# FACULTY DEVELOPMENT PROGRAMME (FDP)

on



# Real Time Embedded Systems and IoT, Its Applications

(3<sup>rd</sup> September – 8<sup>th</sup> September, 2018)
Organized by



## in association with

E & ICT Academy, National Institute of Technology, Warangal. (Sponsored by Ministry of Electronics and Information Technology (MeitY), GOI)



#### **Preamble:**

"Electronics & ICT Academy" was set up at NIT Warangal with financial assistance from MeitY, GoI. The jurisdiction of this academy is Telangana, Andhra Pradesh, Karnataka, Goa, Puducherry and Andaman & Nicobar Islands. This academy role is to offer faculty development programmes in standardized courses and emerging areas of Electronics, Information Communication Technologies, training & consultancy services for Industry, Curriculum development for Industry, CEP for working professionals, Advice and support for technical incubation and entrepreneurial activities.

## **About the Workshop:**

The proposed FDP course is on today's most buzzing words "Embedded systems" and "Internet of Things (IoT)". The embedded systems and Internet of Things (IoT) are expanding at a rapid rate and it is becoming increasingly important for professionals to understand what it is, how it works, and how to harness its power to improve business. The explosive growth of the "Internet of Things" is changing our world and the rapid drop in price for typical IoT components is allowing people to innovate new designs and products at home. The course focuses on Rasberry Pi 3 upgrades, which is a next generation Quadcore Broadcom BCM 2837, 64 bit ARM processor and WiFi chip built in to it. The course also focusses on Python scripting language and basics Linux commands with applications of embedded systems and IoT.

#### **Major Course Contents:**

- Introduction to Embedded Systems
- Introduction to Audrino Architecture
- Interfacing I/O s to Audrino
- Interfacing Wireless Module to Audrino
- Implementing IOT application using Adrinoboard LAB
- Introduction to Internet of Things
- IOT based route congestion monitoring A Case Study
- Introduction to Raspberry PiPython Programming, Basic concepts & syntaxes in Python.
- Getting Started with RPi
- Socket communication, building an IoT Gateway
   MQTT Protocol, & Gateway Implementation

### **Faculty conducting this programme:**

The programme will be conducted by the faculty members from NIT Warangal; Academicians in the concerned field from IITs/NITs/IIITs are invited to deliver lectures in the programme. Speakers from industries are also expected to deliver as part of the course.

#### **Eligibility:**

The programme is open to faculty of Engineering Colleges, MCA Colleges and other allied disciplines in India. Industry personnel working in the concerned /allied discipline can also attend.

#### **Registration Fee Particulars:**

Registration rec I articulars.		
Faculty and Research	Rs. 2500/-	
Scholars		
Faculty of SC/ST Category	Rs. 1875/- (SC/ ST participants should submit the copy of their caste certificate to claim the concession along with application form)	
Industry Participants	Rs. 7500/-	
Participants from others states	Rs. 8500/-	

SC/ST concession is only for faculty of mentioned states. Research Scholars are not eligible for SC/ST concession.

The fee is to be paid either in the form of DDs or online transfer using the following details:

the following details:				
DD Details	Online Transfer Details			
Demand Draft in favor of	Account Name: Electronics & ICT			
"Director, NIT Warangal" payable	Academy NITW			
at any bank in Warangal	Account No: 62423775910			
-	IFSC: SBIN0020149			

#### **Accommodation:**

Free accommodation will be provided for the outstation participants by the host Institute on prior request.

## How to apply:

A filled in form of application in the prescribed format duly signed and sponsored by appropriate authorities (along with demand draft) should reach the coordinator by speed-post. It is also mandatory to send scanned application form and demand draft through e-mail to sailaja.v@pragati.ac.in as selection will be intimated only through mail.

#### **Selection Criteria:**

Selection will be done based on first-come-first-serve basis to a maximum number of 50 (fifty). Additionally 10 participants from industry are allowed to participate. The list of selected participants will be intimated through e-mail. In case a candidate is not selected, the DD will be sent back. Candidates will be issued satisfactory certificates on successful completion of the course. Reservations are followed for selected candidates as per GOI norms.

## **Important dates:**

Last date (Application ⅅ)	31 <sup>st</sup> August, 2018	
Selection List by E- mail	1 <sup>st</sup> September, 2018	
Duration	3 <sup>rd</sup> -8 <sup>th</sup> September. 2018	

### **About NIT Warangal:**

National Institute of Technology, Warangal is the first among 17 RECs setup as joint venture of the Government of India and the state government. Over the years the college has established itself as a premier Institute imparting technical education of a very high standard leading to the B.Tech degrees in various branches of engineering, M.Tech. and Ph.D programs in various specializations. All B. Tech and M. Tech programmes of NIT Warangal are NBA accredited.

#### **About Pragati Engineering College:**

The Department of Electronics and Communication Engineering was established in 2001 and accredited by NBA and NAAC with 'A' grade. The department offers a four year degree program in Electronics and Communication Engineering with an annual intake of 300 students and M.Tech P.G. programs in embedded system & VLSI Design with an annual intake of 18 students for each programme. The ECE department emphasizes teaching and research in the areas of electronic devices and circuits, , VLSI design testing, controls, communications, and signal processing. The department has a large number of interconnected computers with both Linux and Windows operating systems. The Department has internet facility through LAN and Wi-Fi system. The students of the department are well connected to the external likeminded community through several professional bodies like IETE, ISTE.

#### Venue:

Dept. of ECE, PEC, Surampalem, Kakinada.

# FACULTYDEVELOPMENT PROGRAMME (FDP)

# **APPLICATION FORM**

# Real Time Embedded Systems and IoT, Its Applications

(3<sup>rd</sup> September – 8<sup>th</sup>September, 2018)

# Organized by

# PRAGATI ENGINEERING COLLEGE, SURAMPALEM

# in association with

E & ICT Academy, National Institute of Technology, Warangal. (Sponsored by Ministry of Electronics and Information Technology (MeitY), GOI)

			SPONSORSHIP CERTIFICATE	
1. Name:				
2. Designation:			Dr./Mr./Ms is an	
3. Institution:			employee of our Institute/Organization and is hereby sponsored to	
			participate in the FDP on Real Time Embedded Systems and IOT,	
4. Email:			Its Applications Sponsored by Electronics & ICT Academy during	
			3 <sup>rd</sup> - 8 <sup>th</sup> September, 2018 at Pragati Engineering College,	
5. DD No:	Bank:	Date:	Surampalem.	
6. Address for Co.	rrespondence		Place:	
			Date:	
7. Educational Qua	alifications with s	pecialization:		
			Signature of Head of Institution	
8. Subjects taught	so far:		(With seal)	
9. No. of refresher c	courses/workshop	os attended:		
			Address for correspondence	
10. Experience (in years)			Dr.V.Sailaja	
Teaching:			Coordinator FDP on Real Time Embedded Systems and IOT, Its Applications	
Research:				
Industry:			Department of Electronics and Communication Engineering Pragati Engineering College, Surampalem	
11. Accommodation	on required: Y	ES / NO	Near Kakinada.	
12. Are you belong to SC/ST: YES/NO				
			Mail the scanned copies of filled-in and duly signed application	
<b>Declaration</b>			form with DD to, <u>Sailaja.v@pragati.ac.in</u>	
The information provided is true to the best of my knowledge. If			jrk.nitw@nitw.ac.in	
selected, I agree to abide by the rules and regulations of the FDP and			For more information visit: http://nitw.ac.in/eict/	
shall attend the course for the entire duration. I also undertake the			For any enquiry contact:	
responsibility to inform the Coordinator in case, I am unable to attend			Mobile: 9491444434, 8332969363	
the course.			Land line:	
Place:				
Date:	Sign	nature of the applicant		

Coordinators

Dr. J. RAVI KUMAR
Department of ECE,
Electronics & ICT Academy
NATIONAL INSTITUTE OF TECHNOLOGY

Dr.V.sailaja Professor, Department of ECE, Pragati Engineering College