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Patrons:

Dr.A. Raji Reddy, Director

Convener:

Prof. G. Srikanth.

Professor & HOD ECE Dept

Faculty Coordinator:

Mrs. Ch. Sudhamani

Assoc Professor, ECE Dept

Organizing Committee:

Dr K. Bharath Kumar

Assoc Professor, ECE Dept.

Mr. MD. Abdul Naqi

Asst Professor, ECE Dept

Mr. D. Sreekanth

Asst Professor, ECE Dept.

Mr. T. Nagarjuna

Asst Professor, ECE Dept.

Date: 22nd Feb 2020

INVITATION

Dear Sir / Madam,

Sub: Invitation for Inauguration of One Week Short Term Training Program on “My RIO”.

We the department of Electronics and Communication Engineering orgorganizing a One Week Short Term Training programme on “**My RIO**”. In this regard we are pleased to invite you for the Inauguration function on **24th Feb 2020 at 9:30 AM**. We would be indebted to have your presence.

Venue: BLOCK – B, Room No: 329 A.

ABOUT THE FDP:

LabVIEW provides the state-of-the-art way to effectively teach and learn basic and advanced engineering concepts using a Embedded system design. Nowadays engineers and scientists rely on LabVIEW for a variety of applications: test and measurement, process control and automation, monitoring and simulation. The objective of faculty development program is to present theoretical and practical concepts and hands-on in LabVIEW intended to teach participants tools of LabVIEW with an emphasis on various applications. This Faculty Development Programme will introduce the fundamental principles of Embedded system design using NI LabVIEW. Hands on training with NI hardware will also be given to the participants. The experts from NI, Hyderabad will conduct the training sessions.

Thanking you,

Yours Cordially,
Prof G. Srikanth
Head-ECE Department

Chief Patron: Shri Ch. Gopal Reddy.
Chairman, CMRTC
Smt. C. Vasantha Latha.
Secretary, CMRTC

Patron: Dr. A. Raji Reddy.
Director, CMRTC

Convener: Prof. G. Srikanth.
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Mr. T. Nagarjuna
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ABOUT THE COLLEGE

CMR Technical Campus has been structured to take a quantum leap on the changing trends of technology. The Institute is accredited by NAAC A grade. The need of setting up the college emerged when no other college could fulfil to the aspirations of a student in his/her endeavour to acquire wholesome education.



The very strength of CMR Technical Campus lies in its principles of providing the right learning environment for the student who does not have to compromise throughout the learning process of becoming global citizen. Over the years since it has been established, there has been dynamic progress at CMRTC in all academic and research activities, and a spectacular improvement in facilities and infrastructure, to keep it on par with the best institutions in India. The campus epitomizes the Technical Campus motto, "Learning and exploring" in providing the best of infrastructure and ambience. CMR Technical Campus keeps abreast of the global situation.

ABOUT THE DEPARTMENT

The Department of Electronics & Communication Engineering (ECE) established in year 2010 with an intake of 60 students, present intake of 180. The Department is accredited by NBA in the year 2014. Right from its inception it is continuously striving to impart quality education and promoting competitive spirit among the student for academic excellence. Department started M.Tech in Embedded Systems from Academic year 2012-13 with intake of 24.

CMR TECHNICAL CAMPUS

(Sponsored by CMR Technical Education Society)

UGC AUTONOMOUS

Accredited by NBA & NAAC with 'A' Grade

Approved by AICTE, New Delhi and JNTU, Hyderabad
Kandlakoya (V), Medchal Road, Hyderabad - 501 401



**One Week Short Term Training
Program (STTP)
On**

MY RIO

24th – 28th Feb 2020



**Organised by
Department of
ELECTRONICS AND
COMMUNICATION ENGINEERING**

Department has highly talented, qualified and competent faculty members in the areas of Digital Signal Processing, Image Processing, VLSI & Embedded Systems and is enriched with five doctorates. Department of Biotech funded Foldo-scope worth of 8 lakhs.

In collaboration with National Instruments (NI), LabVIEW Academy has been established in the college with a budget of 40 Lakhs. The facility is funded by the department of Science & Technology under FIST program by Government of India.

ABOUT THE PROGRAMME

LabVIEW provides the state-of-the-art way to effectively teach and learn basic and advanced engineering concepts using a LabVIEW. Nowadays engineers and scientists rely on LabVIEW for a variety of applications: test and measurement, process control and automation, monitoring and simulation. The objective of short term training program is to present theoretical and practical concepts and hands-on in LabVIEW intended to teach participants tools of LabVIEW with an emphasis on various applications.

This short term training programme will introduce the fundamental principles of LabVIEW. Hands on training with NI hardware will also be given to the participants. The experts from NI, Hyderabad will conduct the training sessions.

RESOURCE PERSONS

Experts from **National Instruments, Hyderabad.**

MODULE-2 SCHEDULE

Day 1 :

09.30-11:15: Navigating to LabVIEW and RIO Platform

11.15-12.30: Getting Started with myRIO Platform

12.30- 01.30: Lunch Break

01.30-04.00: Working on myRIO and Low-level VIs

Day 2:

09.30 – 10.30: Real Time Systems

10.30 – 12.30: Timed While Loop

12.30 – 01.30: Lunch Break

01.30 – 04.00: Sensor Avail in Starter Kit

Day 3 :

9.30 – 10.30: Introduction to Protocols

10.30 -12:30: Simple msg display LCD(2x16)

12.30-01.30: Lunch Break

01.30-02.00: Configuring myRIO with Wireless

02.00-04.00: Data Dashboard-Sending Data to Mobile

Day 4:

09.30 – 10.30: Exercise on myRIO Sensor Accessories

10.00 – 11.00: Stand-Alone Application using Onboard sensors

11.00 – 01.00: Connecting multiple myRIO

01.00 – 02.00: Lunch Break

02.00 – 04.00: Integrated Project Ideas

Day 5:

09.30 – 10.30: USB Flash Drive

10.30 – 11.30: FPGA

11.30 – 01.00: Way Towards Project

01.00 – 02.00: Lunch Break

02.00 – 04.00: On-Off Control System

REGISTRATION FORM

**One Week STTP
On**

**Electronic Circuit Simulation, Data
Acquisition & Signal Conditioning**

Name :

EMP ID/ Roll No:

Qualification:
(Degree, Specialization)

Institution :

Address for :
Communication

Mobile No :

E-Mail :

Signature of the student

LABVIEW MODULE 3

EVENT REPORT

Day One: The first session of this training starts on 24/02/2020 at 9:30 am with revision for basics of module 2 and navigation to LabVIEW and my RIO platform. In the afternoon session getting started with my RIO, talking accelerometer values from onboard myRIO, working on myRIO and low level Vis, speed control using accelerometer, triggering an event with button and stopping event with button.

Day two starts with real time systems. This includes Configuring your Hardware, Accessing I/O Timed Loops, What is Timed Loop?, Demonstration of Timed Loop and Hands-on, Timed While Loop, Traffic Light, Sensor Avail in Starter Kit, Interfacing LED with myRIO(MXP and MSP Connector), Buzzer/Speaker.

Day three starts with Protocols and Embedded kit Sensors. This includes Simple msg display LCD(2x16), Displaying Acc Values and Button values in UART, Simple SPI(Loop Back), Displaying Acc Values and Button Values in SPI, Configuring myRIO with Wireless, Data Dashboard-Sending Data to Mobile.

Day four starts with Connecting Multiple Sensor in myRIO and multiple myRIO. This includes Exercise on myRIO Sensor Accessories, Stand-Alone Application using Onboard sensors, Stand-Alone Application using external Sensors.

Day five starts with a project. Object holding ROBO was designed by students.



Day 1 Introduction to myRIO and its Architecture

Time	Contents	Teaching Method
9:00-10:00	Navigating to LabVIEW and RIO Platform - Why we need LabVIEW and how to make use of RIO Platform in LabVIEW - Objective of Module 3 (RIO) Training - Learning From Module 1 and Module 2 - What you can do with educational hardware (myDAQ and myRIO) - myDAQ vs myRIO and when to use - Applications of myDAQ and myRIO	Interaction/Explanation
10:00-1:00	Getting Started with RIO Platform - Introduction to myRIO and its Architecture - Creating Project and its Purpose - Configuring myRIO and adding myRIO in Project - Onboard Sensors(LED, Button, Accelerometer) Exercise 1: Taking Accelerometer Values from onboard myRIO - Accelerometer in While loop, for loop, Case Structure, Flat Sequence Structure Exercise 2: Working with Onboard LED(Separately) and Purpose of Reset myRIO Exercise 3: Onboard Button+ LED Exercise 4: Accelerometer + LED Exercise 5: Blinking LED	Explanation/Hands-On Hands-On
1:00-2:00	Lunch	
2:00-5:00	Working on myRIO and Low-Level VIs Exercise 6: Speed Control Using Accelerometer Exercise 7: Triggering an event with Button Exercise 8: Stop the program using Button - Purpose of Low-Level VI and Hands-on Introduction to Real Time Systems - Real Time System - General Purpose OS vs Real Time OS - Summarizing	Hands-on Hands-on

Day 2: Real Time Systems

9:00-10:00	Real Time Systems - Configuring your Hardware - Accessing I/O Timed Loops - What is Timed Loop? - Demonstration of Timed Loop and Hands-on	Explanation
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	Exercise :FPGA Programming	
11:00-1:00	Way Towards Project	Hands-on
1:00-2:00	Lunch	
2:00-5:00	On-Off Control System Digital Thermometer RPN Calculator Hotel Room Safe Controller	Hands-on









$$10^3 = 1000$$
$$(100)^2 = 10000$$

CMR
DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING
CMR Technical Campus
Accredited by NMAC with N & MBA, Approved by AICTE, New Delhi
Kandlakota (V), Medchal (M & D), Hyderabad - 500080, Telangana, India

One Week Short Term Training Program

On
"LabVIEW CORE"

17th - 22nd June 2019

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING
KANDLAKOTA (V) MEDCHAL (M & D) HYDERABAD - 500080
Safety Measures
1. Do not touch any electrical equipment without the permission of the Lab In-charge.
2. Do not use any electrical equipment for any purpose other than the intended use.
3. Do not use any electrical equipment for any purpose other than the intended use.
4. Do not use any electrical equipment for any purpose other than the intended use.
5. Do not use any electrical equipment for any purpose other than the intended use.

HDL SIMULATION LAB
Lab In-charge
P. A. Inan Khan
Lab Instructor
M. Monica

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING
KANDLAKOTA (V) MEDCHAL (M & D) HYDERABAD - 500080
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