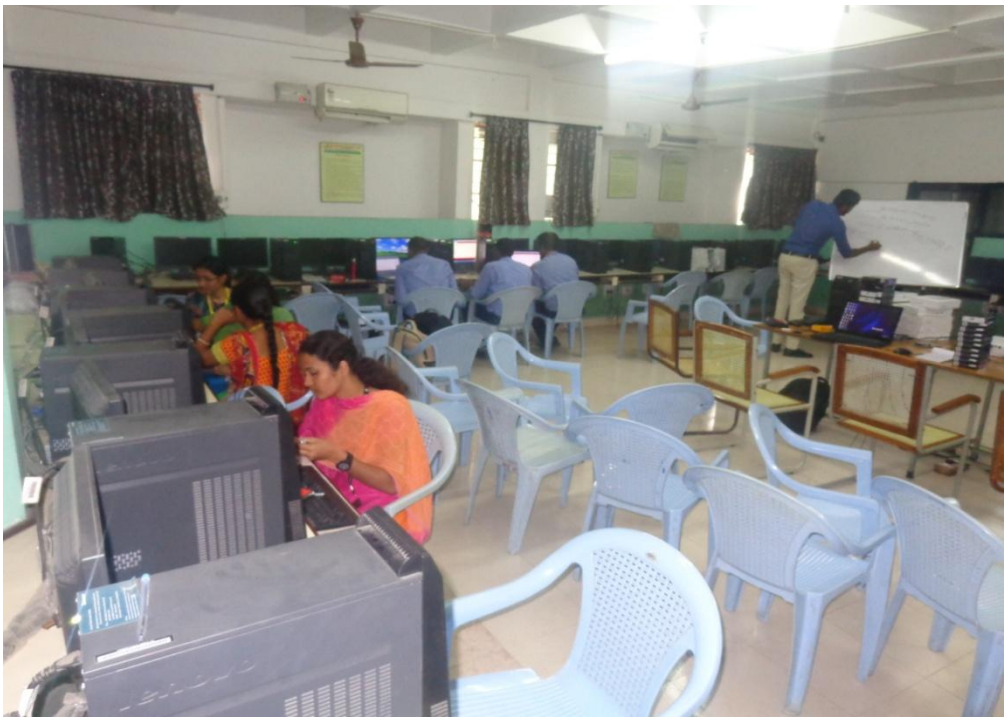
22 Aug. 2019:

Stepper, Servo Motors were interfaced to launch pads and controlled using Energia Macro functions. Dual Stepper motors were interfaced using ULN2003 Driver booster with launch pads. Sharp LCD was programmed to use as output peripheral. The Second session was on using Blynk open source Application from play store to control launch pad using android application.

The sessions were concluded by the resource person showcasing few ideas for carrying out student projects in embedded domain and various contests TI would be organizing for students across India.

Resource Person Mr. T S Balaji detailing out the Launch Pad details to the Participants and tool availability for programming the launch pads.

Resource Person Mr. T Krishna Chaitanya demonstrating usage of open source tools to the Participants



Usage of on-Chip ADC programming is being demonstrated by the Resource Person.

Blynk IOT application controlling Launch pad being demonstrated by Resource person