

## Registration Form

Three-Day Workshop on

# ARM 7 with Embedded C Programming

(June 10 - 12, 2014)

1. Name of applicant:
2. Gender : Male  Female
3. Designation & Department:
4. Mailing Address:
  
5. Tel: (Res):  
(Mob):  
(office):
6. Email:
7. Qualification:
8. Experience: Teaching \_\_\_\_\_  
and Industrial \_\_\_\_\_
9. Comment on Your exposure to ARM Processor /  
Microprocessor / Computer Architecture:

10. Require Lodging/Boarding Facility? Yes / No  
(for outstation participants)

Details of Registration Fee:

DD No: ..... Date: .....  
Bank: ..... Branch: .....

I agree to abide by the rules and the regulations governing the workshop and I will attend the course for entire duration.

Place:

Date:

Signature of the applicant

Mr/Ms/Dr. \_\_\_\_\_ is

an employee of our Institution and is sponsored (permitted) to attend the workshop.

Signature of the Head of (applicant's) Institution and Seal

Place:

Date:

## Organizing Committee

### Patron

Prof. G R C Reddy  
Director, National Institute of Technology Goa

### Coordinators:

Mr. Vasantha M.H.  
Asst. Professor, Dept. of ECE  
National Institute of Technology Goa

Dr. Anirban Chatterjee  
Asst. Professor, Dept. of ECE  
National Institute of Technology Goa

Dr. Nithin Kumar Y. B.  
Asst. Professor, Dept. of ECE  
National Institute of Technology Goa

Dr. Dheeraj Sharma  
Asst. Professor, Dept. of ECE  
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### Address for Correspondence :

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Or

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For further details please log on to [www.nitgoa.ac.in](http://www.nitgoa.ac.in)

## Three-Day Workshop

On

# ARM 7 with Embedded C Programming

(June 10 - 12, 2014)



Organized by:



Department of Electronics & Communication Engg.

National Institute of Technology Goa

Farmagudi, Ponda, Goa-403401.

Website: [www.nitgoa.ac.in](http://www.nitgoa.ac.in)

in association with



M/s Advanced Electronic Systems

Bangalore

## About the Institute:

The National Institute of Technology Goa (NIT Goa) is a premier technical Institute of the region. NIT Goa was established in the year 2010 by an act of parliament (NIT act 2007) and it is declared as 'Institute of National Importance'. NIT Goa is an autonomous institute and functioning under the aegis of Ministry of Human Resource Development (MHRD), Govt. of India. The Institute offers Under Graduate and Post Graduate courses in three Engineering Departments: Computer Science and Engineering, Electronics and Communication Engineering and Electrical and Electronics Engineering. The Institute also offers Ph.D in all the three above mentioned engineering departments. The institute is sincerely attempting to deliver quality education and to achieve excellence in teaching, learning and research with high professional ethics.

## Department of E&C. Engg.:

The Electronics and Communication Department of NIT Goa was formed in 2010, when NIT Goa was established. Currently, it offers an undergraduate program namely Bachelor of Technology in Electronics and Communication Engineering (B Tech in ECE), M.Tech program in VLSI and Ph.D Programme. The goal of the department is to impart both theoretical and practical knowledge in Electronics and Communication Engineering to students so as to enable them to take up the emerging global challenges in the field of Engineering and Technology. The department covers following major areas in Electronics and Communication Engineering through its courses and projects: Microelectronics and Electronics Design, Signal Processing, Electromagnetics, Communication and Networking. Faculty members of the department are involved in research in the above mentioned areas and several papers have already been published in various national and international journals. The Department has well equipped laboratories in various disciplines such as Electronics Devices and Circuits Lab, Linear Integrated Circuits Lab, Digital Electronics Lab, Microprocessors and Microcontroller Lab, Microwave Engineering and Advanced communication Lab. The department is also equipped with various software: MATLAB, Cadence, Silyaco, PSPICE and KEIL. The students of the department are involved in department techno-cultural activities and recently the students organized an event called Spectra under the guidance of facilitators.

## How to reach NITGOA:

The Institute is located at Farmagudi which is about 4 kilometers from Ponda, Goa and 29 k.m. south-east of Panjim and 25k.m. from Madgaon. Farmagudi is well connected by road with various parts of Goa, and also with the Dabolim airport. There are regular bus services between Panjim, Madgaon, Dabolim Airport and, the Madgaon railway station to Ponda.

## Workshop Objective:

The ARM processors are used in high end embedded applications which involve complex computations. Embedded systems are special-purpose computing devices designed to perform one or few dedicated functions, often with physical and operational constraints such as limited memory or processing capacity, low-power consumption, real-time behavior, high dependability, etc. They are often hidden in everyday devices from mobile phones and home appliances to cars and planes. Developing and building an embedded system of guaranteed functionality and quality, at an acceptable cost, is a major technological and scientific challenge. Focus of this workshop will be to explore latest state-of-the-art embedded architectures, systems and their applications. Key features of the workshop are

- To focus on ARM 7 architecture, System on-chip design, embedded systems development.
- 100% practical oriented course in Embedded C which is deployed directly on the ARM 7 platform and to develop various interface skills
- To develop prototype applications for industrial automation and process controller.
- Workshop helps to bridge the gap between academia and Industry.

## Course outline:

Department of E & C, NITGOA, Farmagudi is organizing a Three Day Workshop On ARM 7 with Embedded C Programming from June 10, 2014 to June12, 2014 for Engineering College faculty. The course aims to support faculty interested in offering courses in Embedded System design with main highlight on ARM based architectures. The course will also provide a hands-on session on latest embedded systems platforms.

## Course Faculty:

The course will be offered by the experts from Industry and Academia.

## Who can attend :

Faculty members of degree level Engineering colleges as recommended by the Head of the respective Institute/ Department. Total participants limited to 30.

## Deadline:

The complete application forwarded by competent authority, should reach the Coordinators on or before **3<sup>rd</sup> June 2014**.

## Registration Fee:

Rs.3000/- which includes lunch and course materials. Bank demand draft ( DD ) should be drawn in favour of "Director NIT Goa" payable at Goa or it can be remitted by bank transfer and the account details are as follows:

Name of account: DIRECTOR NIT GOA,  
Acc. No.: 132800101000653,  
IFSC code: CORP0001328.

The participants may send an advance copy of the filled in registration form along with a scanned copy of the DD/ bank online transfer copy to coordinators in order to confirm the participation. Registration of seat will be based on First Come First Serve basis. No TA/DA for the participants will be provided.

## Accommodation:

Accommodation can be provided to outstation participants on shared basis in the Institute Hostel at nominal charges on prior request. Participants have to bear the boarding and lodging cost.

**Three-day workshop**  
**on**  
**ARM 7 and Embedded C programming**  
**(June 10-12, 2014)**

Program schedule:

	<b>9:00 to 10:30</b>	<b>11 to 1 :00</b>	<b>2:00 to 3:30</b>	<b>4:00 to 5:30</b>
<b>Day 1</b>	<b>Inauguration,</b> <b>Theory :</b> Introduction to ARM7TDMI, Architecture, ARM and Thumb mode Instruction Set with its advantages and disadvantages.	<b>Theory :</b> Introduction to ARM Development Tools, like compiler, debugger, JTAG evaluation boards. <b>Practicals :</b> Assembly language program for addition, subtraction etc. Use of debugger to see the internal register values.	<b>Theory :</b> Using Port Lines as Digital Output.  <b>Practicals :</b> LEDs blinking.	<b>Theory :</b> More of Digital Output  <b>Practicals :</b> LED ring program
<b>Day 2</b>	<b>Theory :</b> Using Port Lines as Digital Input.  <b>Practicals :</b> Reading Key input and glowing LED	<b>Theory :</b> More of Digital Input Output  <b>Practicals :</b> Synchronise Key and LED ring program	<b>Theory :</b> Relay, Buzzer,  <b>Practicals :</b> Switch On/OFF Relay Buzzer Switch ON./OFF	<b>Theory :</b> Stepper Motor  <b>Practicals :</b> Moving motor clockwise Use Key to move motor in clockwise and anti clockwise
<b>Day 3</b>	<b>Theory :</b> Understanding LCD working.  <b>Practicals :</b> Display Message on LCD. Reading Key input and display message on LCD	<b>Theory :</b> Study of on chip Serial Port (UART)  <b>Practicals :</b> Write program to send and receive serial data.	<b>Theory :</b> Understanding Matrix Keyboard working.  <b>Practicals :</b> Interface Matrix Keyboard and display key on LCD.	<b>Theory :</b> On chip Timer  <b>Practicals :</b> Using on chip timer generate a delay of 1 Second. And blink LED with 1 second delay. <b>Valedictory</b>